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THE STIGMA OF SEX WORK AND ASSOCIATED HEALTH CARE SERVICES FROM THE PERSPECTIVES OF SEX WORKERS, NURSES, AND NURSING STUDENTS IN HONG KONG: THE DEVELOPMENT OF AN INTERVENTION TO REDUCE STIGMA TOWARDS SEX WORKERS AMONG NURSES

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PhD

The Hong Kong Polytechnic University

2020

The Hong Kong Polytechnic University

School of Nursing

The stigma of sex work and associated health care services from the perspectives of sex workers, nurses, and nursing students in Hong Kong: the development of an intervention to reduce stigma towards sex workers among nurses

Ma Haixia

A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy

August, 2019

CERTIFICATE OF ORIGINALITY

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Abstract of dissertation entitle:

"The stigma of sex work and associated health care services from the perspectives of sex workers, nurses, and nursing students in Hong Kong: the development of an intervention to reduce stigma towards sex workers among nurses"
Submitted by Ma Haixia
for the degree of Doctor of Philosophy at The Hong Kong Polytechnic University

Background: Timely and equal access to health is considered as a basic human right. Despite multiple healthcare needs and free sexual and reproductive health care services in Hong Kong, many sex workers remain reluctant to seek timely treatment. A synthesis of the relevant literature suggests that multiple barriers could hinder sex workers from accessing health care services, and the negative attitudes of healthcare providers are a major deterrent to sex workers in accessing health care services. However, there has been no study focusing on the experiences of sex workers with accessing health care services in Hong Kong. Also, there is little understanding of the perceptions of nurses and nursing students in of their role in providing non-discriminatory care to sex workers.

Aims: The study aimed to explore the stigma of sex work and associated health care services from the perspectives of sex workers, nurses, and nursing students in Hong Kong, and to develop an intervention to reduce stigma towards sex workers among nurses.

Methods: A series of studies were conducted to identity the stigma of sex work and associated health care services from the perspectives of sex workers, nurses, and nursing students. It contained three components: 1) semi-structured focus group discussions with nurses; 2) semi-structured individual interviews with female sex

workers (FSWs); 3) a cross-sectional survey among undergraduate nursing students. Based on the review of the literature and the local evidence, the Medical Research Council (MRC) framework guided the development of a preliminary conceptual framework and a complex intervention to reduce stigma towards sex workers among nurses in Hong Kong.

Results: Overall, the female sex workers could access to the health care services in Hong Kong. However, stigma remains the key barrier to their seeking timely professional help, fully disclosing their secret of being involved in sex work, and receiving comprehensive health care services.

Meanwhile, given that sex-related topics are still a taboo in Chinese communities, the health needs and stigmatization of sex workers are not topics that have been included in nursing education and clinical practices in Hong Kong. The findings from qualitative interview study of 36 nurses and a cross-sectional study of 317 nursing students suggest that nurses and nursing students have insufficient knowledge or are misinformed about sex workers and the sex industry, and hold prejudicial attitudes toward sex workers. But they will comply with the professional code of ethics in providing care to patients whom they suspect to be sex workers.

Conclusion: This study contributes to a better understanding of the stigma of sex work and associated health care services in Hong Kong. Nurses and nursing students held strong, but ambivalent, personal attitudes toward sex workers. This study also contributes to increasing awareness of, and respect for, the human right of FSWs to receive non-discriminatory health services. Reducing sex work-related stigma among

healthcare providers, including nursing professionals and students, is critical to addressing health disparities between sex workers and the general population.

Publications arising from the thesis

Journal publications

1. Ma, P. H., Chan, Z. C., & Loke, A. Y. (2017). The Socio-Ecological Model Approach to Understanding Barriers and Facilitators to the Accessing of Health Services by Sex Workers: A Systematic Review. *AIDS and Behavior, 21*(8), 2412-2438.
2. Ma, P. H., Chan, Z. C., & Loke, A. Y. (2018). Self-Stigma Reduction Interventions for People Living with HIV/AIDS and Their Families: A Systematic Review. *AIDS and Behavior*, 1-35.
3. Ma, P. H., Chan, Z. C., & Loke, A. Y. (2018). A Systematic Review of the Attitudes of Different Stakeholders Towards Prostitution and Their Implications. *Sexuality Research and Social Policy, 15*(3), 231-241.
4. Ma, P. H., Chan, Z. C., & Loke, A. Y. (2019). Conflicting identities between sex workers and motherhood: A systematic review. *Women & health, 59*(5), 534-557.
5. Ma, H & Loke, A.Y. (2019) A qualitative study into female sex workers' experience of stigma in the health care setting in Hong Kong. *International Journal for Equity in Health*, 18(1), 175.
6. Ma, H., & Loke, A. Y. (2020). Knowledge of, attitudes toward, and willingness to care for female sex workers: differences between general and mental health nursing student. *Journal of professional nursing (In press).*

Manuscript under review

1. Ma, P. H., & Loke, A. Y. (2019). A scoping review of an HIV/AIDS-related stigma-reduction intervention for professionals and students from health-related

disciplines – Implications for stigma-reduction interventions related to sex work. (*International Journal of Sexual Health, major revision*).

2. Ma, P. H., & Loke, A. Y. (2019). Caring for female sex workers: a qualitative study on perspectives of practicing nurses in Hong Kong. Under reviwe at AIDS Care Psychology, Health & Medicine Vulnerable Children and Youth Studies. (*AIDS Care*, *submitted 22nd Mar, 2019*).

Conference presentations

1. Ma, P. H., Chan, Z. C., & Loke, A. Y. (2016). The experience of motherhood among female sex workers: a systematic review. Optimizing Healthcare Quality Conference. Chiang Mai, Thailand. 22nd June to 24th June, 2016
2. Ma, P. H. & Loke, A. Y. A qualitative study of nurses' perspectives on female sex workers' health. 22nd East Asia of Nursing Scholar (EAFONS), Singapore, 10th to 11th January, 2019.
3. Ma, Haixia & Loke, A.Y. Knowledge of, attitudes toward, and willingness to care for female sex workers: differences between general and mental health nursing student. N-nergizing Nursing Profession for NCD Challenges (N3 Nursing Conference), Bangkok, Thailand, 8th to 10th, 2020.

Acknowledgements

First of all, I would like to thank my chief supervisor, Prof. Alice Yuen LOKE, for her unfailing support, teaching and encouragement to me throughout the study. I am deeply grateful to have her professional guidance, unwavering support, and consistent encouragement in my Ph.D. study. Her endless dedication to students inspired my passion for this study throughout the years. Her influence on me is not only academic, but also conducting oneself in society. I learned from her a never-give-up spirit, so that my study can be completed with quality and on time.

I would like to thank Dr. Doris Leung, Dr. Dan Bressington, Dr. Angela Chan, Dr. Vivian Ngai, Dr. Jessica Li, Ms. Kitty Wong, Mr. Edmond Tong, for their valuable comments on the validation of the measurements. And I would like to thank the program leaders of the School: Dr. Yim Wah Mak, Dr. Sau Fong Leung, Dr. Cheung Kin, Dr Cynthia Wu, Dr. Mimi Tse, Ms. Kitty Wong, Dr. Wai Kit Wong, for their support in data collection.

I would also like to thank the Action for Reach Out, the JJJ association, and the Midnight blue, for their assistances in recruiting sex workers. They helped me to open a door to access to the sex worker. In addition, I would especially like to thank Coco, who herself has depression. Every time she had to have a lot of courage to force herself to go out and took me to the "one-woman brothel" for conducting my interview. I hope she can get better soon.

I would like to thank the all the nurses and nursing students for their valuable time to participate in this study. Without their participation, this study would not have been

possible. I would also like to thank the sex workers. I not only gained trust but also gained friendship. I can get their warmth even in times of difficulty. They are a group of lovely people.

I would like to thank my school for providing me with a diverse learning environment. I am grateful to have so many teachers and friends, especially the classmates under the same supervisor, to listen to me and support me during my difficult time. I would also like to thank my peers, Dr. Alex Vu, Ms. Anna, for supporting each other and cheering each other over the past few years. I am especially grateful to my mentor, Dr. Connie Chong, her passion for research always influence me.

Finally, I would like to thank my family, my parents, my sisters, and my husband, for giving me support, encouragement and the greatest freedom. Especially thanks to my husband and my two lovely children. Although I needed to work overtime every weekend and the responsibility of taking care for the child was given to my husband, he had never complained. Moreover, I would like to say sorry to my children because I always missed the parent-teacher meeting and even my daughter's dance competition. How many weekends, my daughter wanted to come to my office but I refused, because it would affect me. To my son, I am deeply blamed because he has a stomachache for almost two years but I had no time to take care of him well. I hope I can manage the dual roles between the jobs as a researcher and a mother in the future.

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List of abbreviations

FSWs: female sex workers

HIV: human immunodeficiency virus

AIDS: acquired immune deficiency syndrome

STDs: sexually transmitted diseases

STI: sexually transmitted infection

PART 1

INTRODUCTION AND THE ADOPTED MEDICAL RESEARCH COUNCIL (MRC) FRAMEWORK

Chapter 1 Introduction

1.1.Research background

1.1.1. Sex workers defined

1.1.2. Types of sex work

1.1.3. Prevalence of sex workers

1.1.4. Occupational health and safety of female sex workers

1.1.5. Reluctant of sex workers to seek timely treatment

1.1.6. Stigma is a barrier for sex workers in accessing health care services

1.1.7. Preparing nurses to care for sex workers

1.1.8. Knowledge gap

1.2.Research aims and objectives

1.3.Project significance and value

1.4.Outline of the thesis

1.1. Research background

1.1.1. Sex workers defined

Prostitution is the world's oldest profession. It has existed since the beginning of history (Kipling, 1888). The term "prostitute" generally refers to "a woman over the age of consent who willingly exchanges sexual services for money" (p.126) (Llewellyn, Agu, & Mercer, 2008). Prostitution is associated with a stigmatizing identity that defines people in a negative way (Parent, 2013). All forms of engagement in the sex industry, such as an erotic dancer, a pornographic actor(ess), or a "call girl," are all prostitution (Barry, 1996).

As opposed to the term 'prostitute', the term "sex worker" coined by libertarian activists and sex workers themselves in the 1970s (Leigh, 1997), is considered less stigmatizing (Parent, 2013). It is regarded as a neutral word that describes the income-generating activities and emphasizes the occupation aspect of this work (Leigh, 1997; Ross, Crisp, Månsson, & Hawkes, 2012). Now, "sex worker" is commonly used in society, and is the terminology used by the World Health Organization (WHO), and Joint United Nations Programme on HIV and AIDS (UNAIDS, 2002).

The term "sex worker" rather than "prostitute" is used in the thesis, as it is neutral, while the term "prostitute" is only used where it is part of a direct quote. Sex worker is defined as "female, male and transgender adults and young people (aged 18–24) who receive money or goods in exchange for sexual services, either regularly or occasionally, and who may or may not consciously define those activities as income-generating" (p.3) (Overs, 2002; The Joint United Nations Programme on HIV/AIDS, 2002).

1.1.2. Types of sex work

There are two types of sex work: direct and indirect sex work (Harcourt & Donovan, 2005). Direct sex work refers to sexual services in which the primary purpose of the interaction is to exchange sex for money. In contrast, 'indirect' sex work means that sex work is not always the sole or primary source of income of individuals (Harcourt & Donovan, 2005). Sex workers sell sexual services in a wide range of highly diverse settings, such as brothels, massage parlor, saunas, street, night clubs, karaoke bars, dance halls, hotels, beer girl, street vendors, and traders, etc. (Harcourt & Donovan, 2005).

1.1.3. Prevalence of sex workers

The exact number of sex workers is difficult to estimate since they often work in secrecy, and are hard to reach and highly mobilized. It was estimated that the national prevalence of female sex workers (FSWs) ranged from 0.2% to 2.6% in Asia, 0.4% to 4.3% in sub-Saharan Africa, 0.2% to 7.4% in Latin American, 0.4% to 1.4% in East Europe and 0.1% to 1.4% in West Europe (Vandepitte et al., 2006). **While sex workers are overwhelmingly female, the discussion in this thesis mainly focuses on female sex workers (FSWs).**

In Hong Kong, the estimated number of sex workers can range from 20,000 to 100,000 in 2001 (Ziteng, 2001). In the recent two decades, the number of sex workers is likely to rise since there was a dramatic increase in the number of women crossing the border from mainland China into Hong Kong working as sex workers (Cheung, 2012; Emerton, Laidler, & Petersen, 2007; Ziteng, 2001).

1.1.4. Occupational health and safety of female sex workers

Female sex workers (FSWs) are exposed to multiple occupational health hazards and are at a disproportionate risk of contracting human immunodeficiency virus (HIV) infections and other sexually transmitted diseases (STDs) (Ross et al., 2012). In Hong Kong, although the prevalence of HIV is relatively low among FSWs (Center for Health Protection, 2014), they are at risk of developing other sexual and reproductive health problems. The prevalence of urogenital chlamydial trachomatis, gonorrhea, pharyngeal chlamydia trachomatis, and Neisseria gonorrhea infections was found to be 10.6%, 0.9%, 3.2%, and 4.4% respectively among female sex workers in Hong Kong (H. T. Wong, Lee, & Chan, 2015). The prevalence of abnormal pap smear test results was shown to be 12.46% among FSWs, as compared to 4.52% among the general population (Leung KM, 2013). The prevalence of abortion was also high, with approximately 55.6% of FSWs having had an induced abortion (Lau, Mui, Tsui, Wong, & Ho, 2007).

Beyond sexual and reproductive health problems, FSWs are also vulnerable to violence, mental health disorders, and substance abuse. A survey conducted by a non-governmental organization (NGO) in Hong Kong reported that 40.7% of the FSWs were forced to have unprotected sexual intercourse and 13.3% were threatened by their clients (Action for Reach Out, 2007). FSWs also experience a high level of mental disorders (Lau, Tsui, Ho, Wong, & Yang, 2010; Ling, Wong, Holroyd, & Gray, 2007). It was estimated that among FSWs, 53.9% had symptoms of depression and 37.7% had suicidal ideation (Lau et al., 2010). Also, there is a strong link between sex work and illicit drug use, with 40.4% of FSWs using illicit drugs (Lau et al., 2010). Violence, mental illness, and substance abuse, in turn, increase the risk that FSWs run of contracting HIV/STD infections (Gu et al., 2010;

Shannon & Csete, 2010; Shannon et al., 2008).

1.1.5. Reluctant of sex workers to seek timely treatment

Access to comprehensive and non-discriminatory health care services is imperative for maintaining and promoting the health and quality of life of FSWs. Despite universal health coverage, comprehensive services available at public hospitals, and free sexual and reproductive health care services offered by social hygiene clinics and numerous NGOs (Kong et al., 2015), many FSWs remain reluctant to seek timely treatment (Lau, Mui, et al., 2007; Lau et al., 2010; H. T. Wong et al., 2015; W. C. Wong, Gray, Ling, & Holroyd, 2006). A survey among 89 FSWs in Hong Kong reported that 55.1% of the participants had never taken STD tests (W. C. Wong et al., 2006). Another study among 293 FSWs reported that 43.2% of them used illegal clinics for induced abortion (Lau, Mui, et al., 2007). A more recent survey among 340 FSWs in 2013 has found that the prevalence of HIV and STD screening tests in the previous year was 44.4% and 45.0%, respectively (H. T. Wong et al., 2015). Besides, self-medication is not uncommon among FSWs. The prevalence of self-medication estimated from 494 FSWs who had suspected STD symptoms in the previous year was 14.1% (Center for Health Protection, 2016).

1.1.6. Stigma is a barrier for sex workers in accessing health care services

Stigma has been recognized as a key barrier that affects the uptake of health care services by sex workers. Sex workers are stigmatized and marginalized around the world. They are generally not accepted in society and are regarded as criminals, immoral troublemakers, sexual deviants, and vectors or reservoirs of disease (Durisin, Van der Meulen, & Bruckert, 2018; Poutanen, 2015), and have been labeled “immoral,” “cheap,” “bad,” “greedy,” or “shameless” (W. C. Wong, Holroyd, &

Bingham, 2011). The criminalization of sex work has deepened the social stigma that sex workers face (Shannon & Csete, 2010), which contributes to the risk of their being victimized (Deering et al., 2014).

Health care professionals, as members of society, are also influenced by the general public's attitude towards sex workers. Accordingly, stigma and discrimination towards sex workers persist within health care facilities. The poor attitudes of healthcare providers, their humiliating treatment, the receipt of unequal treatment, longer waiting times, breaches of confidentiality, mandatory testing for HIV, and even sexual harassment (Basnyat, 2017; Chakrapani, Newman, Shunmugam, Kurian, & Dubrow, 2009; Lafort et al., 2016; Phrasisombath, Thomsen, Hagberg, Sychareun, & Faxelid, 2012) have deterred sex workers from seeking health care and led to unmet health needs.

Timely and quality health care could be considered as a basic human right. The Joint United Nations Programme on HIV/AIDS (UNAIDS), the World Health Organization (WHO), and sex workers' advocacy groups have emphasized the importance of showing respect for the human rights of sex workers and promoting zero discrimination in healthcare settings (The Joint United Nations Programme on HIV/AIDS, 2017). The World Health Organization (WHO) has recommended that all health services, including primary health care, should be made "available, accessible and acceptable to sex workers based on the principles of avoidance of stigma, non-discrimination and the right to health" (p. 8) (World Health Organization, 2012). Therefore, sensitivity training and programmes to reduce stigma toward sex workers among health care professionals should be carried out.

1.1.7. Preparing nurses to care for sex workers

As the largest group of frontline healthcare providers, nurses are usually the first

point of contact for clients and have more interactions with patients than other health professionals. Caring is the essence of nursing practice (Lemonidou, Papathanassoglou, Giannakopoulou, Patiraki, & Papadatou, 2004). As health professionals, nurses should be prepared to provide care to the diverse health care needs of the community, including providing non-judgmental holistic care for all, including marginalized populations. Preparing nurses and nursing students with cultural competencies is of great importance since this will affect their social awareness, accountability, responsibility, and the care that they will provide in their practice, which inevitably influences the health status and access to health care of sex workers.

Although recognition of the impact of stigma on the access of health care by sex workers has grown, there has been no study focusing on the experiences of sex workers with accessing health care services in Hong Kong. Although the association between the attitude of stigma held by health care providers and the utilization of health care services by sex workers has been established, little research has been conducted on the attitudes and willingness of nurses and nursing students to provide care for sex workers in Hong Kong.

In Hong Kong, commercial sex is not considered illegal, but subject to various restrictions, activities such as soliciting for immoral purposes are prohibited (Hong Kong Crimes Ordinance (Cap 200), 1990). Among the Hong Kong population, there is still a general stigma towards sex workers. Nurses, as members of the general public, may hold similar perceptions of this disadvantaged population. Up to now, there is not much understanding of the impact of the stigma of sex work on the access and quality of healthcare services for sex workers in Hong Kong. Also, it is not common in most nursing education programmes to teach students how to care for

these clients. Little is known about whether nursing students and nurses are prepared to care for sex workers upon graduation. A better understanding of the views from both sex workers and nurses will provide the direction and suggestions for the development of stigma reduction interventions for nurses or nursing students.

1.2. Research aims and objectives

This study aims to examine the stigma of sex work and associated health care services from the perspectives of sex workers, nurses, and nursing students in Hong Kong, and to develop an intervention to reduce stigma towards sex workers among nurses.

The objectives of this study are: (1) explore how sex workers experience stigma and develop coping strategies when accessing health care services in Hong Kong; (2) to explore the knowledge, attitudes, and willingness, of Hong Kong nurses in relation to the issue of providing care for sex workers; (3) to examine and compare students in the general and mental health nursing programmes in Hong Kong in terms of their knowledge of, attitudes towards, and willingness to care for sex workers in their future practice; (4) to develop a conceptual framework to understand the stigma toward sex workers among nurses; (5) to develop an intervention to reduce stigma towards sex workers among nurses in Hong Kong.

1.3. Project significance and value

It will be the first study in Hong Kong that focuses on understanding the stigma of nurses and nursing students toward sex workers, in establishing the evidence needed to develop an intervention to reduce stigma towards sex workers among nurses in Hong Kong. The study will contribute to a better understanding of the health and the barriers to accessing health care services of sex workers in Hong Kong. It will also

help to raise the nurses' and nursing students' awareness of their attitudes and disparities in health and health care access among sex workers. Findings of this study can be especially of interest for empathy education, equality in health and access to health care services, and the development of stigma reduction interventions for nursing students in the future.

1.4. The adopted Medical Research Council (MRC) framework

The Medical Research Council (MRC) framework was adopted to guide the development, evaluation, and implementation of complex interventions in the health services (Craig et al., 2008; Medical Research Council, 2019). A complex intervention refers to an intervention that contains several interacting components or difficulty of behaviours required by those delivering or receiving the intervention (Craig et al., 2008).

1.4.1. The developing, evaluating, and implementing process of a complex intervention

As shown in Figure 1-1, the MRC framework involved four stages, including development, feasibility/piloting, evaluation, and implementation (Medical Research Council, 2019).

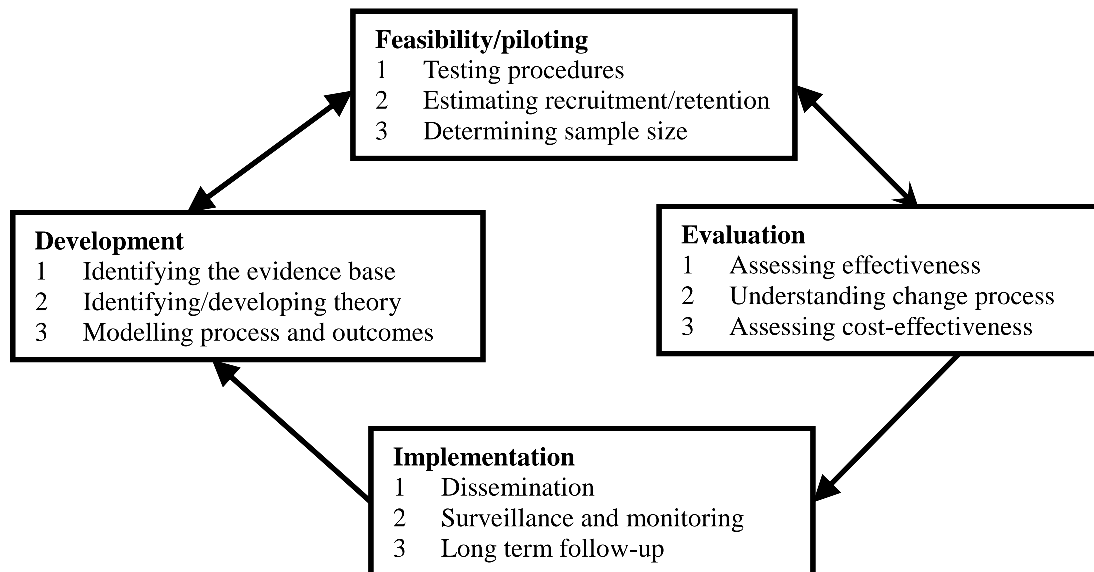

Figure 1-1. Key elements of the development and evaluation process

(Medical research council, 2019)

The stage of developing a complex intervention involved three steps: the first step is to identify the relevant, existing evidence through conducting systematic reviews, to establish evidence needed for a specific population. Then, identifying and developing an appropriate theory holds more potential for the development of an effective intervention than purely depend on an empirical or pragmatic approach. Lastly, modelling a complex intervention prior to a full-scale evaluation may provide important guidance on the development and evaluation of the intervention.

The stage of feasibility and piloting involves testing procedures, estimating the recruitment or retention of the participants, and determining the sample size.

In the stage of evaluation, the types of study designs should be decided based on the research question and circumstances. Awareness of the whole range of experimental and non-experimental approaches may enable researchers to make more appropriate methodological choices.

Regarding the implementation, a few methods were suggested, such as

publication in the research literature, or integrating the findings into routine practice or health policy.

1.4.2. Studies conducted in developing an intervention to reduce stigma towards sex workers among nurses in Hong Kong

Following the MRC framework of developing-evaluating-implementing a complex intervention, this thesis covers the first stage: Development. Figure 1-2 shows the key elements in the first phase of developing an intervention. This phase involves three steps: (1) identifying evidence by conducting relevant reviews (**Chapter 2-4, 6**), reviewing the definitions and conceptualizations of stigma (**Chapter 5**), conducting a qualitative study on the perspectives of practicing nurses toward caring for sex workers in Hong Kong (**Study I**), conducting a qualitative study on the experience of female sex workers with accessing health care services in Hong Kong (**Study II**), and carrying out a cross-sectional study on the knowledge of, attitudes towards, and willingness to care for sex workers among the undergraduate nursing students (**Study III**); (2) identifying and developing a theory – a preliminary conceptual framework to understand the stigma toward sex workers among nursing students; (3) developing and presenting the related contents of the programme to reduce stigma towards sex workers among nurses.

1.5. Outline of the thesis

This thesis is presented in three parts and 14 chapters in accordance with the research process, from the introduction of study (Part I), the review of the literature (Part II), the study conducted (Part III), to conclusions and implications for practice and future research (Part IV).

Part I includes the research background and significance of exploring the stigma of sex work and associated health care services from the perspectives of sex workers, nurses, and nursing students. It also highlights the significance of developing an intervention to reduce stigma towards sex workers among nurses in Hong Kong (**Chapter 1**).

Part II included four literature reviews (**Chapter 2-4, 6**). For a better understanding of the stigma associated with sex work, a series of reviews were conducted. Chapter 2-4 and Chapter 6 provided an overview of the studies related to the stigma of sex work. The reviews of the literature included: sex workers and motherhood (**Chapter 2**); attitudes of different stakeholders towards sex workers (**Chapter 3**); barriers and facilitators to the accessing of health services by sex workers (**Chapter 4**); HIV/AIDS-related stigma-reduction intervention for professionals and students in health-related disciplines – implications for stigma-reduction interventions related to sex work (**Chapter 6**). **Chapter 5** described the conceptualization of the stigma and the impact of stigma on sex workers. **Chapter 7** provides a summary of the reviews of the literature and the rationale for the choice of the methodology of the study.

Part III presents the studies according to the MRC framework (**Chapter 8-13**). It consists of three stages. In stage one, a series of studies were conducted to identify the stigma of sex work and associated health care services from the perspectives of sex workers, nurses, and nursing students in the local context (**Chapter 9-11**). Study I explored the perspectives of practicing nurses toward caring for sex workers (**Chapter 9**). Study II investigated the experience of FSWs with accessing health care services (**Chapter 10**). Study III examined and compared

students in the general and mental health nursing programmes in Hong Kong in terms of their knowledge of, attitudes towards, and willingness to care for sex workers in their future practice (**Chapter 11**).

In stage two, a preliminary conceptual framework was developed to understand the stigma toward sex workers among nurses in Hong Kong (**Chapter 12**).

In stage three, an intervention to reduce stigma towards sex workers among nurses was developed by using the preliminary conceptual framework (**Chapter 13**).

Finally, **Part IV** is the conclusion of the study and the implications for nursing education and future research. The limitations of the study and the recommendation for future researches were presented (**Chapter 14**).

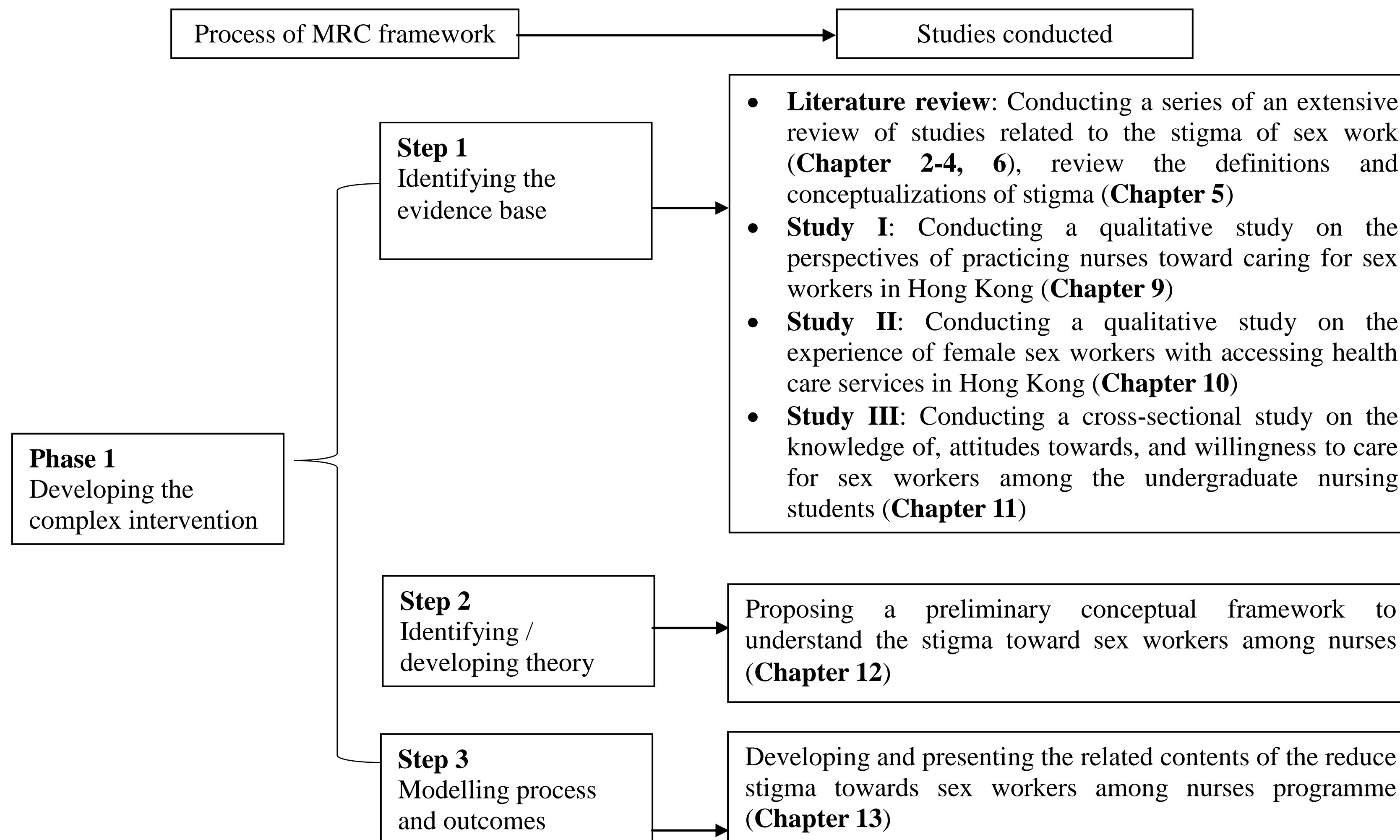

Figure 1-2 Process of MRC framework and studies conducted corresponding to MRC framework in developing the intervention

PART II IDENTIFYIGN THE EVIDENCE BASED IN THE PROCESS OF MRC FRAMEWORK: REVIEWS OF LITERATURE

Chapter 2 Review of literature (I)

Sex workers and motherhood

2.1.My experience in working with sex workers and initial intention for my PhD study

Conflicting identities between sex workers and motherhood: A systematic review

2.2.Background of the review

2.3.Methods

2.3.1. Search strategies and study selection process

2.3.2. Inclusion and exclusion criteria

2.3.3. Assessing the quality of the methodology

2.3.4. Data Synthesis

2.4.Results

2.4.1. Characteristics of the selected studies

2.4.2. Assessing the quality of the included studies

2.4.3. Findings from qualitative studies

2.4.4. Differences in findings across countries

2.4.5. Findings from quantitative studies

2.5.Discussion

2.6.Limitations

2.7.Summary

2.8.Recommendations for future research

*Content of this chapter is published (partial content included in this chapter):

Ma, P. H., Chan, Z. C., & Loke, A. Y. (2019). Conflicting identities between sex workers and motherhood: A systematic review. *Women & health, 59*(5), 534-557.

2.1. My experience in working with sex workers and initial intention for my Ph.D. study

Almost ten years ago (2009), I worked as a research assistant and a nurse in a clinic at one of the non-governmental organizations (NGOs) that serve sex workers. The work experience provided me a valuable opportunity to hear the life stories of female sex workers (FSWs) who visited the clinic. The FSWs frequently talked about their family and children, and many confessed that they engaged in sex work in order to raise their children.

Among these women, the stories of two migrant sex workers from mainland China touched me. One woman was diagnosed with cervical cancer but was reluctant to return to her hometown in China for timely treatment. She murmured: “I have not earned enough money for my son’s school fee, which is more important to me.” Another single mother, who was a successful businesswoman but went bankrupt due to gambling. She did not want her daughter to worry about their economic status, so she decided to engage in sex work to continue to provide her daughter with the same level of lifestyle they had before. She laughed bitterly, “My daughter thought I come to Hong Kong for business. Little does she knows that her mother is selling her body!”

Many of them told me that they never thought of revealing their work to the family. Some commented, “Of course, we wouldn’t dare to tell anyone. Nobody would want to tell others they are ‘chicken” (a Chinese term used to refer to prostitute in Hong Kong). It is not a decent job. They further commented that if their villagers or neighbours knew about their work, they would look down on us and curse us, and say something like it is considered as retribution for ancestors’ evil deeds. They tried very hard and every means to hide their identity as a sex worker

and lived a life with different identifies in front of others.

As a mother of two young children, I felt deeply that being a mother is one of the most challenging jobs in the world. I could imagine how tough it is to be a single mother having to raise a child(ren), by engaging in sex work. It must take a lot of courage, lots of fear, or feeling 'dirty' of themselves, and perhaps self-stigma. In hearing the stories of these 'brave' mothers, I started to wonder how sex workers cope with conflicting identities as a mother as a sex worker. I was hoping that I could do something to help them, so I started my review of the literature on the conflicting identities of sex workers and motherhood.

The first step I took was to identify and to synthesize the existing literature that focused on the challenges of FSWs in negotiating their maternal identity with their stigmatized identity as sex workers.

Conflicting identities between sex workers and motherhood: A systematic review

2.2. Background of the review

Being a mother is regarded as a traditional and central role of a woman. It is often considered the source of a woman's self-esteem, pride, and sense of fulfillment. It can have a great impact on how women see themselves in a wider social context (Burden et al., 2016). Motherhood is not merely about having children but also about being a good mother**.** Although various definitions of motherhood have been suggested (Couvrette, Brochu, & Plourde, 2016; Malacrida, 2009), predominate concepts of "good mothers" refer to those who are selfless and place the needs of their children over their own (Malacrida, 2009). Those who fail to meet these social expectations are frequently castigated as bad or inadequate mothers (Couvrette et al., 2016). However, sex workers should be regarded as individuals enjoy human rights, and social expectations of mothers sometimes may lack of awareness of individual needs of working mothers.

Sex worker possesses various identities. Many female sex workers (FSWs) are also mothers with at least one child (W. C. W. Wong, Yim, Leung, Lynn, & Ling, 2012). However, the effect of criminalization, stigma, and other forms of discrimination could extend into their family lives and impair their capacities as mothers. In extreme circumstances, FSWs may be susceptible to arbitrary moral judgments of them as unfit mothers and experience termination of their parental rights (Dziuban, 2015). The story of a Swedish sex worker named Petite Jasmine is a particular tragedy. Because of her occupation, she was deemed an unsuitable parent by the court and was killed by a violent ex-partner who had been granted full custody of her children (Dziuban, 2015). However, social justice and positive

impacts of all occupations should be advocated, including those of FSWs.

Given the fact that the stigmatized identity of sex workers may have a significant impact on their identities, their motherhood, and subsequently their health and their children's well-being, a better understanding of their maternal difficulties and concerns would help to address the gaps in supportive services for FSWs. The aim of this review was to synthesize the results of studies focusing on the challenges that FSWs faced in negotiating their dual identities as sex workers and mothers, and provide direction for the development of services and interventions for this disadvantaged female population and their children.

2.3. Methods

2.3.1. Search strategies and study selection process

Seven electronic databases, including MEDLINE, PubMed, PsycInfo, CINAHL, the British Nursing Index, Web of Science, and ProQuest Dissertations & Theses were searched for studies published to prior to March 2016 that explored the experiences and challenges faced by FSWs as mothers. Search terms included medical subject headings (MeSH) terms and text words for "sex worker" and terms associated with "mother": (1) sex worker ("sex worker" OR "prostitution"); (2) mother ("mother*" OR "parent*" OR "maternal"); and (3) experience ("experience" or "stigma" or "difficult*" or "challenge" or "concern" or "social expectation" or "identity" or "role"). No other restrictions were placed on years of publication. A manual search for additional literature was made from the reference lists of all of the retrieved articles and existing review articles.

2.3.2. Inclusion and exclusion criteria

The criteria for studies to be included in this review were original articles published in English that examined the motherhood experience of FSWs. Studies whose focus was the reasons for entering into the sex trade or on the life experiences of FSWs, other than the experience of motherhood, or review articles, were excluded.

2.3.3. Assessing the quality of the methodology

The Mixed Methods Appraisal Tool (MMAT-Version 2011) developed by Pluye et al. was used to assess the quality of the included studies (Pluye et al., 2011). It proposes evaluation criteria for qualitative, quantitative, and mixed methods studies. MMAT contains four criteria for qualitative and quantitative studies. All of the qualitative and quantitative component criteria are used for mixed methods studies. Criteria for appraising studies are checklist questions with possible answers of “Yes”, “No”, or “Can’t tell”. For qualitative and quantitative studies, scores range from 0% when no criterion is met to 100% when all four criteria are met. Each paper was assigned a grade of 0% (no quality), 25% (low quality), 50% (moderate quality), 75% (considerable quality) and 100% (high quality). For mixed-method studies, the overall quality is determined by the component with the lowest quality.

2.3.4. Data Synthesis

Textual narrative and a thematic synthesis approach were adopted to synthesize the key themes that were identified in the included studies. In stage one, a textual narrative synthesis of the characteristics, key findings, and conclusions of individual studies were tabulated.

In stage two, a thematic synthesis approach was adopted to synthesize the

key themes that were identified in the included qualitative studies (Thomas & Harden, 2008): (1) line-by-line coding of the findings of the primary studies; (2) development of descriptive themes; (3) and generation of analytical themes. Data for thematic analysis were only extracted from the "results" or "findings" section of included studies, with particular attention to the quotations from FSWs and the authors' interpretations in the report related to FSWs experience of dual identities. The excerpts in findings were coded, supported by the descriptive and preliminary analytical themes and subthemes. For mixed-method study used predominately qualitative methods for data collection and data analysis, it was allocated to the pool of qualitative studies.

For the quantitative studies, formal statistical analysis was not feasible because of the heterogeneity of the measurements. The findings that relevant to the aims of the review were extracted. For mix-method study used predominately quantitative method for data collection and analysis, it was allowed to the pool of quantitative studies.

2.4. Results

A total of 1,233 abstracts were retrieved from the electronic databases and eight additional records were identified through a manual search. After 210 duplicate publications were eliminated, 1,031 abstracts were screened. A total of 1002 publications were excluded based on the exclusion criteria. Of these, 18 were review articles, 961 articles were not related to the research topics, and 23 articles were published in languages other than English. The full texts of the remaining 29 articles were examined in detail, and eight additional studies were excluded with reasons.

Finally, a total of 21 studies were considered eligible and were included in this review (Figure 2-1).

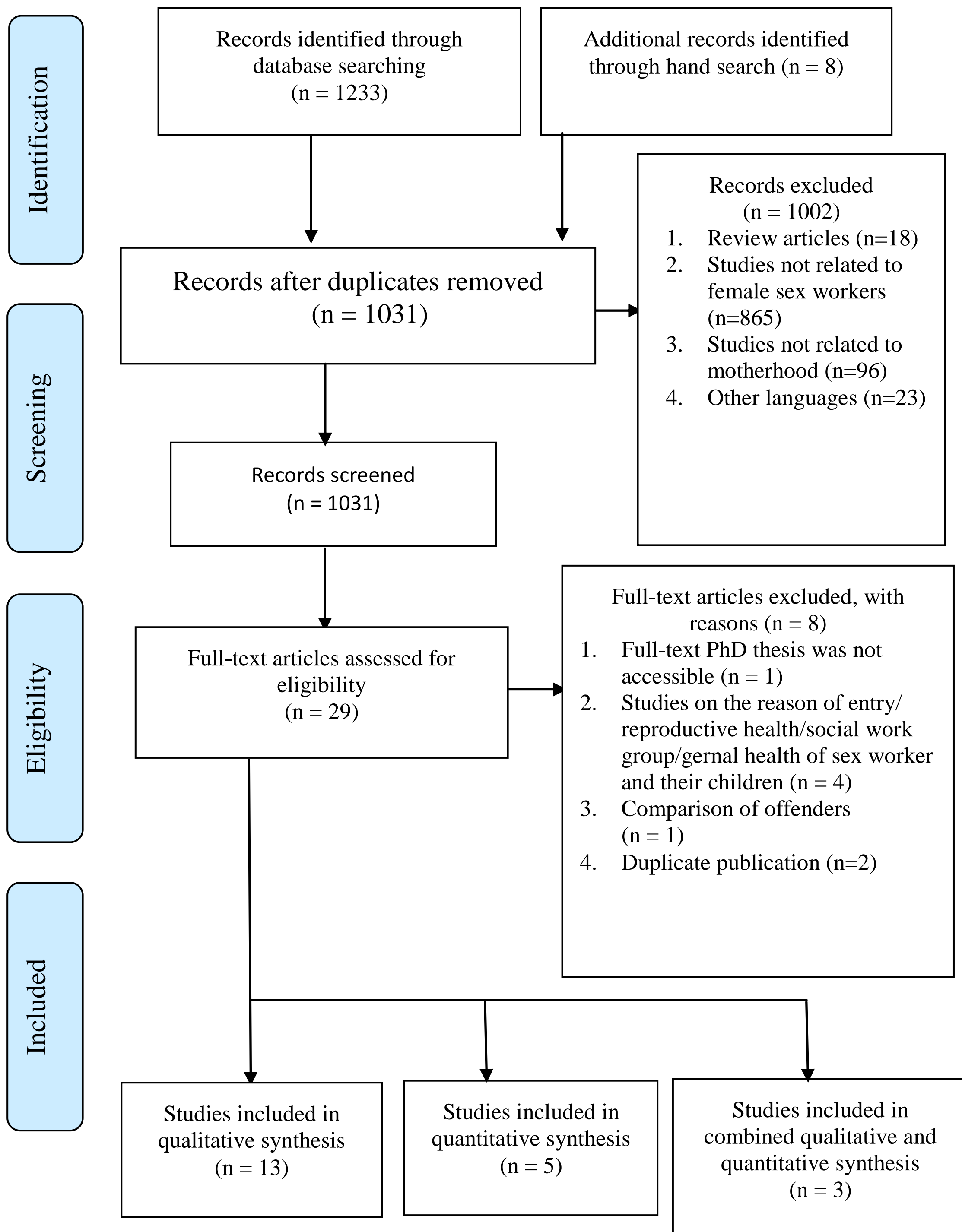

Figure 2-1 The flow diagram on identifying the literature

2.4.1. Characteristics of the selected studies

The sample size ranged from five to 136 for the included 13 qualitative studies, from 87 to 850 for five quantitative studies, and from 60 to 428 for three mixed-method studies (Appendices Table 2-1). Two mixed-method studies were classified as mixed but predominately qualitative studies (Pardeshi & Bhattacharya, 2006; Rolon et al., 2013), and one was classified as mixed but predominately quantitative study (Chege, Kabiru, & Mbithi, 2002). Seven studies had been conducted in Asia, two studies in Europe, seven studies in North America, four studies in Africa, and one multinational study had been carried out in both the U.S. and India.

The law on the prostitution of the included studies is complicated, and the level of enforcement varies by country. In general, all countries criminalize some aspects of sex work (Appendices Table 2-2).

2.4.2. Assessing the quality of the included studies

Quality appraisal of all the included studies showed that: two studies met one criterion and rated 25%; 14 studies met two criteria and rated 50%; four studies met three criteria and rated 75%; and only one study met all of the criteria and rated 100% (Appendices Table 2-3). Most studies did not report the reasons why potential respondents refused to participate (n=17); the majority of studies provided no consideration of researchers' influence during data collection (n=14); and one-third of studies did not provide the response rate (n=7). None of the published papers was excluded from this review because of quality.

Regardless of the legal status of prostitution in the countries included in this review, the struggles of FSWs in managing their dual identities were mostly similar.

2.4.3. Findings from qualitative studies

Common themes that emerged from the data across countries

Two themes that emerged as central to the dual identities of FSWs were: "Conflicting identities between the jobs as sex workers and motherhood", and "Responses to social expectations of ideal motherhood" (Appendices Table 2-1).

Theme 1. Conflicting identities between the jobs as sex workers and motherhood

Being a mother while having to negotiate the problems of poverty, the absence of a supportive partner, sex work, addiction, incarceration, social stigma, and adverse situations can be challenging. FSWs were likely to experience motherhood in overwhelmingly negative ways.

Exposing children to an unsafe environment – Occupational hazards and marginalized lifestyles had some adverse effects on the parenting practices and capabilities of some FSWs. Multiple risks, such as sexually transmitted infections (STIs), addiction, violence, malnutrition, and inadequate prenatal care, could increase their chances of experiencing a miscarriage, stillbirth, or congenital birth defects in their children, and could increase their children's vulnerability and exposure to violence, sex abuse, sexual activity, drug addiction, and engagement in the sex industry (Bletzer, 2005; Chege et al., 2002; Dalla, 2004; John-Fisk, 2013; McClelland & Newell, 2008; Pardeshi & Bhattacharya, 2006; Sloss & Harper, 2004; Willis, Hodgson, & Lovich, 2014; Yerpude & Jogdand, 2012; Zalwango et al., 2010).

Stigma and laws that undermine FSWs' abilities to be mothers – In some circumstances, stigma and laws compromised FSWs' capabilities to be mothers and

to seek equal education, health services, and other social services for their children. For example, without a valid marriage certificate or proof of residential address or merely because of sex work, FSWs would not be eligible in some countries to apply for rental public housing or get school admissions for their children (Goh & Praimkumara, 2015; John-Fisk, 2013; Willis et al., 2014; Yerpude & Jogdand, 2012). FSWs also received little protection from law enforcement authorities. FSWs from Bangladesh reported that even when their children were abducted, police officers rarely helped to search for them (Willis et al., 2014).

Internalizing stigma – FSWs were aware of the stigma attached to sex work and the consequences for their children. They internalized the stigma and tended to see their dual identities as conflicting, which had the effect of diminishing their self-esteem and increasing their mental health problems (Beckham, Shembilu, Winch, Beyrer, & Kerrigan, 2015; Bletzer, 2005; Chege et al., 2002; Dalla, 2004; Duff et al., 2014; Goh & Praimkumara, 2015; John-Fisk, 2013; Peled & Parker, 2013; Sloss & Harper, 2004; Zalwango et al., 2010). Those who had lost their parental rights felt particular grief and stated that their future seemed hopeless, and some FSWs took drugs or increased their sex work to numb the sadness (Bletzer, 2005; Dodsworth, 2014; John-Fisk, 2013; McClelland & Newell, 2008; Rolon et al., 2013; Sloss & Harper, 2004).

Theme 2. Responses to social expectations of ideal motherhood

Motherhood provided valuable meaning to the lives of the FSWs and was a source of self-esteem and strength. They idealized motherhood and attempted to adopt various strategies to respond to social expectations regarding good motherhood.

Justification of sex work – In most circumstances, sex work was seen as the only way to give the children of FSWs monetary support. FSWs resisted the implicit social label of "unfit mother" by emphasizing that they were capable of meeting their children's needs and keeping their children away from harm, and considered their separation from or relinquishment of their children as a form of "good mothering" (Bletzer, 2005; Dalla, 2004; Dodsworth, 2014; John-Fisk, 2013; Rivers-Moore, 2010; Zalwango et al., 2010).

Restore positive social identity – Motherhood also brought changes to the lives of the FSWs. Many FSWs were motivated to be a good role model for their children and made attempts to leave the sex industry and get clean of drugs (Bletzer, 2005; Dalla, 2004; Dodsworth, 2014; Goh & Praimkumara, 2015; John-Fisk, 2013; Rolon et al., 2013; Sloss & Harper, 2004). Some of them reported that they had found other work, completed a drug treatment program, and started a new life with their children (Dalla, 2004; Goh & Praimkumara, 2015; Rolon et al., 2013).

Social support networks – Networks of social support played a critical role in upholding the capacity of FSWs to function as mothers. For example, non-governmental organizations (NGOs) in India and Singapore provided FSWs with resources and training, such as food, clothing, safe shelter, residential schools for their children, reached out to the children of FSWs, and skills training (A. Basu & Dutta, 2011; Goh & Praimkumara, 2015; Yerpude & Jogdand, 2012). Such external social support significantly relieved the FSWs of the stress and burden of caring for their children, and created opportunities for them to protect and maintain their identity as mothers.

2.4.4. Differences in findings across countries

Child custody – FSWs may relinquish care over their child to the child's father, extended family, friends, or to social services. Child fostering for children of FSWs was a frequent practice throughout sub-Saharan Africa, and it was adopted by FSWs in Uganda as means to distance their children from their work (Zalwango et al., 2010). FSWs from developed countries, such as the U.S., United Kingdom, Canada, Mexico, and Singapore, were more likely to report having been forced to relinquish their children due to their sex work, drug use, violence, homeless, incarceration, and other marginalized lifestyles (Bletzer, 2005; Dalla, 2004; Dodsworth, 2014; Duff et al., 2014; Goh & Praimkumara, 2015; John-Fisk, 2013; McClelland & Newell, 2008; Rolon et al., 2013; Sloss & Harper, 2004). However, among FSWs who raised their children in the red light area in India, none of them reported losing custody of their children (John-Fisk, 2013).

2.4.5. Findings from quantitative studies

Findings from quantitative studies shared a common observation that motherhood has a great impact on FSWs' choice of sex work, work practice and access to health care and social services (Duff et al., 2015; Papworth et al., 2015; Reed et al., 2013). Some FSWs might prioritize their child-rearing obligations over their health. A study conducted in India showed that FSWs who had three or more children or child with health concerns were less likely to report consistent condom use (adjusted odds ratio (AOR) range: 0.5-0.6), and more likely to make more money for sex without condom (AOR: 2.5, 95% confidence interval (CI): 1.6-3.9) (Reed et al., 2013). While some FSWs preferred to stay healthy for their children and were cautious of HIV-related risk behaviors. In Burkina Faso, motherhood was a predictor of having

reduced unprotected vaginal or anal sex with new clients (age-adjusted odds ratio (aaOR): 0.80, 95% CI: 0.65-0.97), and a predictor of limited difficulty when accessing health services (aaOR, 0.15, 95% CI: 0.67-0.34) (Papworth et al., 2015).

In a similar vein, results from the quantitative studies also described the challenges in FSWs double lives. In Canada, the prevalence of losing child custody among FSWs was 38.3%, and around 30% of them required counseling to deal with the trauma associated with losing child custody (Duff et al., 2014). Nearly 13% of FSWs avoided seeking social services for the fear of losing custody of their children (Duff et al., 2015). Although FSWs in some developing countries had their child custody, there was a possibility that they might expose their children to risks. For example, in India, around 34.69% of the children of FSWs were raised in the brothel (Yerpude & Jogdand, 2012). In Kenya, 75.1% of FSWs practiced prostitution at home (Chege et al., 2002). Besides, FSWs faced difficulties in getting school admissions for their children in India (Yerpude & Jogdand, 2012), and around 41% of children of FSWs in Kenya had to drop out of school due to poverty (Chege et al., 2002).

2.5. Discussion

This review showed homogeneity across various countries, in that motherhood was an important identity for FSWs and influenced their lives, self-esteem, and decisions. Their life stories tell us that some FSWs were good mothers, sacrificing their dignity and safety and engaging in stigmatized sex work, while proving that they were devoted mothers by giving priority to their children's needs above their own. The complexity of the challenges facing FSWs in negotiating their dual identities as a sex worker and mother need to be addressed. Relevant services and interventions that

potentially change the lives of FSWs and their children are discussed below.

Although FSWs have received increasing attention from researchers and policy-makers, existing research has primarily focused on their occupational risks, such as HIV, stigma, and violence. FSWs dual identities as a sex worker and mother received little attention in both the academic and policy literature. One possible explanation is that sex workers are defined by their job, which may lead the difficulty in recognizing the multiple roles of FSWs (Sleightholme & Sinha, 1996). However, sex work and motherhood are intertwined, and thus were precisely the areas that needed to be studied; the full range of sexual and reproductive health needs of FSWs should be met. Traditional HIV programs may require to expand their services alongside broader reproductive health services and parenting training. Comprehensive reproductive health services recommended by the Joint United Nations Programme on HIV/AIDS (UNAIDS) may include family planning counseling, contraception and reproductive health service, pregnancy and antenatal services, unintended pregnancy, abortion and post-abortion care, parenting mentoring, parenting skills training, and pediatric care (World Health Organization, 2013).

The multiple identities of FSWs inform us that FSWs are real people who have families and multiple roles. They should be entitled to the same equal rights to health and safety as anyone else. Programs for FSWs may need to address the challenges within various contexts of FSWs' lives. They should take a holistic approach to support FSWs, such as housing, addiction, mental health services, economic support, legal advice, child-care, and access to health, social and financial services. Meanwhile, programs and services should be sensitive to the stigma associated with sex work. Service providers, including health care providers,

counselors, and social workers, should be provided with training to work with FSWs and offer non-judgmental services.

Sex work itself does not affect competence in the maternal role. However, stigma, criminalization, and other marginalizing factors constrained FSWs' maternal capacity and challenged their and their children's health, safety, well-being and human rights. A critical approach in dealing with conflicting dual identities is policy change. Researchers, feminists, and social activists are calling for the full decriminalization of prostitution (Decker et al., 2015). Experience may be drawn from New Zealand's model of decriminalization, which could empower sex workers and increase their safety, rebalance power relationship between police and sex workers, improve sex workers' access to health and social services without fear of being penalized, resulting in greater willingness to report incidents of violence to police (Armstrong, 2017). This approach may also hold the potential to improve the lives of FSWs and their children, as well as increase public awareness about respect for this group of women.

2.6. Limitations

This review had two potential limitations. First, the quality of the studies that were included varied, and a decision was made not to exclude two studies that only met one MMAT criteria. The two studies investigated childrearing practices in brothels and provided rich information to assist in understanding the vulnerability faced by the children of FSWs (Chege et al., 2002; Pardeshi & Bhattacharya, 2006). Thus, the decision was made to include them in this review. Second, this review only included published articles, while the grey literature relating to this topic was not explored. Thus, this review may be susceptible to publication bias.

2.7. Summary

Motherhood is central to the lives of many FSWs. However, motherhood poses an additional challenge for this vulnerable and disadvantaged population. An understanding of FSWs' world is vital to address their and their children's health and safety needs. A more holistic approach is necessary to meet FSWs' health, economic, and social needs, such as sexual and reproductive health service, addiction treatment, mental health services, financial support, and legal advice. Services should be provided in a sensitive and non-judgmental manner. Further, to advance the health and safety of FSWs and their children, prostitution law may need to move toward decriminalization of sex work. This review will contribute to raise the awareness of the general public toward FSWs as an individual and mother. Social inclusion will be the dream for all women.

2.8. Recommendations for future research

This systematic review provided several insights for future studies. First, key stakeholders, such as the general public, health care professionals, social workers, and legal authorities, may play a significant role in the lives of FSWs, their perceptions of FSWs deserve further exploration. Secondly, to expand our knowledge of the effects of the legal environment and culture on FSWs and their children's lives and child custody arrangements, it would be valuable to explore the experiences of FSWs in countries where prostitution is fully decriminalized or less stigmatized.

This review also provided a better understanding of sex workers as persons with families and multiple roles, who are also entitled to equal human rights to health and social services. After completing this review, I learned that I do not have

the personal and professional capacity to offer these sex workers the necessaries and social resources as mothers. Instead, I felt that as a nurse, I should focus on the ways to improve their health or health behaviours, and access to health services. I also learned from the review that various stakeholders could shape the day-to-day life of sex workers and impact on their physical and mental health, I then decided to embark on a review to explore the attitudes of various stakeholders toward sex workers, and the impacts on the health of sex workers.

Chapter 3 Review of literature (II)

Attitudes of Different Stakeholders towards sex workers

3.1.Background

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3.8. Recommendation for future research

*Content of this chapter is published (partial content included in this chapter):

Ma, P. H., Chan, Z. C., & Loke, A. Y. (2018). A Systematic Review of the Attitudes of Different Stakeholders towards Prostitution and Their Implications. *Sexuality Research and Social Policy, 15*(3), 231-241.

3.1. Background of the review

Sex workers' legal status is closely associated with their working conditions and health outcomes (Deering et al., 2014). Since the 1980s, there has been an increasing debate regarding the three legislative approaches to the policing and regulation of prostitution internationally: criminalization, legalization, and decriminalization (Barnett, Casavant, & Nicol, 2011).

Under the criminalization laws, sex work is viewed as an immoral profession and criminal offense. Activities associated with prostitution, such as purchasing sex, selling sex, running brothels, living on the earnings of the prostitution, are all criminalized. Numerous evidence shows that the criminalization approach violates sex workers' human rights, undermines their abilities to protect themselves, and limits access to services (Lea, Callaghan, Grafton, Falcone, & Shaw, 2016; Qiao et al., 2014).

Contrary to the criminalization of prostitution, the legalization of prostitution views prostitution as a legal profession and regulates it through criminal law, labour law or other legislation, such as registering or mandating health checkups. It aims to eliminate criminal involvement in the prostitution industry and protect prostitutes from commercial exploitation and safeguard the health and safety of sex workers (Barnett et al., 2011). However, evidence suggests that this approach leads to a mass increase in sex trafficking from illegal countries to legal countries, increases the underground sex industry and further victimizations and exploitation of sex workers. On January 1st, 1999, Sweden adopted an alternative legal route, which is known as the "Nordic model", in which only the buyers of sex are prosecuted (SFS, 1998). The number of street sex worker appears declined, while other forms of solicitation methods such as mobiles phones and the internet have increased (Chu & Glass,

2013). This approach has also been criticized for pushing sex workers into more hidden locations and reinforcing violence against them.

The third approach is the decriminalization of prostitution. It means the removal of laws against prostitution and relies on the use of existing statutes and regulation to manage the operation of the sex industry (Barnett et al., 2011). In 2003, New Zealand passed the Prostitution Reform Act (PRA) 2003 and became the first country to decriminalize sex work in the world (Mossman, 2005). This approach is considered as a more successful method to safeguard human rights and contribute to the betterment of the lives of sex workers. It is reported that sex workers felt empowered and more willing to report crimes to police. Global health and human rights organizations are calling for the decriminalization of prostitution and the elimination of the unjust application of non-criminal laws and regulations against sex workers (Amnesty International, 2015; Decker et al., 2015).

However, among various viewpoints toward prostitution laws, radical feminists and liberal feminists contrast sharply on the issue of the legal status of prostitution (Limoncelli, 2009). Radical feminists view prostitution as the exploitation and oppression of women. They believe that decriminalizing sex work will not protect women engaged in prostitution, but will only promote sex trafficking and violence against women. In contrast to radical feminists, liberal feminists regard prostitution as an occupational choice, and argue that a woman is free to enter into the sex industry. They blame the criminalization of prostitution for violating women’s rights and call for empowering prostitutes through decriminalization. Thus far, while policy-makers, feminist academics, and activists have discussed the ideal legal framework for prostitution, they have been unable to reach a consensus(Schulze, Canto, Mason, & Skalin, 2014).

As Eiser (1994) argues that "our attitudes make, or at least predispose, us to act the way we do" (p.19) (Eiser, 1994). Studying different stakeholders' attitudes toward sex workers and prostitution law is important because such attitudes could reveal how individual's interaction with sex workers and affect their lives (Basnyat, 2017; Wojcicki & Malala, 2001). Also, it is important to understand and compare different stakeholders' attitudes toward a morally ambiguous issue because it has clear policy relevance. Policy-makers, especially in a democratic society, usually take into consideration the opinions and interests of stakeholders into account during the policy-making process (Baldassarri & Gelman, 2008; Brooks & Manza, 2006). Under the context of human rights violate among sex workers in many countries, policymakers, health care providers and sex worker advocacy groups need to understand different stakeholders attitudes towards sex workers and the legal status of prostitution.

3.2. Aim of this review

The aim of the review is to explore the attitudes of different stakeholders toward sex workers and prostitution law to shed light on the development of potential strategies to improve the occupational health and safety of sex workers. An important distinction in this review is the inclusion of a diverse and broad range of stakeholders. Stakeholders of sex workers were identified through a preliminary search of the literature, such as the law enforcement, professionals in health and social services, clients of sex workers, sex workers, and the general public (Identifying stakeholders process are described in Search strategy).

3.3. Methods

3.3.1. Search strategies and study selection process

Eight electronic databases, namely MEDLINE, PubMed, PsycInfo, CINAHL, the British Nursing Index, the Web of Science, Scopus, and Social Work Abstract were searched for studies published from 1986 to May 2016. The search of different stakeholders attitudes was undertaken in two stages:

First stage search

The purpose of first stage search was to explore the types of stakeholders in the literature. There was no restriction on the study population. Search terms included medical subject headings (MeSH) terms and text words for “sex worker” and terms associated with “attitude”: (1) sex worker (“sex workers” OR “prostitution” or “prostitute*”); (2) attitude (“attitude” or “view” or “opinion” or “tolerance” or “perception” or “knowledge” or “acceptance” or “judg*” or “belief*” or “law” or “legal” or “criminalization” or “decriminalization” or “ stigma” or “discrimination”).

Second stage search

After the first stage preliminary search, four main types of stakeholders were identified, such as law enforcement officers, professionals in health and social services, the clients of sex workers, and the general public. The second stage included medical subject headings (MeSH) terms and text words for “sex worker” and terms associated with “attitude”, in combination with terms associated with the identified stakeholders:

1) law enforcement officers (“police” or “policing” or “law enforcement” or “cops”);

2) professionals in health and social services (“health care worker” or “health professional” or “health personnel” or “health care provider” or “nurs*” or “doctor” or “clinical staff” or “health setting”);
3) the clients of sex workers (“clients” or “customer” or “John”);
4) and the general public (“public” or “community” or “population”).

The full texts of potential citations were retrieved after a detailed examination of abstracts. A manual search for additional literature was conducted through review of the references of all eligible articles.

3.3.2. Inclusion and exclusion criteria

The criteria for studies to be included in this review were: (1) original articles published in English; (2) full-text articles published in peer-reviewed journals in the last 30 years; (3) articles focusing on the attitudes of stakeholders toward sex workers or prostitution law. Exclusion criteria were: (1) studies aimed at exploring sex workers experience; (2) research that focused on issues unrelated to stakeholders’ attitudes toward sex workers or prostitution law; (3) conference abstracts or review articles.

A total of 8,809 publications were identified from the electronic databases, and fourteen additional records were identified through a manual search. Of these, 1,987 were removed due to duplication and the remaining 6,836 were screened by examining the abstracts. Of these, 6,773 were excluded due to not meeting inclusion criteria. The remaining 63 articles were then examined in detail. 14 articles were further excluded due to one of the following reasons: full-text were not available (Daniels, 2012; Garcia, 2014; Pajnik, 2009; Uchiyama, 1996), descriptive studies (Larsen, 1996; O'Neill, Campbell, Hubbard, Pitcher, & Scoular, 2008), commentary

(Nolan, 2001), review of case files (Halter, 2010), questionnaire development and validation (Busch, Bell, Hotaling, & Monto, 2002; Levin & Peled, 2011; S. P. Sawyer & Metz, 2009), the studies focused on clients of sex workers characteristics or clients experience (Holt & Blevins, 2007; R. Hong, 2008). Finally, a total of 49 studies were considered eligible and were included in this review (See Figure 3-1).

3.3.3. Assessing the quality of the included literature

The Mixed Methods Appraisal Tool (MMAT-Version 2011) developed by Pluye et al. was used to assess the quality of the included studies (Pluye et al., 2011). The validity and reliability of the tool have been verified (Pace et al., 2012). The MMAT checklist includes two screening questions and 19 criteria for five types of studies: (1) qualitative research (four criteria); (2) quantitative randomized controlled trials (RCTs) (four criteria); (3) quantitative non-randomized studies (NRS) (four criteria); (4) quantitative descriptive studies (four criteria); (5) and mixed methods studies (three criteria assessing the quality of the integration of qualitative and quantitative components). Screening questions are evaluating whether the study has clear research questions and report data-collection. Each study type is appraised within its methodological domain. However, appraising a mixed methods study involves three sets: the qualitative set, the appropriate quantitative set, and the mixed methods set.

Criteria for appraising studies are checklist questions with possible answers of “Yes” for when the criterion is met, “No” for when the criterion is not met, or “Can’t tell” for when there is insufficient information to make an assessment. In this review, qualitative and quantitative studies are rated low quality when only one criterion is met; moderate quality when two or three criteria are met; and high quality when all the four criteria are met. For mixed methods studies, the overall quality is

determined by the component with the lowest quality (qualitative or quantitative).

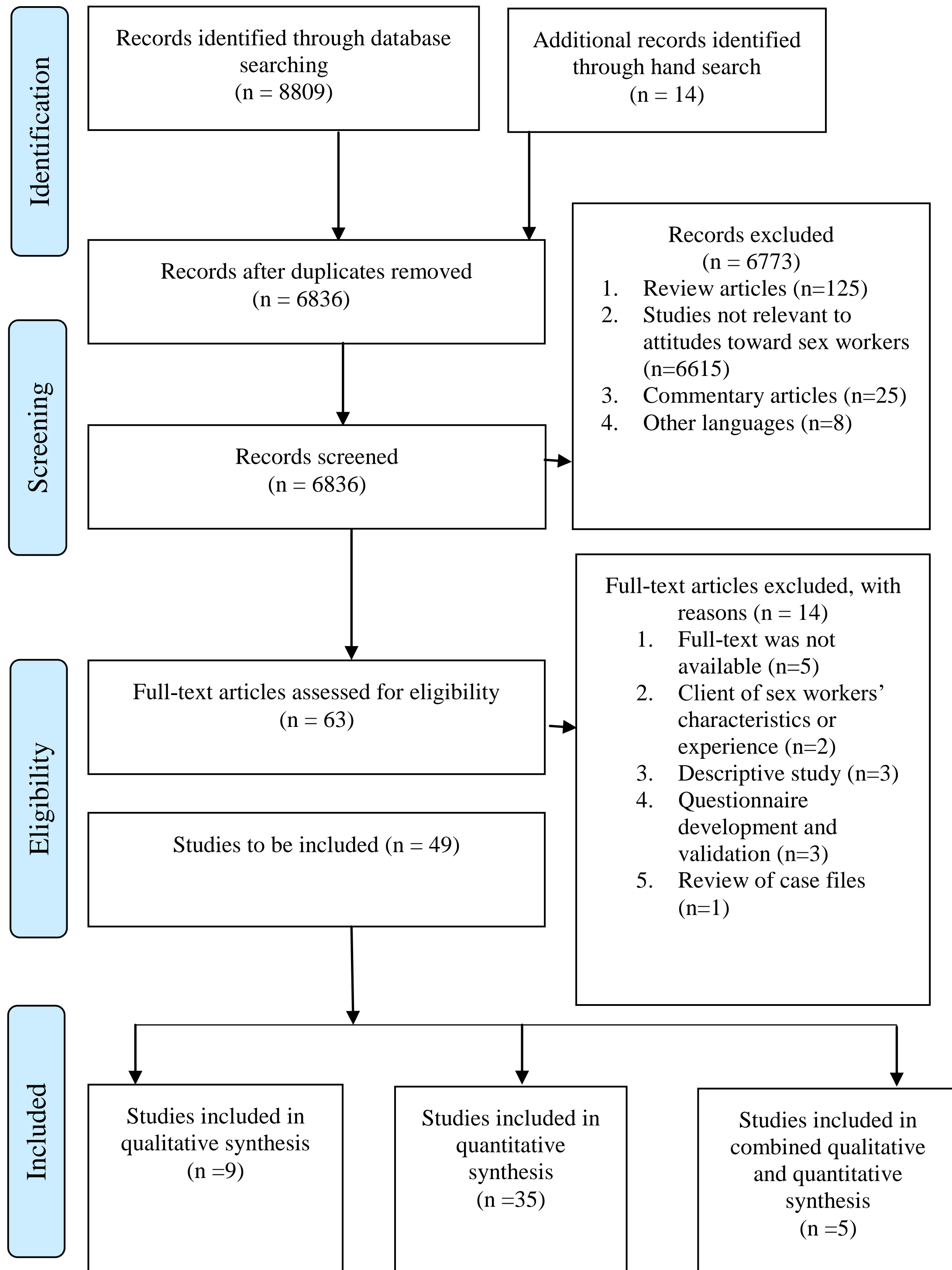

Figure 3-1 The flow diagram on identifying the literature

3.3.4. Data extraction

The characteristics of the studies and the key findings were extracted and tabulated according to the author(s), year of publication, the country where the study was conducted, study design, participants, measurement(s) adopted, and main findings by the first author and validated by the other two authors. The characteristics and key findings of these studies are summarized in Appendices Table 3-1 and categorized according to the stakeholders involved.

No formal statistical analysis was performed due to the heterogeneity of the various measurements used to measure attitudes toward prostitution or prostitution law in the included studies. For example, four studies measured the attitudes with a single item on a 10-point scale: "Please tell me whether you think prostitution can always be justified, never be justified, or something in between". Six studies used or selected items from the Attitudes Toward Prostitution Scale (ATPS), which was developed by Steven Sawyer et al. (1998) (S. Sawyer, Rosser, & Schroeder, 1998) to assess the sample basic attitudes toward prostitute or prostitution. Details of the measurement are summarized in Appendices Table 3-1.

3.4. Results

3.4.1. Characteristics of the selected studies

There were nine qualitative studies, 35 quantitative studies, and five mixed methods studies. Response rates were reported in 24 studies, ranging from 23.8% to 100%. Among the included studies, 17 were conducted in North America, 11 in Asia, ten in Europe, three in Africa, one in Australia, and seven involving two to 56 countries.

The majority of the studies addressed the attitudes of one type of stakeholder (n=47/49), namely, law enforcement officers (n=7/49), professionals in health and

social services (n=8/49), the clients of sex workers (n=7/49), or the general public (n=25/49). In addition, the views of multiple stakeholders were explored in two studies. The characteristics of the studies and the key findings are summarized in Appendices Table 3-1.

3.4.2. Quality of the included literature

The overall quality of the nine qualitative studies was considered as moderate quality, with seven studies met two to three MMAT criteria. Only two studies met four criteria and were considered to be of overall high quality. The most common weaknesses were related to the sources of qualitative data and researchers' influence. Six studies failed to address the reasons why potential respondents refused to participate, and five studies did not explain researchers' influence during data collection.

The overall quality of the 35 quantitative studies was considered as low to moderate quality, with 11 studies met one MMAT criterion, 22 studies met two to three criteria. Only two studies met four criteria and were considered to be of overall high quality. Only six studies described the representative of the sample, with the other 29 studies failed to report the reasons why eligible individuals refused to participate. The reliability and validity of the measurements were not reported in most of the studies (n=20). Only 15 studies achieved 60% or above response rate, with the rest 20 studies either did not report response rate nor had a rate below 60%.

The overall quality of the five mixed-method studies was considered as moderate quality, with four studies met two MMAT criteria. Only one study met one criterion and was considered to be of overall low quality. The most common weaknesses were related to reasons for the refusal (n=2) and researchers' influence

(n=4) of the qualitative component, and reasons of refusal (n=5) and unreported response rate (n=4) of the quantitative component.

All of the published papers were included in this review regardless of their quality. The details of the criteria of MMAT and the results of the appraisal of the included studies are summarized in Appendices Table 3-2.

Attitudes towards sex workers and prostitution law are described below according to the different types of stakeholders, including law enforcement officers, professionals in health and social services, the clients of sex workers, and the general public.

3.4.3. Attitudes toward sex workers

Generally speaking, there was a lack of consensus on the moral acceptance of sex workers among different stakeholders.

A total of seven out of the 49 studies explored the attitude by law enforcement officers. There was a lack of consensus on whether women engaged in prostitution should be conceptualized as offenders or victims. The most common negative attitudes among law enforcement officers toward sex workers were "lower class person" "crack whores" (p.54) (Mentzer, 2010), who caused social problems and public health concerns (Baker, 2007; Dodge, Starr-Gimeno, & Williams, 2005; Giacopassi & Sparger, 1991; Guinto-Adviento, 1988). However, police officers in the four studies, particularly the vice police officers who posed as decoy clients or sex workers, expressed empathy, sympathy, sadness, and understanding toward sex workers and viewed them as victims (Giacopassi & Sparger, 1991)}(Baker, 2007; Dodge et al., 2005; Maguire & Nolan, 2011). The male police officers involved in undercover work found their role to "elicit an offer from prostitutes" distasteful (p.47)

(Giacopassi & Sparger, 1991). The female police officers who engaged in undercover prostitution work, experienced stigma as well as violence when they posed as sex workers (Baker, 2007; Maguire & Nolan, 2011), and viewed sex workers as victims of society's larger social ills (Baker, 2007; Dodge et al., 2005; Maguire & Nolan, 2011).

Similarly, a variety of attitudes toward sex workers were reported among professionals in health care and social services in eight studies. Evidence indicated that the majority of health care providers held high prejudice attitude toward sex workers. They viewed sex workers as a threat to public health, or vectors of HIV, or who should deserve mandatory HIV testing (Chan & Reidpath, 2007; Jayanna et al., 2010; Melby, Boore, & Murray, 1992; Phrasisombath et al., 2012; Rogers et al., 2014). However, positive attitudes toward sex workers was also reported in a cross-sectional study of 56 countries, with 81.9% of the medical students considered FSWs to be members of a vulnerable group, and 98.3% agreed that it was important to provide them with care, regardless of the nature of their work (Nakagawa & Akpinar-Elci, 2014). Social workers also expressed conflicting feelings towards prostitution. In Israel, child protection officers considered prostitution to be an acceptable and legitimate occupation, while they also viewed prostitution as dangerous and harmful to the children of sex workers (Peled & Levin-Rotberg, 2013). Another study in the same country revealed that while the social workers viewed prostitution as shameful, they were more likely to perceive adolescent girls who were "prostitutes" as victims and were reluctant to associate these girls with prostitution (Peled & Lugasi, 2015).

Seven studies focused on the attitude of the clients towards sex workers. Their conflicting attitudes towards prostitution echoed those of the law enforcement

officers and professionals in health and social sciences. Their negative attitudes towards sex workers were documented in five studies in the U.S., Canada, South Africa, and Scotland (Farley, Macleod, Anderson, & Golding, 2011; Kennedy, Klein, Gorzalka, & Yuille, 2004; Potgieter, Strebel, Shefer, & Wagner, 2012; S. P. Sawyer & Metz, 2009; Wortley, Fischer, & Webster, 2002). The clients viewed them as "loose" women (p.196) (Potgieter et al., 2012) and drug users (Wortley et al., 2002), who lowered the moral standard of the community (Farley et al., 2011). Notably, negative attitudes toward prostitution have been linked in part to beliefs rape myth that sex workers were un-rape-able, and they were entitled to do whatever they wanted to do to sex workers (Farley et al., 2011). Some held certain beliefs such as sex workers enjoy their work and they genuinely like men (Preston & Brown-Hart, 2005; S. P. Sawyer & Metz, 2009). Yet, two of these five studies also described clients as feeling empathetic and understanding toward sex workers (Farley et al., 2011; S. P. Sawyer & Metz, 2009). Nearly half of the clients in the U.S. (46%) and Scotland (50%) (Farley et al., 2011; S. P. Sawyer & Metz, 2009) agreed that "prostitutes were victimized by pimps", and many felt guilty or ashamed after purchasing sex (Farley et al., 2011).

Over half (n=25) of the included studies focused on the attitude of the general public towards sex workers. The attitudes of the general public largely resembled those of other stakeholders, with opinions towards prostitution being wide-ranging and complex. Sixteen out of the 25 studies reported negative attitudes toward sex workers in the U.S., Canada, Russia, Norway, Sweden, Finland, Japan, Australia, China, Spain, and South Africa (Cotton, Farley, & Baron, 2002; Kotsadam & Jakobsson, 2011, 2014);(Cao & Stack, 2010; Jakobsson & Kotsadam, 2011; Morton, Klein, & Gorzalka, 2012; Otsuki & Hatano, 2009; Räsänen & Wilska, 2007;

Shdaimah, Kaufman, Bright, & Flower, 2014);(Alikhadzhieva, 2009; Basow & Campanile, 1990; Long, Mollen, & Smith, 2012; Moore, 1999; Pudifin & Bosch, 2012; Valor-Segura, Expósito, & Moya, 2011; Zheng et al., 2011). Two cross-national studies on the value of sex workers indicated that the majority of the population in these countries, especially among Muslim populations, alleged that prostitution was never justifiable (Chon, 2015; Stack, Adamczyk, & Cao, 2010). Evidence also supported the shared opinion that there was a general culture of distaste and disrespect toward street sex workers (Sanders & Campbell, 2007), they were more strongly condemned than indoor sex workers (Morton et al., 2012). However, the general public from three studies in Tanzania, Thailand, and the UK showed a relatively higher level of tolerance towards prostitution (Peracca, Knodel, & Saengtienchai, 1998; Roberts, Sanders, Myers, & Smith, 2010; Sagar & Jones, 2013; Wamoyi, Fenwick, Urassa, Zaba, & Stones, 2011). Prostitution in Tanzania is considered a social norm (Wamoyi et al., 2011), and it is not uncommon in Thailand for families to contract their daughters to brothels (Peracca et al., 1998). In the UK, where neighbourhoods are affected by sex work, 46.8% of community members expressed empathy and 57.1% were concerned about the safety of sex workers (Sagar & Jones, 2013).

Public attitudes toward prostitution also could change over time. A longitudinal study has provided information about the effect of time trends on the public's tolerance of prostitution in the U.S. (Cao & Stack, 2010). It concluded that the public moved toward greater tolerance of prostitution in the U.S. over a 20-year period (1981-2000), with respondents who considered prostitution as never justified decreasing from 64% in 1981 to 47.9% in 2000.

3.4.4. Attitudes toward prostitution laws

Alongside with the mixed attitudes towards prostitution, law enforcement officers and the general public also expressed conflicting feelings towards policing prostitution. Two studies indicated that the majority of police officers and criminal justice practitioners opposed decriminalizing or legalizing prostitution (Mentzer, 2010; M. Smith, Muftić, Deljkić, & Grubb, 2015). However, police officers were under no illusion that prostitution could be eliminated (Giacopassi & Sparger, 1991; Guinto-Adviento, 1988; Mentzer, 2010). They enforced the law selectively and considered selective toleration to be the best strategy to police prostitution. For instance, they would be less likely to interfere with prostitution if it occurred in a private place (Mentzer, 2010), and only take action upon orders from their supervisors (Guinto-Adviento, 1988).

Public attitudes toward the legal status of prostitution were explored. Seven studies reported that the general public in the U.S., Russia, Sweden, Norway, South Africa, and Australia opposed the legalization of prostitution and called for imposing criminal liability on clients (Alikhadzhieva, 2009; Jakobsson & Kotsadam, 2011; Kotsadam & Jakobsson, 2011; May, 1999; Moore, 1999; Pudifin & Bosch, 2012; Shdaimah et al., 2014). In Sweden, where selling sex is legal, 58.7% of the general public wanted to prohibit the selling of sex (Kotsadam & Jakobsson, 2011). In contrast, the general public in Canada and the UK expressed favourable attitudes toward the legalization of prostitution (Morton et al., 2012; Sagar & Jones, 2013). They regarded prostitution as an acceptable and legitimate occupation, and called for the laws on prostitution to improve the occupational safety of sex workers (Morton et al., 2012).

Attitudes towards the establishment of managed zones or "red light

districts" (Districts where prostitution is located) for prostitution was explored among different stakeholders in the UK and Hong Kong (Bellis et al., 2007; Lai, Leung, Siu, & Thadani, 2015). In the UK, respondents believed that a managed zone would improve the safety of street sex workers, reduce the number of street sex workers outside the zone, improve access to service, and lead to better policing and regulation. A large majority (96%) of the street sex workers strongly preferred to work in such a zone for safety reasons (Bellis et al., 2007). In Hong Kong, the majority of the respondents opposed the idea of setting up red-light districts. NGO staff and sex workers were concerned about the possibility of labelling and social exclusion, while the police believed that red-light districts would increase crimes related to sex work (Lai et al., 2015). Concerning choosing a location or zone for red-light districts, community members opposed the idea of having such zone near their residential area and strongly pronounced "not in my backyard" and "away from residential districts" (Bellis et al., 2007; Lai et al., 2015), suggesting that a deep-rooted opposition to prostitution exists in the community.

3.5. Discussion

This systematic review included studies conducted in the last 30 years on the attitudes of different stakeholders toward prostitution. The discussion of the main findings of this review can be organized into three categories: the polarized attitudes of stakeholders towards sex work, the polarized attitudes of stakeholders toward legalization of prostitution, and the occupational health and safety of sex workers.

Polarized attitudes of stakeholders towards sex workers

This review revealed that there was no consensus in the attitude towards sex workers.

Different stakeholders, including those within the same group, and individuals held conflicting and inconsistent levels of tolerance, and ambivalent and even contradictory attitudes. They viewed sex workers as both victims and offenders; they were tolerant of prostitution, but largely limited their tolerance to the indoor sex worker. They viewed prostitution as “disgusting” and “immoral” (p.504) (Zheng et al., 2011), and complained about social and public health problems that it caused, while they showed empathy and understanding toward sex workers and were concerned about their safety. They favoured the idea of providing a safe place for sex workers, while maintaining that the selection of the location should follow the “not in my backyard” principle.

Polarized attitudes of stakeholders towards the legalization of prostitution

There was a lack of consensus among the different stakeholders on the legal status of prostitution. Despite the worldwide advocacy of decriminalization as the best way to safeguard the occupational health and safety of sex workers (Amnesty International, 2015; Decker et al., 2015), not everyone supported the decriminalization or legalization of prostitution in their countries, and some even called for tougher punishment (Kotsadam & Jakobsson, 2011). Given the fact that different stakeholders have a potential impact on laws on prostitution, which can in turn affect the occupational risks of sex workers, more empirical studies should be conducted on the attitudes of different stakeholders and the impact of their attitudes on the sex workers’ health and safety, and on the implications of the establishment or enforcement of laws on prostitution.

Occupational health and safety of sex workers

Regardless of the legal status of prostitution, sex workers deserve respect and protect the human dignity and human rights. Law enforcement officers, health care providers, the clients of sex workers, and the general public worldwide, are key stakeholders in shaping the day-to-day life of sex workers. Their negative attitudes toward prostitution might lead to increased misconduct, unequal treatment, and increased violence. Therefore, it is worthwhile to look into strategies that support the well-being of sex workers.

1) *Reducing stigmatizing attitudes among law enforcement officers*

Particular attention should be given to law enforcement officers since they have more chances than most people to interact with sex workers and implement laws against sex workers. Despite the significant amount of evidence that describes police harassment and abuse of sex workers (Willis et al., 2014), findings from this review highlighted that police officer, especially those who have posed as decoy clients or sex workers, usually showed understanding, empathy, and sympathy attitudes towards prostitutes. This finding is consistent with the stigma research that suggests knowledge and experience with a stigmatized population are linked to a more positive attitude toward these people (Scior, 2011; Valor-Segura et al., 2011). Thus, increasing the knowledge and understanding of the sex industry among law enforcement officers could potentially reduce their negative attitudes toward prostitution and inappropriate treatment when interacting with sex workers.

Innovation and successful partnerships between sex workers and police in several countries have been launched and demonstrated effective in reducing stigmatizing attitudes and police harassment toward sex workers. For example, in

India, the Vikas Jyot Trust (VJT) fostered a supportive environment for sex workers through providing the police with informal meetings with sex workers and sensitizing them on sex workers' needs and concerns (Biradavolu, Burris, George, Jena, & Blankenship, 2009). In Australia, the cooperation between Resourcing Health and Education in the Sex Industry (RhED) Ugly Mugs program and the local police provided a non-judgmental environment for sex workers and increased the number of reported of crimes against sex workers to the police (Tenni, Carpenter, & Thomson, 2015). Given the success of these programs, this review calls for more interventions to promote the communication between the police and sex workers.

2) *Reducing stigmatizing attitudes among health care professionals*

More evidence showed that the negative attitudes of health care providers did not differ from other groups, their stigmatized attitude could affect healthcare delivery for these marginalized population and further result in sex workers' avoidance of treatment and deterioration in their health (Rogers et al., 2014). Health care providers should be aware that their negative attitude toward sex worker might translate into discriminatory behaviours that influencing patients' equal access to health care. Several studies highlighted the need for job-related training aimed at improving knowledge, attitudes and counselling skills in the delivery of healthcare to this vulnerable population among health care professionals and students (Jayanna et al., 2010; Melby et al., 1992; Nakagawa & Akpinar-Elci, 2014; Phrasisombath et al., 2012; Rogers et al., 2014).

Interventions on attitudes training for other marginalized populations may shed lights on the development of intervention programmes to reduce sex work-related stigma among health care providers. Plenty studies are focusing on reducing

health care providers' stigmatizing attitudes toward people living with HIV/AIDS, multiple approached could be adopted, such as delivering HIV/AIDS-related information, providing communicating skills with patients, discussing medical ethics and legal issues, addressing the stigma and discrimination of HIV, contacting with patients (Mockiene et al., 2011). Besides, organizations support, such as identifying staff needs and providing counselling/support is also essential in improving health care providers' willingness to treat these marginalized patients and job satisfaction.

3) *Reducing stigmatizing attitudes in the community*

Although the study conducted in the U.S. informs us the increasingly more tolerant attitudes toward prostitution (Cao & Maguire, 2013), the strong cultural and social stigma against sex workers is difficult to eradicate. Even in countries where prostitution is legal, society's negative perception of prostitution remains unchanged (Begum, Hocking, Groves, Fairley, & Keogh, 2013). Clients' violence could also thrive where beliefs such as sex workers cannot be raped (Penfold, Hunter, Campbell, & Barham, 2004). Therefore, a friendly and supportive community environment is essential for sex workers well-being. Interventions in India showed that community mobilization was successful in reducing social stigma toward sex workers (I. Basu et al., 2004). It facilitated the social acceptance of sex workers through increasing awareness of sex workers' health needs, protecting their human rights, providing health-related resources, and advocating changes in societal attitudes toward sexuality and sex work (I. Basu et al., 2004). The replicability of the programs should be tested in future programs and interventions in different countries or legal systems.

3.6. Limitations

There are several limitations in the present systematic review, and the findings should be interpreted with caution. First, the evidence is dominated by attitudinal surveys with convenience samples. Moreover, over half of the included studies did not report a response rate, and the sample size varied considerably from study to study. All these factors could limit the generalizability of the findings. Second, approximately half of the included studies adopted a self-administered survey or a mail or internet-based survey, and the respondents may not have shared their true feelings. This review cannot be free from the possibility of social desirability bias. Third, this review only included peer-reviewed articles, while the grey literature relating to this topic and unpublished surveys were not explored. This review may be susceptible to publication bias. Lastly, this review only included studies published in English. Therefore, it is possible that we have missed studies on this topic in non-English language journals.

3.7. Summary

To our knowledge, this is the first review of attitudes towards prostitution among different stakeholders in the last three decades. The current attitudes of different stakeholders appear to be largely similar in their ambivalence, inconsistency, and even contradictory views toward sex workers and prostitution laws. Although the debate over prostitution laws seems unlikely to end in the foreseeable future, this review indicates that interventions need to be implemented among different professional groups who may affect the well-being of sex workers.

3.8. Recommendations for future research

The perceptions of different stakeholders could have a powerful influence on the lives of sex workers and a significant impact on their health and health-seeking decisions. Those who do not accept this profession may hold judgmental attitudes toward sex workers, subsequently, result in further marginalization of sex workers. Regarding the multiple health care needs of sex workers, it is necessary to include the voices of sex workers themselves to understand their health care services experience. It was then decided to lunch a review to understand the barriers and facilitators to the accessing of health services by sex workers.

Chapter 4 Review of literature (III)

Barriers and facilitators to the accessing of health services by sex workers

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4.2.Aim of this review

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- 4.3.1. Search strategies and study selection process
- 4.3.2. Inclusion and exclusion criteria
- 4.3.3. Assessing the quality of the included literature
- 4.3.4. Synthesis of the findings of the study

4.4.Results

- 4.4.1. Characteristics of the selected studies
- 4.4.2. Barriers to accessing health services
- 4.4.3. Facilitators to accessing health services

4.5.Discussion

4.6.Limitations

4.7.Summary

*Content of this chapter is published (partial content included in this chapter):

Ma, P. H., Chan, Z. C., & Loke, A. Y. (2017). The socio-ecological model approach to understanding barriers and facilitators to the accessing of health services by sex workers: a systematic review. *AIDS and Behavior*, *21*(8), 2412-2438.

4.1. Background of the review

Timely and quality health care could be considered as a basic human right, and good access to health services could contribute to improvements in health outcomes. However, inequities in access to health care persist, with marginalized and stigmatized populations facing particular difficulties with gaining access to health care (Burns, Imrie, Nazroo, Johnson, & Fenton, 2007; Hatzenbuehler, Phelan, & Link, 2013; Waidmann & Rajan, 2000). Such limitations could lead to serious health consequences and even death (Singh, Azuine, & Siahpush, 2013).

Sex workers are among the most marginal and vulnerable groups in society. Sex workers have multiple health care needs in areas such as the prevention and treatment of HIV/STIs, sexual and reproductive health, safe abortion services, the treatment of physical abuse, and substance abuse rehabilitation. However, there is a growing body of literature indicating that sex workers are reluctant to seek health care (Alexander, 1998; Gomez et al., 2010; Lau, Mui, et al., 2007). Instead, they use self-prescribed medications, or visit illegal clinics (Alexander, 1998; Gomez et al., 2010; Lau, Mui, et al., 2007).

Health-seeking behaviours and access to health services of vulnerable populations

Health-seeking behaviours and access to health services are complex issues. Reviews of literature have reported that various groups of marginalized and vulnerable population groups including those living with HIV (Deblonde et al., 2010; Govindasamy, Ford, & Kranzer, 2012), suffered from mental illness (Gulliver, Griffiths, & Christensen, 2010), and drug users (Wolfe, Carrieri, & Shepard, 2010) face significant challenges in accessing health services. Reviews have reported on these populations’ avoidance or delay in treatment attributable to multi-level factors.

These factors include the lack of knowledge of health service (Gulliver et al., 2010), perception of risk (Deblonde et al., 2010), and internalized stigma and fear of disclosure (Deblonde et al., 2010; Govindasamy et al., 2012; Gulliver et al., 2010) at the individual level as barriers. Other factors are relating to the reliance on family and friends (Govindasamy et al., 2012; Gulliver et al., 2010) at the interpersonal micro-level; and social stigma (Govindasamy et al., 2012; Gulliver et al., 2010; Wolfe et al., 2010) at the community meso-level. At the socio-policy / laws macro-level, there are barriers such as discrimination in health care settings (Deblonde et al., 2010; Wolfe et al., 2010), breach of privacy (Wolfe et al., 2010), and lack of accessibility (Deblonde et al., 2010; Gulliver et al., 2010) at the health organization exo-level; and the lack of available universal testing or free treatment (Deblonde et al., 2010; Wolfe et al., 2010). However, there is no systematic review been conducted that explored the barriers and facilitators to accessing health services among sex workers.

Besides the epidemiology information on disease prevalence and the pressing healthcare needs of sex workers, it is essential for health policymakers, health care professionals, and non-governmental advocacy groups to have an understanding of the factors that impede sex workers from accessing proper health services or that motivate them to utilize such services. Only then will it be possible to devise services that are appropriate and acceptable to sex workers and that protect and promote their physical, sexual, and mental health.

The social-ecological model is one that is widely accepted and used to better understand the health behaviours of individuals (Sallis, Owen, & Fisher, 2015) (Figure 4-1). It considers the dynamic interplays between individuals and their environments as determinants of health-related behaviour. The social-ecological

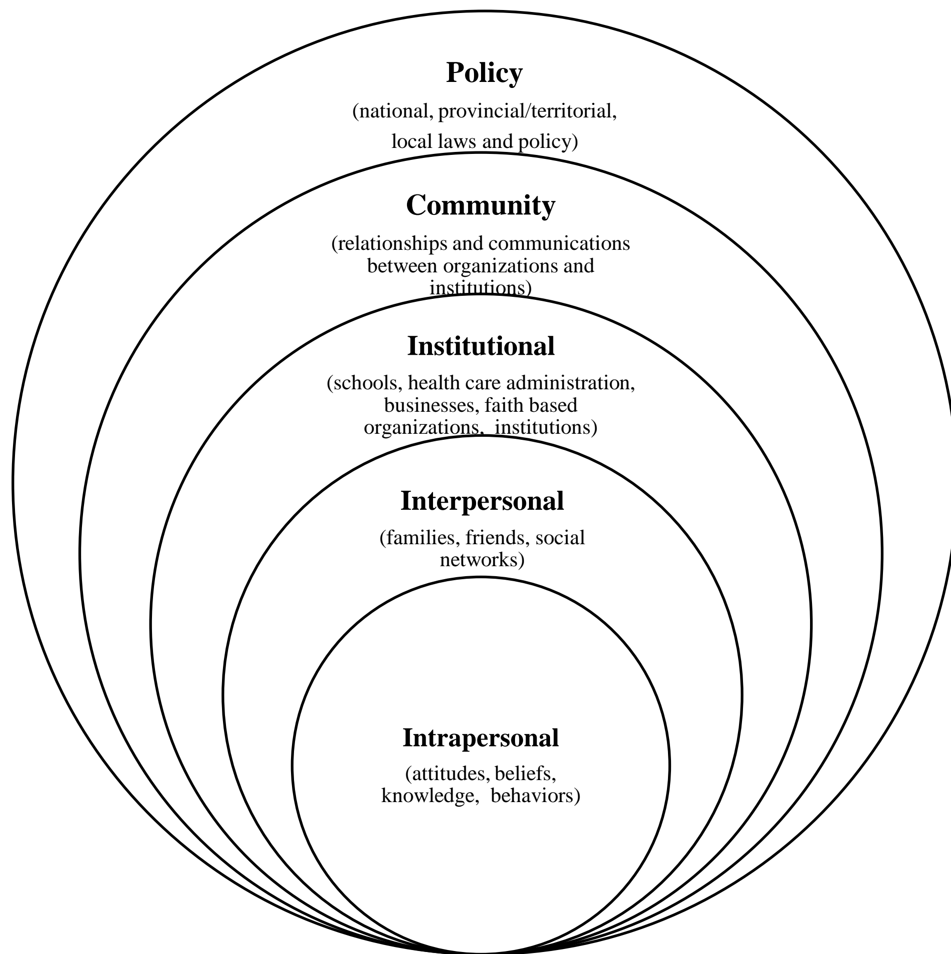

Figure 4-1 The Social Ecological Model

Source: Adapted from the Centers for Disease Control and Prevention (CDC), The Social Ecological Model, https://www.cdc.gov/nccdphp/dnpao/state-local-programs/health-equity/framing-the-issue.html
(Retrieved December 13, 2016).

model acknowledges that an individual's behaviour is shaped through multilevel factors that include the intrapersonal, interpersonal, institutional, community, and policy levels (Sallis et al., 2015). The social-ecological model is applied in this review to offer a holistic understanding of the health-seeking behaviours of sex workers and their access to health care services.

4.2. Aim of this review

This study is a systematic review of both qualitative and quantitative studies on the

experiences of sex workers in seeking health care and their perceptions of the barriers and facilitators that they encounter when attempting to access such services. The social-ecological model is applied in this review.

4.3. Methods

4.3.1. Search strategies and study selection process

The following 10 electronic databases were searched for studies published from the inception of the database to August 2016, which explore the health-seeking experiences of sex workers: Cochrane Library, MEDLINE, EMBASE, PubMed, PsycInfo, CINAHL, the British Nursing Index, Web of Science, Scopus, and Proquest Dissertation & Theses. These databases contain published manuscripts in the disciplines of health and biomedical sciences, social sciences, psychology, and nursing, that provide insights to the specific topic of interest. The search included medical subject headings (MeSH) terms and text words for "sex worker" and terms associated with "health care service", "barriers" and "facilitators": (1) sex worker ("sex workers" OR "prostitution" or prostitute*); (2) health care service ("health care" or "health service" or "treatment" or "health access"); and (3) experience ("experience" or "stigma" or "discriminat*" or "difficult*" or "challenge" or "concern" or "barrier" or "attitude" or "perception" or "facilitator" or "motivat*"). These terms were generated by examining the terminologies used in the review papers and other relevant literature. The full-text versions of potential citations were retrieved for a detailed examination. A manual search for additional literature was made from the reference lists of all of the eligible articles.

4.3.2. Inclusion and exclusion criteria

The criteria for studies to be included in this review were: (1) articles focusing on the experience of sex workers in seeking health care and their perceptions of the barriers or facilitators to accessing health services; (2) full-text articles; and (3) original articles published in English. Conference abstracts or literature review articles were excluded.

A total of 3,852 publications were identified from the electronic databases. A total of 1,159 publications was removed due to duplication, and the remaining 2,693 abstracts were screened. Of these, 2,656 publications were excluded on exclusion criteria. The full texts of the remaining 37 articles were examined in detail and nine studies were further excluded. Finally, a total of 28 studies were considered eligible and were included in this review. In addition, two relevant studies were retrieved from a manual search of the reference lists of the included studies. Hence, a total of 30 studies were included in this review. Of these, 27 were published in peer-reviewed journals, and three were dissertation theses. The flowchart of the literature search and selection process is summarized in Figure 4-2.

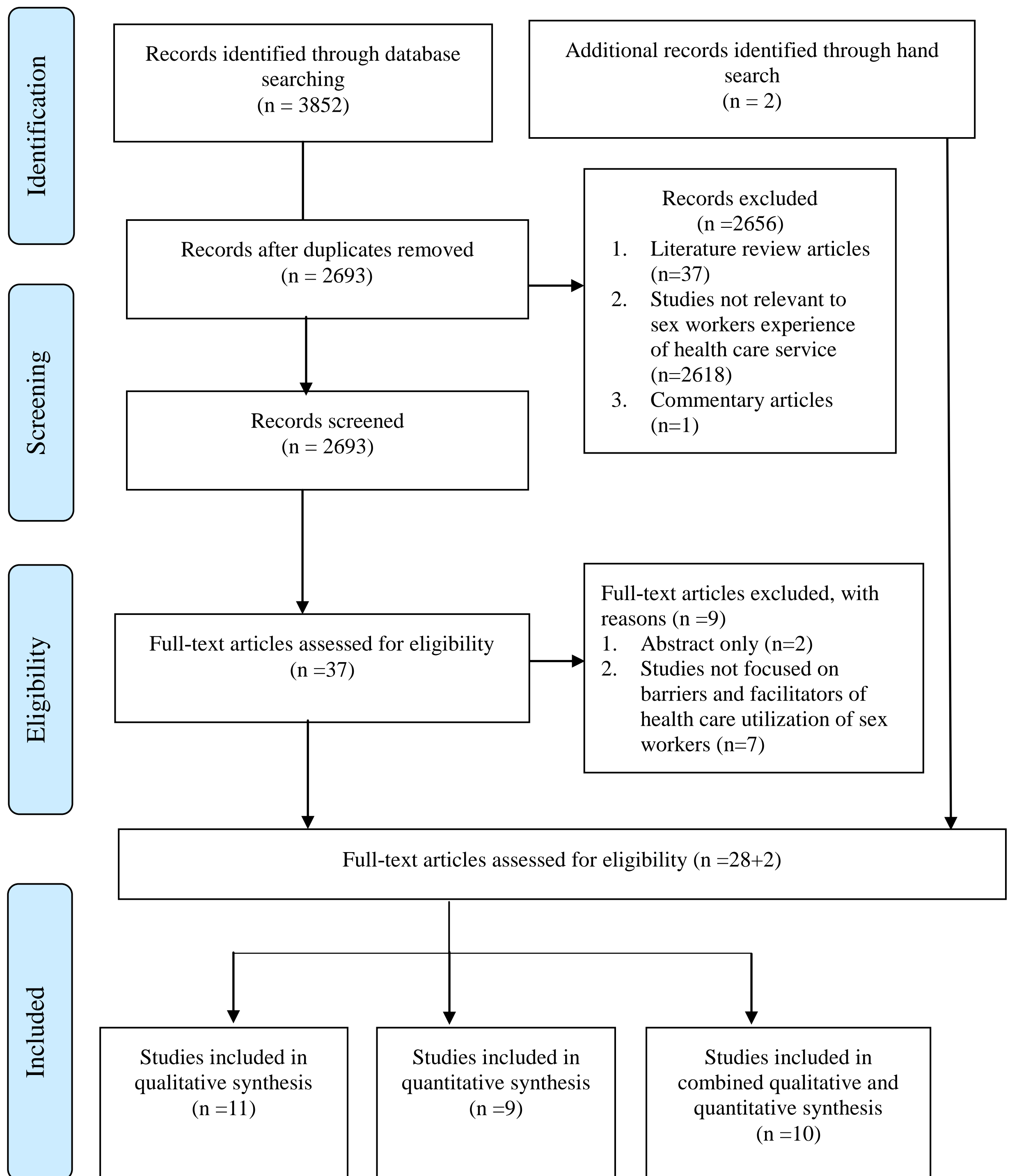

Figure 4-2 The flow diagram on identifying the literature

4.3.3. Assessing the quality of the included literature

The quality of the selected studies was assessed before inclusion in this review. The quantitative studies were assessed using the critical appraisal guide outlined by Crombie for descriptive surveys (Crombie & Harvey, 1997). The "Crombie Criteria" contains 11 questions with possible answers of "Yes", "No", or "Unclear" to assess the research design, selection of the subjects and representatives, the reliability of the measurement, and the statistical analysis. The quality of the qualitative studies was assessed using the Critical Appraisal Skills Programme (CASP) checklists for qualitative studies (CASP), which assess the rigour, credibility, and relevance of the qualitative study. CASP contains ten items, with item 1 to 9 were questions with possible answers of "Yes", "No", or "Can't tell". Item ten requires the discussion among assessors. Explanatory hints were provided under each question. For mixed-method studies, both sets of criteria were adopted.

The overall quality of the 19 quantitative studies or quantitative component of the mixed-method studies were considered as moderate quality, with 17 of the studies meeting four to seven criteria of the Crombie's critical appraisal guide. Only two studies met eight or nine of the criteria and were considered to be of overall good quality. Only one study adopted random sampling method; with the other 18 studies could not be considered as free from selection bias, and the representativeness of their sample populations was questionable. The calculation of sample size was not reported in the majority of the studies (n=18). Only six studies achieved a response rate of 70% or higher, but 13 studies did not report the response rate. The reliability and validity of the measurements were not reported in most of the studies (n=15). Details of the appraisal of the quality of these studies are listed in Appendices Table 4-1.

The 21 qualitative studies or the qualitative component of the mixed-method studies were assessed to be of moderate quality, with the majority of the studies meeting three to five CASP criteria. Only four studies met seven CASP criteria and were considered to be of good overall quality. All 21 studies were considered important in contributing qualitative evidence to sex workers health-seeking experience (item 10). The most common weaknesses were related to the justification of the research design (not reported in 17 studies), the discussion of non-participants (not reported in 20 studies), data saturation (not reported in 15 studies), the relationship between the researcher and the participants (not reported in 20 studies), and the rigorousness of the data analysis (not reported in 17 studies). No studies were excluded on the basis of the quality of the methodology.

4.3.4. Synthesis of the findings of the study

The characteristics of the studies and key findings were extracted and tabulated according to author(s), year of publication, country where the study was conducted, aims of the study, study design, sampling method, participants, types of health care services, and main findings by the first author and validated by the other two authors. The extracted data were analysed by adopting the inductive approach according to the Socio-ecological Model. The two main barriers and facilitators factors of sex workers in seeking health care were categorized into the intrapersonal, interpersonal, institutional, community, and policy levels. The characteristics and key findings of these studies are summarized and categorized in Appendices Table 4-2.

4.4. Results

4.4.1. Characteristics of the selected studies

There were 11 qualitative studies, nine quantitative studies, and 10 mixed-methods studies. The studies were published between 2003 to 2016. Most were conducted in North America (n=10), followed by Asia (n=9), Africa (n=7), and European countries (n=4). The size of the sample in each study varied markedly from nine to 2,220, and the total was 10,787. The response rate was reported in only six studies, and ranged from 80% to 98.6%.

The majority of the studies addressed the health-seeking experiences of FSWs (n=23), with five studies exploring the experiences of different types of sex workers, including FSWs, MSWs, and transgender sex workers. Two studies also included other groups of people at an elevated risk of contracting HIV, such as men who have sex with men (MSM).

Twelve studies focused on the general health care-seeking experiences of sex workers, sixteen investigated their experiences with sexual and reproductive health services, and one explored their experiences with both general health services and sexual health services. One study addressed the experiences of sex workers seeking treatment for drug addictions. Details of the characteristics and key findings of these studies are summarized in Appendices Table 4-2.

4.4.2. Barriers to accessing health services

All of the 30 studies included in this review described the barriers encountered by sex workers to seeking health services (Appendices Table 4-3). The barriers to accessing to health services are discussed according to intrapersonal, interpersonal, institutional, community and policy levels.

Barriers at the intrapersonal level

Twenty-five studies described the barriers to accessing health services at the intrapersonal level (Basnyat, 2017; Beattie et al., 2012; Chakrapani et al., 2009; Folch, Lazar, Ferrer, Sanclemente, & Casabona, 2013; Ghimire, Smith, & van Teijlingen, 2011; Y. Hong et al., 2012; Jeal & Salisbury, 2004; Kimani, 2014; King, Maman, Bowling, Moracco, & Dudina, 2013; Kurtz, Surratt, Kiley, & Inciardi, 2005; Marlow, Shellenberg, & Yegon, 2014; Mtetwa, Busza, Chidiya, Mungofa, & Cowan, 2013; Ngo et al., 2007; Nguyen, Venne, Rodrigues, & Jacques, 2008; Phillips & Benoit, 2005; Phrasisombath et al., 2012; Porras et al., 2008; Savva, 2013; Scorgie et al., 2013; Shannon, Bright, Duddy, & Tyndall, 2005; F. M. Smith & Marshall, 2007; Surratt, O'Grady, Kurtz, Buttram, & Levi-Minzi, 2014; Underhill et al., 2014; Varga, 2012; Y. Wang et al., 2011). These included a lack of information about diseases/available services, the fear of medical treatment, the costs, and the lack of personal capacity. Sex workers often have limited health information (Basnyat, 2017; Ngo et al., 2007; Underhill et al., 2014) or low perception of the risks of HIV/STIs (Y. Hong et al., 2012; Ngo et al., 2007). They were also plagued by numerous fears: feared public exposure (Basnyat, 2017; Ghimire et al., 2011; Y. Hong et al., 2012; Jeal & Salisbury, 2004; Kimani, 2014; King et al., 2013; Nguyen et al., 2008; Phillips & Benoit, 2005; Porras et al., 2008); feared being infected with HIV (Beattie et al., 2012; Ngo et al., 2007; Phillips & Benoit, 2005; Underhill et al., 2014; Varga, 2012; Y. Wang et al., 2011), and feared the side-effects of potential treatments (Basnyat, 2017; Shannon et al., 2005). Financial constraints further pushed them outside of the health care system (Beattie et al., 2012; Ghimire et al., 2011; Mtetwa et al., 2013; Ngo et al., 2007; Phrasisombath et al., 2012; Scorgie et al., 2013; Underhill et al., 2014; Varga, 2012). Moreover, the capacity of the sex workers to

take care of themselves was undermined by a number of factors, such as substance abuse (Chakrapani et al., 2009; Kurtz et al., 2005; Savva, 2013; Surratt et al., 2014; Underhill et al., 2014; Varga, 2012), street life (Kurtz et al., 2005), mental health status (Kurtz et al., 2005), sex work (Chakrapani et al., 2009), and ability to adhere to daily regimes (Shannon et al., 2005).

Barriers at the interpersonal level

Six studies identified barriers at the interpersonal level to accessing health services (Basnyat, 2017; Chakrapani et al., 2009; Ghimire et al., 2011; Marlow et al., 2014; Ngo et al., 2007; F. M. Smith & Marshall, 2007). These included a lack of social support and peer influence. Sex workers reported that they would face domestic violence or be forced out of their home if found to be HIV-positive (Chakrapani et al., 2009; F. M. Smith & Marshall, 2007), and that their competitiveness in the sex industry would be severely impaired (Chakrapani et al., 2009). The informal network of sex workers was a primary source of health information, as sex workers often sought information from their peers rather than from health professionals (Basnyat, 2017; Marlow et al., 2014; Ngo et al., 2007).

Barriers at the institutional level

Twenty-five studies identified the following as constituting the institutional barriers: the poor quality of care, inadequate and inconvenient services, and types of clinics (Basnyat, 2017; Beattie et al., 2012; Chakrapani et al., 2009; Duff et al., 2016; Folch et al., 2013; Ghimire et al., 2011; Jeal & Salisbury, 2004; Kimani, 2014; King et al., 2013; Kurtz et al., 2005; Lafort et al., 2016; Marlow et al., 2014; Mtetwa et al., 2013; Ngo et al., 2007; Nguyen et al., 2008; Phillips & Benoit, 2005; Phrasisombath et al.,

2012; Porras et al., 2008; Rosenheck, Ngilangwa, Manongi, & Kapiga, 2010; Savva, 2013; Scorgie et al., 2013; Shannon et al., 2005; F. M. Smith & Marshall, 2007; Underhill et al., 2014; W.-C. Wong, 2003).

The findings relating to institutional-level barriers to the use of health services were noteworthy. The sex workers anticipated or had previously experienced poor attitudes and treatment from health care providers (Basnyat, 2017; Beattie et al., 2012; Chakrapani et al., 2009; Duff et al., 2016; Folch et al., 2013; Ghimire et al., 2011; Jeal & Salisbury, 2004; Kimani, 2014; King et al., 2013; Marlow et al., 2014; Mtetwa et al., 2013; Ngo et al., 2007; Phillips & Benoit, 2005; Phrasisombath et al., 2012; Porras et al., 2008; Savva, 2013; Scorgie et al., 2013; F. M. Smith & Marshall, 2007; Varga, 2012), and they felt that their right to privacy and confidentiality was being violated in health care settings (Basnyat, 2017; Chakrapani et al., 2009; Ghimire et al., 2011; Lafort et al., 2016; Ngo et al., 2007; Scorgie et al., 2013). Overwhelmingly, inadequate and inconvenient services were considered barriers to accessing health services (Basnyat, 2017; Beattie et al., 2012; Duff et al., 2016; Folch et al., 2013; Ghimire et al., 2011; Y. Hong et al., 2012; Jeal & Salisbury, 2004; Kimani, 2014; Kurtz et al., 2005; Lafort et al., 2016; Mtetwa et al., 2013; Ngo et al., 2007; Nguyen et al., 2008; Phrasisombath et al., 2012; Porras et al., 2008; Savva, 2013; Scorgie et al., 2013; Shannon et al., 2005; F. M. Smith & Marshall, 2007; Underhill et al., 2014; Varga, 2012; W.-C. Wong, 2003). Sex workers felt that health agencies failed to provide them with services tailored to their multiple health care needs, such as treatment for substance use, hepatitis C, mental health care, as these were not available at the clinics or hospitals that they visited (Beattie et al., 2012; Kurtz et al., 2005; Porras et al., 2008; F. M. Smith & Marshall, 2007; Underhill et al., 2014). Sex workers were also frustrated by inconvenient

opening hours (Ghimire et al., 2011; Nguyen et al., 2008), long waiting times (Basnyat, 2017; Beattie et al., 2012; Folch et al., 2013; Ghimire et al., 2011; Jeal & Salisbury, 2004; Lafort et al., 2016; Mtetwa et al., 2013; Ngo et al., 2007; Phrasisombath et al., 2012; Porras et al., 2008; Savva, 2013; Scorgie et al., 2013), inconvenient locations (Beattie et al., 2012; Jeal & Salisbury, 2004; Kimani, 2014; Kurtz et al., 2005; Mtetwa et al., 2013; Phrasisombath et al., 2012; Scorgie et al., 2013; Underhill et al., 2014), and absence of user-friendly appointment systems that they encountered (Jeal & Salisbury, 2004; Nguyen et al., 2008; Shannon et al., 2005). Sex workers experienced discomfort with the types of clinics that they visited (Nguyen et al., 2008; Porras et al., 2008; Shannon et al., 2005; W.-C. Wong, 2003), and feared being labelled as sex workers at STI clinics (Ngo et al., 2007; Porras et al., 2008; W.-C. Wong, 2003).

Sex workers in some developing countries faced greater barriers to accessing health services. Limited laboratory services and shortage of medicine were cited as key obstacles to health services in India, Guatemala, and Africa (Beattie et al., 2012; Lafort et al., 2016; Porras et al., 2008; Scorgie et al., 2013). These challenges further worsened by the corruption in health care settings, and sex workers needed to pay bribes to health care providers to receive care for HIV/STIs (Beattie et al., 2012; Lafort et al., 2016; Phrasisombath et al., 2012). All contributed to their reluctance to utilize health services when they needed to do so.

Barriers at the community level

Being socially stigmatized is a major fear of sex workers. A total of sixteen studies showed that across countries with different prostitution laws or various levels of development, there was no difference on the social stigma against sex work

contributed to sex workers' reluctance to seek appropriate treatment (Beattie et al., 2012; Chakrapani et al., 2009; Y. Hong et al., 2012; Kimani, 2014; King et al., 2013; Lazarus et al., 2012; Mtetwa et al., 2013; Ngo et al., 2007; Rosenheck et al., 2010; Scorgie et al., 2013; Shannon et al., 2005; F. M. Smith & Marshall, 2007; Surratt et al., 2014; Underhill et al., 2014; Varga, 2012; Y. Wang et al., 2011). Specifically, they were concerned about the stigma associated with HIV/STIs (Beattie et al., 2012; Chakrapani et al., 2009; Y. Hong et al., 2012; King et al., 2013; Ngo et al., 2007; Shannon et al., 2005; Surratt et al., 2014; Y. Wang et al., 2011), drug use (F. M. Smith & Marshall, 2007; Underhill et al., 2014; Varga, 2012), and sex work (Beattie et al., 2012; Chakrapani et al., 2009; Kimani, 2014; Mtetwa et al., 2013; Rosenheck et al., 2010; Surratt et al., 2014; W.-C. Wong, 2003).

Barriers at the policy level

While information about barriers at the policy level and the uptake of health services among sex worker was limited, one study identified a policy that created a barrier to the accessing of health services (Kurtz et al., 2005). In the United States, proof of legal identity and citizenship status is required in health care settings, which has excluded sex workers who have entered the country illegally from seeking health services. Also, prostitution was illegal in the United States, and the fear of being arrested also hindered them from accessing health services (Kurtz et al., 2005).

4.4.3. Facilitators to accessing health services

Twenty–two of the 30 studies included in this review described the facilitators for sex workers to seeking health services (Appendices Table 4-4). The facilitators to accessing health services are also discussed according to intrapersonal, interpersonal,

institutional, community and policy levels.

Facilitators at the intrapersonal level

Nine studies reported on facilitators at the intrapersonal level that encourage access to health services (Beattie et al., 2012; Chakrapani et al., 2009; Marlow et al., 2014; Porras et al., 2008; Rosenheck et al., 2010; Surratt et al., 2014; Underhill et al., 2014; Varga, 2012; Y. Wang et al., 2011), including information about one's health status and concerns about one's health. A clear understanding of one's health status and adequate information about the benefits of treatment motivated sex workers to seek health care (Beattie et al., 2012; Chakrapani et al., 2009). Various health concerns also facilitated their health-seeking behaviour, such as perceptions of the risk of becoming infected with HIV/STIs (Surratt et al., 2014; Underhill et al., 2014; Varga, 2012), perceptions of the severity of their symptoms (Marlow et al., 2014; Porras et al., 2008; Underhill et al., 2014; Varga, 2012), and the belief that maintaining good health is a matter of commitment to their family (Chakrapani et al., 2009).

Facilitators at the interpersonal level

Nine studies identified social support and peer influence as facilitators at the interpersonal level that encouraged access to health services (Basnyat, 2017; Beattie et al., 2012; Chakrapani et al., 2009; Marlow et al., 2014; Ngo et al., 2007; F. M. Smith & Marshall, 2007; Surratt et al., 2014; Underhill et al., 2014; Y. Wang et al., 2011). The social network of sex workers served as a source of health information and support (Basnyat, 2017; Chakrapani et al., 2009; Marlow et al., 2014; Ngo et al., 2007; Y. Wang et al., 2011), and emotional and practical support from peers encouraged individuals to seek access to health services (Beattie et al., 2012; Marlow

et al., 2014; F. M. Smith & Marshall, 2007; Y. Wang et al., 2011).

Facilitators at the institutional level

Seventeen studies described facilitators at the institutional level (Beattie et al., 2012; Ghimire et al., 2011; Jeal & Salisbury, 2004; Kimani, 2014; Lafort et al., 2016; Marlow et al., 2014; Ngo et al., 2007; Nguyen et al., 2008; Phillips & Benoit, 2005; Rosenheck et al., 2010; Savva, 2013; Scorgie et al., 2013; Shannon et al., 2005; Surratt et al., 2014; Underhill et al., 2014; Varga, 2012; W.-C. Wong, 2003) as consisting of high-quality care, services that are available, accessible, and affordable, and clinics where sex workers did not feel stigmatized.

Facilitators at the institutional level were the most notable factors encouraging sex workers to utilize health services. Sex workers wished to be treated with respect, privacy, and empathy by health care providers who were non-judgmental and had a positive attitude (Beattie et al., 2012; Kimani, 2014; Marlow et al., 2014; Ngo et al., 2007; Nguyen et al., 2008; Phillips & Benoit, 2005; Savva, 2013; Scorgie et al., 2013; Varga, 2012; W.-C. Wong, 2003). Approximately 63% of sex workers in the UK suggested that doctors should have appropriate knowledge of the sex industry and the needs of the sex workers in their community (Jeal & Salisbury, 2004). Ten studies reported that available, accessible, and affordable services were welcomed by sex workers (Jeal & Salisbury, 2004; Kimani, 2014; Lafort et al., 2016; Ngo et al., 2007; Phillips & Benoit, 2005; Rosenheck et al., 2010; Shannon et al., 2005; Underhill et al., 2014; W.-C. Wong, 2003). They favoured clinics that offer comprehensive and integrated services, such as the provision of condoms, insertion of intrauterine devices, termination of pregnancy, care for incomplete miscarriages/abortions, and psychological counselling (Jeal & Salisbury,

2004; Lafort et al., 2016; Phillips & Benoit, 2005; W.-C. Wong, 2003). Furthermore, sex workers suggested that clinics have convenient opening hours (Jeal & Salisbury, 2004; Lafort et al., 2016; Phillips & Benoit, 2005; Shannon et al., 2005; W.-C. Wong, 2003), a convenient location (Jeal & Salisbury, 2004; Kimani, 2014; Ngo et al., 2007; Phillips & Benoit, 2005; Shannon et al., 2005; Underhill et al., 2014; Varga, 2012; W.-C. Wong, 2003), a user-friendly appointment system (Jeal & Salisbury, 2004), interpretation services (W.-C. Wong, 2003), and affordable price (Kimani, 2014; Surratt et al., 2014; Varga, 2012; W.-C. Wong, 2003).

Facilitators at the community level

Non-government advocacy groups play a large role in facilitating the health-seeking behaviour of sex workers (Beattie et al., 2012; Chakrapani et al., 2009; Savva, 2013). Non-governmental organizations (NGOs) use various strategies to help sex workers overcome barriers to the use of health services, such as providing information on antiretroviral therapy (ART), helping to initiate treatment (Chakrapani et al., 2009), providing emotional support and financial assistance (Beattie et al., 2012), providing sex workers with knowledge of their legal and human rights (Savva, 2013), advocating government support for HIV treatment, and working for corruption-free health services (Beattie et al., 2012).

Facilitators at the policy level

Health care subsidies from the government were cited as an important facilitator at the policy level that motivated sex workers to access health services in some developing countries in Asia. Studies conducted in China, India, and Vietnam reported that given the concern of sex workers about the affordability of health

services, a policy of offering free or subsidized health care consultations and treatments would be a powerful facilitator of the utilization of health services (Beattie et al., 2012; Ngo et al., 2007; Y. Wang et al., 2011; W.-C. Wong, 2003).

4.5. Discussion

To our knowledge, no previous review of the literature has focused on barriers and facilitators to the accessing of health services by sex workers. This review shows that the factors that influence the health-seeking behaviours of sex workers can be categorized under the socio-ecological model as intrapersonal, interpersonal, institutional, community, and policy level factors. The results of this review suggest that barriers at multiple levels need to be addressed, and that facilitators be maintained or established to improve access to health services by sex workers. The most prominent barriers and facilitators identified from this review are discussed below, as well as relevant interventions to increase the uptake of health services by sex workers.

Reducing stigmatizing attitudes among health professionals towards sex workers

Stigma is the most prominent barrier deterring sex workers from seeking health services. The findings from this review demonstrated that strong social and internalized stigma against sex work contributed to sex workers' reluctance to seek appropriate treatment. Social stigmatization of sex work negatively impacted the provision of health care. The stigma attached to sex work is prevalent in health care settings. With their negative and stigmatized attitudes and denial of treatment to sex workers, health professionals neglect their duty to safeguard all patients and promote health, and violate the sex workers' equal rights to health. Meanwhile, the fear of

disclosing their occupation to health professionals has limited the ability of sex workers to access care, which could undermine the accuracy of diagnoses and the effectiveness of treatments. Their negative experiences with health providers further affect their future use of formal medical services.

The WHO guidelines on HIV/ STI prevention and treatment for sex workers (2012) state that, all health services, including primary health care, should be made "*available, accessible and acceptable to sex workers based on the principles of avoidance of stigma, non-discrimination and the right to health*" (p.8) (World Health Organization, 2012). This review highlighted the importance of removing obstacles faced by sex workers in accessing health services and combating stigma in health care settings. The ability to deliver appropriate and sensitive services to sex workers requires that health professionals be equipped with sufficient knowledge of the sex industry and the health concerns of sex workers. It is critical that health professionals examine their deeply held values and their perceptions of sex workers, and be aware of the right of all humans to health. Such awareness would potentially benefit the health of sex workers.

Also, there is evidence that requiring health professionals to undergo a sensitivity training programme can improve their knowledge and attitudes towards a stigmatized population. For example, an-online computer-facilitated MSM sensitivity programme in Kenya significantly improved health professionals' knowledge of the sexual health issues of MSM and reduced their personal homophobic attitudes (Van der Elst et al., 2013). Therefore, requiring all health professionals and students in health-related professions to take part in sensitivity training programmes towards sex workers may have a promising effect on reducing bias and result in the delivery of non-judgemental and quality health care to all sex

workers.

Available, acceptable, affordable, and accessible health services

The findings of this review indicate that there is a lack of available, acceptable, affordable, and accessible health services for sex workers. Many of the health services failed to meet the multiple health needs and priorities of the sex workers. The sex workers would like to see health service offerings expanded beyond the treatment of HIV and STIs to include the integration of treatments for reproductive health, mental health, and substance dependence in the same health care settings.

Sex workers suggested various strategies to improve the acceptability of health services. The presence of health professionals with a friendly and non-judgemental attitude towards sex workers and sufficient knowledge of the sex industry and the health needs of sex workers, and assurance of patient confidentiality would enhance their trust and ensure that the services provided would be more acceptable to them.

It is also evident that a significant number of sex workers have been shut out of accessing health services because they are unable to afford the costs. Government programmes to offer free or subsidized health care to sex workers will improve their access to health services, and are essential to improving the health of sex workers.

The accessibility of services was also highlighted in this review. Sex workers considered that to be accessible and responsive to their specific needs, health services should offer extended service hours, convenient locations, mobile clinic services, and a user-friendly appointment system. In China, a clinic was launched according to the preferences of sex workers. The clinic was refurbished, the staff received further training, and the clinic was opened to the general public to reduce its

stigma, while the opening hours were extended to suit the needs of sex workers. Subsequently, a dramatic increase was seen in the utilization of the clinic among sex workers (W.-C. Wong, 2003). To meet the health needs of sex workers and to improve their access to health services, it is critical that their voices be heard in the planning and implementation of such services.

Informal networks and the role of peer educators

Informal networks were identified as both a facilitator and a barrier to the uptake of health services by sex workers. Sex workers are more likely to trust their peers and rely on their informal network to provide them with information on health services. Since sex workers are hard to reach and highly mobile, it could be a challenge for health professionals to access and deliver health information and services to them. Therefore, peer educators could play a fundamental role in reaching sex workers and improving their access to health care. Results from previous studies on the effectiveness of peer education programmes for FSWs showed that peer education interventions significantly increased knowledge of HIV/STIs, reduced STIs, and increased condom use among FSWs (Ford, Wirawan, Suastina, Reed, & Muliawan, 2000; Morisky, Stein, Chiao, Ksobiech, & Malow, 2006). Thus, health professionals may achieve the goal of improving the access of sex workers to health by working closely with peer educators. Training peer educators would potentially influence the health-seeking behaviours of sex workers and improve their utilization of health services.

Reducing stigmatizing attitudes in the community

Fostering of a supportive community environment in which sex workers can be

comfortable to seek help is important, including efforts to reduce social stigma against sex workers. Community mobilization interventions have demonstrated to be successful in reducing social stigma toward sex workers in India (Van der Elst et al., 2013). It facilitated social acceptance of sex workers through increasing awareness of sex workers' health needs, protecting their human rights, providing health-related resources, and advocating changes in societal attitudes toward sexuality and sex work among multiple stakeholders, such as police, policy-makers, brothel owners, civic and social clubs (I. Basu et al., 2004). The replicability of the intervention should be tested in future programs and interventions in different countries or legal systems.

Legal and policy environment

The legal and policy environment contribute to the inequalities in health and health care utilization among sex workers. The previous review has summarized that sex workers were more vulnerable to HIV infection, violence, and exploitation in countries where sex work was illegal (Decker et al., 2015). Challenges also exist concerning disparities in access to care. Findings from this review further showed that the prostitution laws that link sex work with criminality drove sex workers underground and increased their risk of social isolation from health services (Kurtz et al., 2005). Therefore, to facilitate the use of health services and reduce the health care disparities faced by sex workers, it calls for respect and protect sex workers' basic human rights to health services regardless of the legal status of prostitution.

4.6. Limitations

Although the socio-ecological model addresses the complexities of the health-

seeking behaviours of sex workers, and offers strategies to improve their access to health care, the model also has limitations. It fails to show how factors at each level influence health behaviours. The complexity of the model also reflects the practicalities and difficulties of developing appropriate interventions (Stokols, 1996).

In addition, there are several limitations in the present systematic review; therefore, the findings in this review should be interpreted with caution. First, much of the evidence was drawn from convenience samples, and the size of the samples varied considerably from study to study, which could limit the generalizability of the findings. Second, given the stigmatized nature of sex work and HIV status, this review cannot be free from the possibility of social desirability bias in the ways that sex workers described their health-seeking experiences. Third, this review only included peer-reviewed articles, while the grey literature relating to this topic and unpublished surveys were not accessible; thus, this review may be susceptible to publication bias. Lastly, this review only included studies published in English. Therefore, it is possible that we have missed studies on this topic in non-English language journals.

4.7. Summary

The utilization of health services by sex workers is a complex issue involving a wide range of barriers and facilitators at the intrapersonal, interpersonal, institutional, community, and policy levels. The socio-ecological model provides an approach to understanding how these multilevel factors affect the health-seeking behaviours of sex workers. This information could help policymakers, health care providers, and advocates for sex workers develop acceptable, affordable, and accessible health services for sex workers. Also, health services or future intervention studies should

take into account the facilitators and barriers identified in this review to improve the health services utilization and health of sex workers, as part of the effort to protect the right of humans to health.

Chapter 5 The conceptualization of stigma and measurement of attitudes toward sex workers

5.1.Introduction

5.2.Methods

- 5.1.1. Conceptualization of stigma
- 5.1.2. Levels of stigma and consequences

5.3. The stigma associated with sex work

5.4.Recommendation for future interventions to reduce the stigma of sex work

5.1. Introduction

The review of the literature in the previous three chapters (chapter 2- 4) demonstrated that stigma towards sex work significantly affect health and the healthcare seeking behaviours of sex workers. The pervasive stigma and discrimination against sex workers persist within health care facilities, and is a key barrier to the access of healthcare by sex workers at multi-levels: intrapersonal, interpersonal, institutional, community and policy levels.

The reviews of literature conducted clearly pointed to the direction that research study should focus on the stigma associated with sex work and its impact on access or provision of healthcare services from the perspectives of different stakeholders. Before related studies can be conducted, it is necessary to have a clear conceptualization of the term stigma and the impact of stigma on sex workers.

5.2. Stigma

5.2.1. Conceptualization of stigma

The ancient Greeks word, "stigma" referred to a kind of tattoo that was cut or burned into the skin of criminals, slaves, or traitors to visibly identify them as blemished or morally polluted persons (Van Brakel, 2014). The word was later applied to other personal attributes. According to the classic definition of stigma provided by Erving Goffman (1963), it is "an undesirable or discrediting attribute that an individual possesses, thus reducing that individual's status in the eyes of society."(p.3) (Erving, 1963).

Erving listed three categories of discrediting attributes that could lead to social exclusion and rejection of individuals or groups: 1) "abominations of the body", such physical deformities; 2) "blemishes of individual character", such as

drug addiction, mental disorder, problem gambling, imprisonment, homosexual; and (3) the tribal feature of stigma, such as race, nationality, or religion (Erving, 1963).

Erving's work sheds light on the underlying conceptualization of stigma. Jones and colleagues (1984) defined stigma as a "mark" that sets a person apart from others and links the marked person to undesirable characteristics (Jones, 1984). They further conceptualized stigma into six dimensions, namely: concealability (whether the ailment is visible or hidden); course (how the illness will progress over time); disruptiveness (whether the condition interferes with daily living and interpersonal interactions); aesthetic qualities (whether the illness is aesthetically unpleasing); origin (the cause of the disorder); and peril (whether the disorder will be destructive to the self or others). Corrigan et al. in 2001 added three dimensions of stigma: stability (whether the person will get benefit from the treatment); controllability (whether the behaviour/disorder is controllable); and pity (disorders who are pitied received less stigma) (Corrigan, River, et al., 2001).

A clear conceptualization of stigma was put forward by Link & Phelan as 'the co-occurrence of labeling, stereotyping, separation, status loss, and discrimination in a context in which power is exercised' (p.367) (Link & Phelan, 2001). In parallel with Link and Phelan's conceptualization of stigma, Corrigan et al. proposed the social cognitive model of stigma, which focused on the cognitive and behaviour core features of stigma: stereotype, prejudice, and discrimination (Corrigan, 2000; Corrigan, Edwards, Green, Diwan, & Penn, 2001). Stereotype is the cognitive dimension and refers to knowledge structures or negative beliefs about a large group of people. Prejudice is the cognitive and affective consequence of stereotype, which refers to the agreement with stereotype beliefs and or negative emotions, such as anxiety, fear, anger. Discrimination is the consequence of

stereotype and prejudice (Corrigan, 2000; Corrigan, Edwards, et al., 2001) (Corrigan & Watson, 2002; Thornicroft, Rose, Kassam, & Sartorius, 2007).

5.2.2. Levels of stigma and consequences

There are three main levels of stigma: public stigma, self-stigma, and structural stigma. (Ahmedani, 2011). Public stigma is the attitudes and beliefs that the general public held toward the stigmatized population and their family members. Self-stigma occurs when the individuals who belong to a stigmatized group accept and internalize society's negative attitudes (Corrigan & Watson, 2002). Structural stigma refers to the ways institutions legitimize and perpetuate stigma (Corrigan & Lam, 2007). Health professional stigma is one of the most studied structural stigma (Ahmedani, 2011; Henderson et al., 2014; Nordt, Rössler, & Lauber, 2006; Nyblade et al., 2019), since health professionals' personal values may shape their attitudes toward the patients (Dorsen & Van Devanter, 2016; Ferri, Guerra, Marcheselli, Cunico, & Di Lorenzo, 2015).

The consequences of stigma could be devastating. Mounting evidence suggests that stigma is the fundamental cause of social inequity (Hatzenbuehler et al., 2013). Public stigma and health professional stigma may lead to various discriminative behaviours, such as gossip (Frey, Hans, & Cerel, 2015), verbal harassment (Hughto, Reisner, & Pachankis, 2015), violence (Hughto et al., 2015), sexual assault (Hughto et al., 2015), social isolation (Rao, Angell, Lam, & Corrigan, 2008), rejection, unemployment (Rao et al., 2008; Stergiou-Kita, Pritlove, & Kirsh, 2016), breach of confidentiality and privacy (Beattie et al., 2012; Rahmati-Najarkolaei et al., 2010), and other human rights violations (Zalat, Mortada, & El Seifi, 2018). Individuals who accept societal stigma as legitimate may suffer from

diminished self-esteem and self-efficacy (Corrigan, Watson, & Barr, 2006), lowered quality of life (Corrigan & Watson, 2002), increased chance of mental disorders, and even suicide attempts (Corrigan et al., 2006), and delayed or refusal of treatment (Katz et al., 2013).

5.3. The stigma associated with sex work

There is a strong stigmatizing attitude towards sex workers throughout history. Pervasive stigma and discrimination threaten the health and wellbeing of sex workers. It may compromise their ability to negotiate the use of condoms to protect themselves from human immunodeficiency virus (HIV) infection and other sexually transmitted diseases (STDs) (Choi & Holroyd, 2007). Stigma could also impact the mental health of sex workers (Y. Hong et al., 2010), contributing to the use of illegal drugs (Bletzer, 2005; Dodsworth, 2014; McClelland & Newell, 2008). The stigma associated with sex work could be further complicated with the added stigma associated with HIV or STDs, drug addiction, homelessness, and mental disorders (Gu et al., 2014; Kurtz et al., 2005; Mtetwa et al., 2013). This multi-layered stigma could adversely affect sex workers' behaviours, physical and psychological health, and health-seeking behaviours (Donastorg, Barrington, Perez, & Kerrigan, 2014; Gu et al., 2014).

5.4 Recommendation for future interventions to reduce the stigma of sex work

Stigma is the fundamental determinate of inequalities in the health and health care services of sex workers. Interventions are suggested to target three primary levels of stigma to remove the barriers to accessing health care service among sex workers: public stigma, self-stigma, and structural stigma. One approach would be to change

the negative attitudes of health care providers toward sex workers. However, there is scant literature on the stigma-reduction interventions related to sex work for professionals and students in health-related disciplines. To shed light on the development of a stigma-reduction intervention for professionals and students in health-related disciplines, in the following chapter, a review of the stigma-reduction intervention among professionals and students in health-related disciplines was conducted.

Chapter 6 Review of literature (IV)

HIV/AIDS related stigma-reduction intervention for professionals and students in health-related disciplines – implications for stigma-reduction interventions related to sex work

6.1. Background of the review

6.2. Aim of the review

6.3. A search for studies on interventions to reduce the stigmatizing attitudes of health professionals towards sex work

6.4. HIV stigma-reduction intervention programmes: implications for strategies for interventions to reduce the stigma related to sex work

6.5. Methods

- 6.5.1. Search of the literature
- 6.5.2. Inclusion and exclusion criteria
- 6.5.3. Appraisal of the quality of the included studies
- 6.5.4. Data extraction and synthesis

6.6. Results

- 6.6.1. Characteristics of intervention studies
- 6.6.2. Characteristics of the interventions
- 6.6.3. Outcome-measuring instruments
- 6.6.4. Outcomes of the interventions

6.7. Discussion

6.8. Limitations of the study

6.9. Summary

*Content of this chapter is submitted:

Ma, P. H., & Loke, A. Y. (2019d). A scoping review of an HIV/AIDS-related stigma-reduction intervention for professionals and students from health-related disciplines – Implications for stigma-reduction interventions related to sex work. (*International Journal of Sexual Health, major revision*)

6.1. Background of the review

Findings from previous chapters indicate that sex workers face significant barriers to accessing health services (Chapter 4). The negative attitudes of healthcare providers toward sex workers has been recognized as a critical factor that influences service provision and disparities in health (Chapter 3 and 4). Studies have suggested that knowledge about the sex industry and non-judgmental attitudes on the part of healthcare providers towards sex workers would enhance the trust towards them felt by the sex workers and subsequently improve the latter's access to health care (Phrasisombath et al., 2012). Therefore, reducing sex work-related stigma among healthcare providers, including nursing professionals, is critical to addressing health disparities between sex workers and the general population.

6.2. Aim of the review

The aim of this review was to find out the existing intervention to reduce the stigma of health professionals towards sex workers.

6.3. A search for studies on interventions to reduce the stigmatizing attitudes of health professionals towards sex work

Search strategies and the Process of Selecting Studies

The following eleven databases were searched for studies listed from their inception to November 2017: Medline, Embase, Cochrane Library, PsychINFO, CINAHL, Web of Science, Scopus, Social Services Abstracts, PubMed, British Nursing Index, and ProQuest Dissertations and Theses. The search terms included medical subject headings (MeSH) terms and key words for "sex worker" and terms associated with "attitude", "healthcare providers", and "intervention": (1) sex worker ("sex work*"

or “prostitute*” or “sex industry”); (2) stigma (“stigma or “social stigma” or “stigma reduction” or “anti-stigma” or “attitude” or “discrimination” or “anti-discrimination” or “social isolation” or “social distance” or “prejudice” or “shame” or “tolerance” or “empathy”); (3) health professionals (“healthcare worker” or “health professional” or “health personnel” or “healthcare provider” or “nurs*” or “doctor” or “medical student” or “physician” or “dental” or “health setting”); (4) intervention (“intervention or program” or “education” or “training” or “trial” or “workshop”). A manual search of the references of the identified literature and an author search were also conducted.

Inclusion and Exclusion Criteria

Studies were included in this review if they fulfilled the following criteria: (1) the study focused on healthcare providers or students from health-related disciplines; (2) the intervention included a component on the reduction of stigmatizing attitudes by healthcare providers towards sex workers; (3) the study was either experimental or quasi-experimental in design; (4) the study was published in English. Studies were excluded if the intervention focused on reducing stigma toward those with other stigmatized conditions (e.g., people with human immunodeficiency virus (HIV), mental illness, drug users, etc.). Conference abstracts, review articles, and studies published in languages other than English were also excluded. Figure 6-1 contains a flow diagram of the search and selection process.

A total of 3,198 studies were identified, 296 duplicates were culled, and 2,897 were removed when abstracts were screened based on the exclusion criteria. The full text of the five studies that remained were examined, and only two met the inclusion criteria.

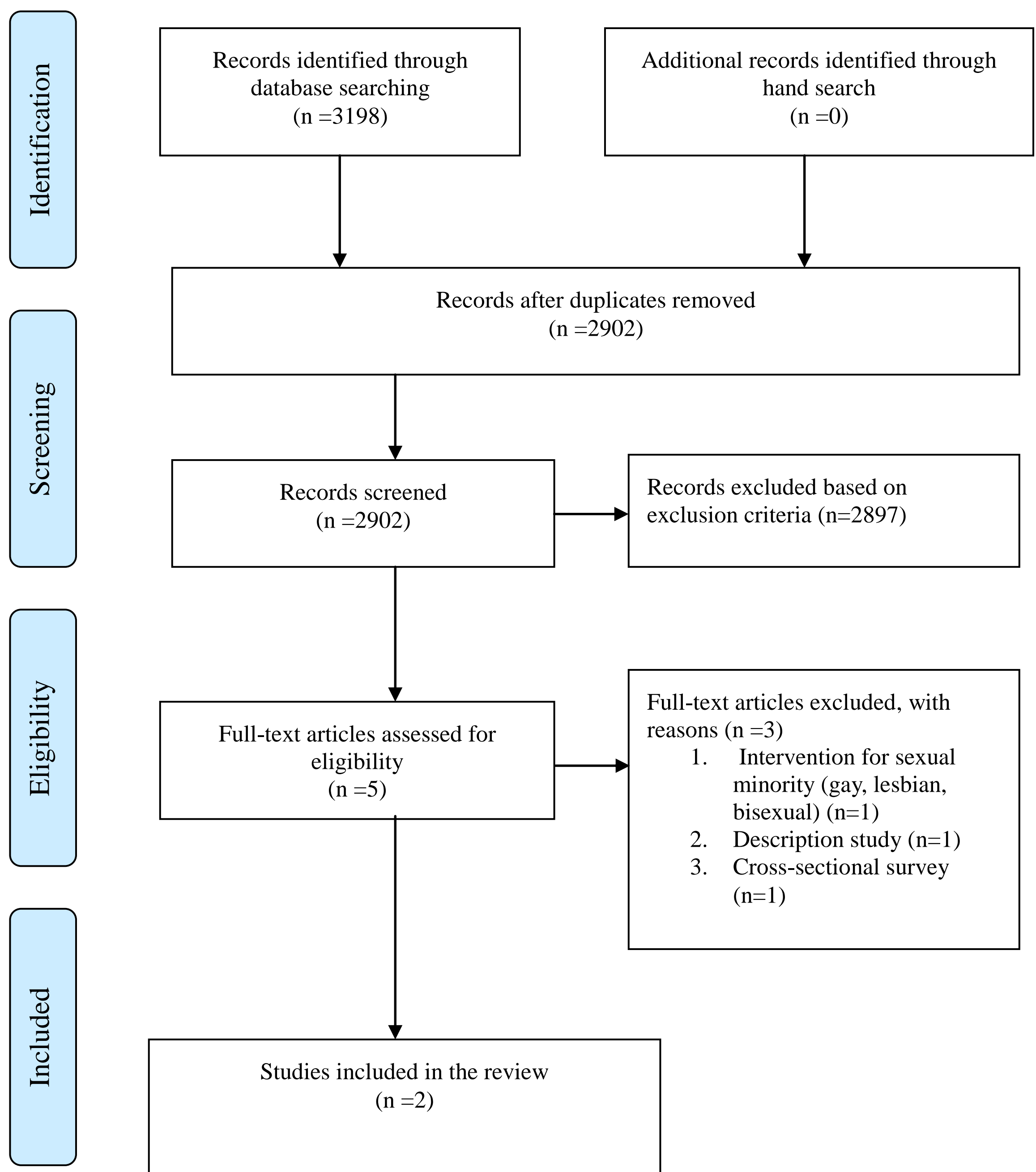

Figure 6-1 The flow diagram on identifying the literature

Sex work-related stigma-reduction intervention programmes

Only two intervention studies were identified in the search for relevant literature. One was a programme carried out by a medical student and a female sex worker (Robitz, Morrison, Ventura, Melton, & Bennett, 2015), and the other was a stigma-reduction intervention conducted by a family planning and reproductive health service in partnership with an International HIV/AIDS Alliance group (Geibel et al., 2017).

The programme headed by the medical student and sex worker was to teach medical students about the physical and mental health of sex workers (Robitz et al., 2015). The programme consisted of 10-weekly sessions of 1.5 hours each. In two sessions, sex workers and medical students were given opportunities to discuss specific topics raised by the participants, such as the personal stories of sex workers and what students had learned about how to be a physician sensitive to the health needs of sex workers. Although there were no formal evaluations, the feedback was obtained from both the sex workers and the medical students who participated in the programme. The sex workers who participated were empowered to take control of their health and their lives, while the medical students valued the programme as an experience that gave them a better understanding of sex workers, and would enable them to be more sensitive in delivering health services in their future practice.

Another programme for healthcare providers was conducted by "Marie Stopes Bangladesh" (a family planning and reproductive health service) in partnership with "Link Up", an International HIV/AIDS Alliance group in Bangladesh (Geibel et al., 2017). The aim of the programme was to reduce the stigma felt by health professionals towards marginalized populations, including sex workers, those with HIV, and men who have sex with men (MSM), transgender

people, as well as sexually active young people and single pregnant girls. It was a two-day programme, which included a day spent providing information on reproductive health and HIV services, health rights, the risk of HIV transmission, and related stigma. Another day was devoted to highlighting the influence of social stigma and personal values towards these marginalized populations, and to promoting stigma-free services in health services.

Assessments were made of the attitudes of the health providers and the clients' satisfaction with the services that they provided. The former were assessed at baseline, and 6 and 12 months after the intervention, while the latter were assessed at baseline and 12 months. The attitudes of health providers toward sex workers improved significantly. There was reduced the negative attitude towards sex workers as people "engaging in immoral behaviours" (51.0% - 25.3%, $p < 0.001$). The fear of acquiring HIV from sex workers was reduced from 19.7% to 7.0% ($p = 0.001$). The percentage of those who were unwilling to provide services to sex workers was reduced from 5.3% to 1.0% ($p = 0.035$). At 12 months after the programme, sex workers expressed overall satisfaction with the health services provided at the center and reported a substantial decrease in enacted stigma (10.7% - 0.0%, $p < 0.01$).

A paucity of intervention studies on stigma related to sex work

There are several possible reasons for the lack of intervention studies on stigma related to sex work. First, healthcare providers might have failed to recognize or might have under-emphasized the association between their attitude of stigmatization and the access to health services and the health outcomes of sex workers (Lau, Choi, Tsui, & Su, 2007). Second, discussions on the health disadvantages of sex workers have focused on the link to sexually transmitted diseases (STDs)/HIV, and related

stigma-reduction interventions for healthcare providers have focused on people living with HIV/AIDS and not specifically on sex workers. Third, with the criminalization of prostitution being the dominant policy in most countries, sex work is a complex and sensitive topic in many parts of the world (The Joint United Nations Programme on HIV/AIDS, 2010). In places where it has been criminalized, sex work is viewed as an immoral profession. The stigma associated with sex work is considered a social and legal issue, and there is a misconception that attitudes toward sex workers will be difficult to change.

6.4. HIV stigma-reduction intervention programmes: implications for strategies for interventions to reduce the stigma related to sex work

The stigmatizing attitude of the public towards sex workers can be compared with that towards people with HIV. The HIV/STD status of sex workers was found to have a major influence on the attitudes and behaviours of nurses towards sex workers (Ma & Loke, 2019a, 2019b). Given the paucity of interventions focusing on reducing the stigma of health professionals towards sex workers, it is postulated that stigma-reduction interventions related to HIV/AIDS could be used as a reference to develop stigma-reduction interventions for health professionals with regard to sex work.

Several reviews have been written on interventions to reduce HIV/AIDS-related stigma among various stakeholders, including healthcare professionals, students in health disciplines, PLWHA, caregivers of HIV/AIDS patients, populations at risk, and the general public (Brown, Macintyre, & Trujillo, 2003; Mak, Mo, Ma, & Lam, 2017; Sengupta, Banks, Jonas, Miles, & Smith, 2011). The following literature review identifies the contents, the approaches that were adopted,

and the outcome measures of existing interventions to reduce stigma related to HIV, to achieve a better understanding of stigma-reduction interventions focusing specifically on health professionals and students from health-related disciplines.

6.5. Methods

6.5.1. Search of the literature

A search for relevant literature contained in the following electronic databases was conducted from the inception of these databases to April 2018: Medline, Embase, Cochrane Library, PsychINFO, CINAHL, Web of Science, Scopus, Social Services Abstracts, PubMed, British Nursing Index, and ProQuest Dissertations and Theses. The keywords used to interrogate these databases were: 1) HIV/AIDS or HIV/AIDS risk group population ("HIV" or "Acquired Immunodeficiency Syndrome" or "AIDS" or "people living with HIV AIDS" or "PLWHA" or "Sexually Transmitted Infection" or "Sexually Transmitted Diseases" or "Homosexuality, Female or Bisexuality" or "Homosexuality" or "Homosexuality, Male" or "Transgender Persons" or "lesbian" or "gay" or transgender" or "sex worker" or " prostitution" or "substance abuse" or "drug abuse"); 2) stigma reduction ("stigma reduc*" or "anti-stigma" or "attitude change" or "social distance" or "social isolation" or "anti-discrimination" or "discrimination reduc"); 3) health care providers ("health care worker" or "health professional" or "health personnel" or "health care provider" or "nurs*" or "doctor" or "health setting"); 4) intervention ("intervention" or "program" or "evidence-based" or "health education" or "train*").

6.5.2. Inclusion and exclusion criteria

The criteria for studies to be included in this review were those that: (1) were written

in English; (2) aimed at evaluating a stigma-reduction intervention among healthcare providers/students in health disciplines; (3) focused on stigma associated with populations living with HIV/AIDS, (4) had at least one outcome measure of knowledge related to HIV/AIDS stigma, or attitudes or behaviour toward PLWHA; and (5) were full-text articles. Studies were excluded if they were: (1) not about HIV/AIDS-related stigma, (2) not focused on healthcare providers or students from health-related disciplines; (3) conference abstracts, qualitative studies, or literature reviews; and (4) written in a language other than English.

A total of 3,350 publications were identified from the electronic databases. Of these, 663 publications were removed due to duplication, and the remaining 2,687 abstracts were screened. Of these, 2,637 publications were excluded. The full texts of the remaining 50 articles were examined in detail, and a further 10 studies were excluded. Five additional relevant studies were retrieved from a manual search of the reference lists of the included studies. Finally, a total of 45 studies were included in this review. A flowchart of the literature search and selection process is given in Figure 6-2.

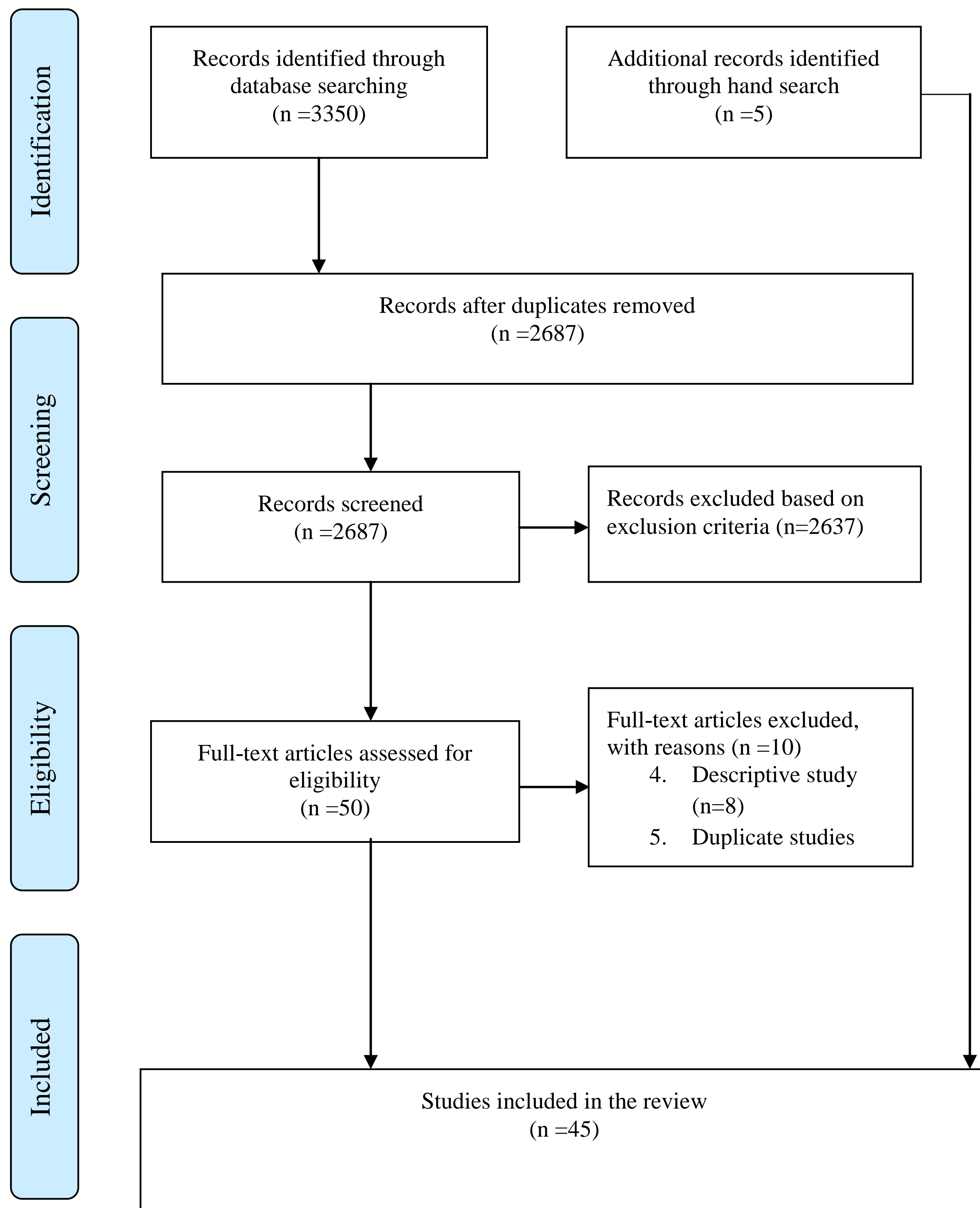

Figure 6-2 The flow diagram on identifying the literature

6.5.3. Appraisal of the quality of the included studies

The Downs and Black Quality Index was used to evaluate the methodological quality of both randomized controlled trials and quasi-experimental trials. The index consists of 27 questions relating to the quality of the reporting (10 items), the external validity (3 items), internal validity (bias and confounding) (13 items), and statistical power (1 item) (Downs & Black, 1998). The maximum score of the checklist is 28. Each paper was assigned a grade of "excellent" (24–28 points), "good" (19–23 points), "fair" (14–18 points), or "poor" (<14 points) (O'Connor et al., 2015).

Overall, the 45 studies were considered to be of low to moderate quality, with the index scores ranging from 8 to 19 (Downs & Black, 1998). Twenty-five studies were rated as poor, 19 as fair, and only one as good.

It may be argued that the approach of including all studies regardless of methodological quality might lower confidence in the results. However, given that the aim of this review was to identify the types, approaches, formats, and contents to be included in interventions, limiting the studies to be included might have reduced the generalizability of the identified features of the relevant interventions (Lam & Kennedy, 2005). Thus, the decision was made that no study would be excluded based on the outcome of the quality appraisal.

The approach of a scoping review was therefore adopted to include studies broadly about the topic, so as to provide more comprehensive evidence when identifying the key features of related intervention studies that differed from a common literature review (Arksey & O'Malley, 2005; Peters et al., 2015). Details of the appraisal of the quality of these studies are given in Appendices Table 6-1.

6.5.4.Data extraction and synthesis

The characteristics of the studies and key findings were extracted and tabulated according to the author(s), year of publication, the country where the research was conducted, study design, settings, participants, intervention type and contents, theoretical framework, the dosage of the intervention, facilitators, measurements, and key findings. The characteristics and key results of these studies are summarized and categorized in Appendices Table 6-2 and Appendices Table 6-3, respectively. A meta-analysis was not performed due to the heterogeneity of the various measurements used to measure outcomes in the included studies.

The sample size, mean, and standard deviation were extracted or calculated for each study at the pre-test, post-test, and the last follow-up time points. The effect size was extracted where the data were available in the studies, or calculated where unavailable. The effect size of an individual RCT study was calculated by the difference between two mean values and the pooled standard deviation. The effect size for a quasi-experimental study with control groups was calculated by subtracting the mean change score in a control group from the mean change score in an intervention group, divided by the pooled standard deviation of the pre-test score (Morris, 2008). The effect size was defined as small ($d=|0.2|$, $\eta^2\approx1\%$), medium ($d=|0.5|$, $\eta^2\approx10\%$), and large (e.g. $d=|0.8|$, $\eta^2=25\%$), respectively (Cohen, 1988). A bias correction component was used to correct for bias when the sample size was smaller than 10 (Morris, 2008). The effect sizes of one group pre-post interventions were not calculated. Also, the effect sizes were not presented for studies without sufficient data (See Appendix XIII).

6.6. Results

6.6.1. Characteristics of intervention studies

Of the 45 included studies, 12 were randomized controlled trials (RCTs,) 14 were quasi-experimental studies with a control group, and 19 were quasi-experimental studies without a control group. Most were conducted in Asia (n=19), followed by Africa (n=7), North America (n=14), Europe (n=4), and Australia (n=1). The size of the sample in the studies varied markedly from 29 to 1,760.

Target population

The majority of the studies focused on HIV-related stigma reduction among healthcare providers (n=27), including physicians, nurses, mental health professionals, dentists, physical therapists, occupational therapists, anaesthesiologists, primary care clinic health providers, lab technicians, and other support staff. Seventeen interventions concentrated on students from health-related disciplines, including students from medicine, nursing, counselling, pharmacy, and physical therapy. One study targeted both medical professionals and medical students. Nursing students (n=9) and practising nurses (n=10) were the most studied groups. Details of the characteristics of the participants are summarized in Appendices Table 6-2.

The theoretical framework of the interventions

Various theoretical frameworks were adopted in these studies to guide the design of the interventions. The theories that were adopted included both cognitive and behavioural elements: the social cognitive theory (n=3), the social learning theory (n=1), the social cognitive learning model (n=1), the theory of planned behaviour

(n=1), the diffusion of innovation theory (n=1), and Watson's theory of human caring (n=1). Three studies adopted primary health frameworks, namely Green and Kreuter's PRECEDE/PROCEED model (n=1), the World Health Organization's primary health-care model (n=1), and Bloom's Taxonomy conceptual framework (n=1). Three interventions adopted the training of trainers approach, one study employed a workshop-practice model, one study applied the popular opinion leader model, and one study adopted a self-developed conceptual framework on HIV stigma.

6.6.2. Characteristics of the interventions

Approaches and content

The characteristics of the interventions are presented in Appendices Table 6-3. The interventions consisted of a single approach or a combination of approaches, including an information-based approach, approaches that involved the provision of biomedical knowledge, the building of skills, counselling/support, contact with and sharing by affected groups, and structural approaches. Below is a description of the approaches, presented in order of their popularity of use in interventions.

Information-based approach

The information-based approach was most popular and was adopted in 44 of the 45 included studies. Fifteen studies adopted that approach alone, and the other studies did so in combination with other approaches. An information-based approach included the provision of information on HIV/AIDS, disease prevention, universal precautions, treatment, sexual and reproductive health, the human rights of PLWHA, professional ethics, confidentiality and privacy, discussion of issues related to gender,

stigmatization, discrimination, stigma-reduction strategies, and community resources (Brown et al., 2003; Stangl, Lloyd, Brady, Holland, & Baral, 2013). Information was delivered through a brochure, a video, a classroom presentation, advertisements, peer education, or guided group discussions. Of the 15 studies that adopted this as the only approach, 11 observed a significant improvement in the participants' knowledge and attitudes toward PLWHA.

Contact with and sharing by the affected group

The second most popular approach, which was adopted in 21 studies, was to offer participants the opportunity to come into contact with the affected marginalized groups (PLWHA) and share thoughts with them. The interaction between the affected groups and healthcare providers/students in health disciplines occurred either directly or by recorded testimonial. The PLWHA would share their feelings and experiences of being a patient with HIV. Healthcare providers also had the opportunity to interact and communicate with PLWHA (Brown et al., 2003; Stangl et al., 2013). Only one study adopted this approach solely, offering a three-hour patient-centred education programme of direct contact with the affected groups. The study demonstrated a statistically significant improvement in the attitudes of students in health-related disciplines toward caring for PLWHA (Chisholm, Ricci, & Taylor, 1999).

Skills building

The third most popular approach adopted in 16 out of 45 studies was the skill-building approach. This refers to the learning of strategies to resolve negative attitudes, coping strategies, and hands-on skills, including skills in communicating

with PLWHA (Brown et al., 2003; Stangl et al., 2013). This approach was delivered through role-play, master imagery, reframing and relaxing techniques, group desensitization, and scripting. None of the studies utilized this approach solely in their intervention.

Counselling approach

A counselling approach was adopted in eight studies in combination with other approaches. This approach involved providing support for positive behaviours, such as one-to-one counselling and support groups (Brown et al., 2003; Stangl et al., 2013).

Biomedical approach

The biomedical approach refers to interventions such as taking universal precaution in the provision of care and treatment (Stangl et al., 2013). This strategy was adopted in two studies.

Structural approach

The structural approach refers to interventions that reduce stigma by altering the social and structural determinants of HIV/AIDS-related stigma, such as socio-ecological models involving multiple levels, including the individual, interpersonal, organizational, community, and policy levels (Stangl et al., 2013). Two multi-level interventions targeted both the individual level and the organizational level and established a hospital steering committee and hospital guidelines for reducing HIV/AIDS-related stigma.

In summary, a total of 16 studies adopted a single approach, and 29 took a multi-component approach to reduce HIV-related stigma among healthcare providers. The information giving, skills building, and contact with and sharing by PLWHA approaches were the most frequently adopted strategies in multi-component interventions. Nine studies combined the information giving and contact with PLWHA approaches, five studies combined the information giving and skills building approaches, and seven studies combined the three most commonly adopted approaches. One study employed four approaches, and two adopted all six approaches.

Delivery

The majority of the interventions were delivered by HIV experts, public health officers, trained healthcare workers, staff members from non-governmental organizations, and PLWHA. The majority of the interventions were delivered face-to-face in healthcare settings or in medical/nursing colleges.

The dosage of the interventions and follow-up time frames

The frequency, duration, and follow-up time of the interventions in these studies varied widely. The interventions ranged from one to 10 sessions, with the shortest being a single lecture of 50-minutes duration, and the longest a weekly review of an HIV case and a didactic discussion among medical residents over six months of practice. The period of the follow-up also varied from immediately after the intervention up to 46 months after the completion of the intervention. Among these interventions, 17 assessed the efficacy of the intervention immediately after the intervention (See Appendices Table 11-3).

6.6.3. Outcome-measuring instruments

Stigma refers to negative stereotypes, prejudicial attitudes, and discriminatory behaviours directed towards a subject (Corrigan & Watson, 2002; Oskamp & Schultz, 2005; Thornicroft et al., 2007). The instruments to measure stigma that were used in these studies included those on knowledge, attitudes, and behaviours related to stigma (Breckler, 1984; Eagly & Chaiken, 1998; Ostrom, 1969).

Measurements of HIV/AIDS-related knowledge

In the studies that were included, standardized measurements for assessing HIV/AIDS-related knowledge were lacking. Researchers in two-thirds of the studies (n=24) developed their own knowledge scale by compiling/selecting items from other studies and reporting on the reliability and validity of their scale, while in the other 13 studies, the validity and reliability of the scales that were used were not reported. One study used a single item to rate the participants' knowledge of infectious diseases, nine studies used 4-10 items, eight used 11-20 items, and 14 used 23-198 items, but six studies did not provide information on the number of items used to assess such knowledge. The majority of the studies assessed factual knowledge using multiple-choice items. The content of most knowledge items covered factual information on HIV transmission and prevention, care and treatment, universal precautions, knowledge of human rights, and informed consent.

Measurements of attitudes towards PLWHA

The measures of the attitudes toward PLWHA also varied considerably across the studies. A total of 40 studies assessed general attitudes/prejudices/beliefs or stigma toward PLWHA. The majority of the studies (70%, n=28) adopted validated

measurements from other studies, and 12 studies used self-developed measurements without validation. One study measured attitude with a single item, nine studies with 4-10 items, 12 with 12-20 items, and 12 with over 20 items, while the remaining studies did not provide information about the number of attitude items (n=6).

The content of these measurements included various domains of attitude, including emotions toward PLWHA (such as a fear of the transmission of disease, avoidance, blaming or judgement, sympathy, or empathy), the patients' human rights, the imposition of measures/restrictions on the patients' rights, self-efficacy, comfort level in caring for patients, the rights and responsibilities of health professionals, and their attitudes toward specific categories of HIV/AIDS patients. The majority of the studies used Likert-scale measurements.

Measurements of behaviours towards PLWHA

A total of 22 studies measured the behaviours of healthcare workers toward PLWHA. However, there was also a lack of standardized measurements of behaviour. Approximately half (n=13) of the measurements were adopted or modified from previous studies and validated. Three studies used a single item to assess the participants' willingness to care for PLWHA or the practice of standard precautionary measures when deciding whether or not to provide such care. Ten studies used 2-5 items, five studies used 8 or more items, and three studies did not provide information about the number of items that were used to assess the willingness to provide care for PLWHA.

The content of the measurements of behaviour included a willingness/reluctance to care for PLWHA, acts of discrimination or the intention to

discriminate, and HIV/AIDS-related infection control behaviour. The majority of the studies used a Likert-scale to assess the behaviour of the participants.

6.6.4. Outcomes of the interventions

The primary outcomes of these interventions were stigma-related knowledge, attitudes, and behaviours.

HIV/AIDS-related knowledge

A total of 37 studies measured HIV/AIDS-related knowledge as outcomes. The majority of the studies (n=31/37) reported a significant improvement in HIV/AIDS-related knowledge. Two studies with multiple approaches achieved a long-term improvement in HIV/AIDS-related knowledge at the 12 and 46 months follow-up session (Britton, Rak, Cimini, & Shepherd, 1999; S. Wu et al., 2008). One study reported some improvement, but it was without statistical significance (Balogun, Kaplan, & Miller, 1998). Two quasi-experimental studies that employed a single approach (information or contact) found no statistically significant improvement in the HIV/AIDS-related knowledge of the participants (Mockiene et al., 2011; Orlander, Samet, Kazis, Freedberg, & Libman, 1994).

The effect size for HIV/AIDS-related knowledge was extracted or calculated from 12 studies (Appendices Table 6-4) (Arora, Jyoti, & Chakravarty, 2014; Balogun et al., 1998; Collins, Mestry, Wainberg, Nzama, & Lindegger, 2006; Diesel & Taliaferro, 2013; Held, 1993; Mak, Cheng, Law, Cheng, & Chan, 2015; Mockiene et al., 2011; Nanayakkara & Choi, 2016; Operario et al., 2016; Shah, 2014; Stiernborg, 1996; Yiu, 2010), including one pre-post study (Collins et al., 2006) (See Appendices Table 6-4). The short-term effect size ranged from small to large

(d=0.06-2.89). One RCT study achieved a large effect size with a 5-day information only approach (d=0.86), and seven studies that combined information with skills building and/or contact strategies achieved a large effect size immediately after the intervention (Collins et al., 2006; Held, 1993; Mak et al., 2015; Mockiene et al., 2011; Nanayakkara & Choi, 2016; Shah, 2014; Stiernborg, 1996). The above interventions lasted from 100 minutes to 13 hours.

One RCT study combined information giving, skills building, and contact strategies in an intervention programme that consisted of one week of group training and two months of clinical practice. Two sections of the study focused on presentations, case studies, a group discussion on problem-solving and feedback. The study reported a large effect size (d=38.8) at the 9-month follow-up session (Operario et al., 2016).

Attitudes towards caring for PLWHA

The assessments of the attitudes toward PLWAH measured the general attitude towards PLWHA, the affective attitude towards caring, and self-efficacy and the perception of the level of skills required to provide such care.

The general attitude towards PLWHA

A total of 40 studies assessed general attitudes toward PLWHA. The majority of them (n=28) measured attitudes toward AIDS or PLWHA, 11 measured HIV/AIDS-related stigma or prejudice, and one study assessed attitudes toward HIV/AIDS. In a total of 31 studies, a significant improvement was observed in attitudes toward PLWHA. In five studies a long-term effect was observed at the 12-month follow-up session (Ezedinachi et al., 2002; Geibel et al., 2017; Li et al., 2010; Varas-Díaz et al.,

2012; Z. Wu et al., 2002). Among the five studies, three adopted a training the trainer model (Ezedinachi et al., 2002; Geibel et al., 2017; Z. Wu et al., 2002), and another two were guided by social and behavioural theories (Li et al., 2010; Varas-Díaz et al., 2012). Two studies did not report statistical results (Balogun et al., 1998; Lewis, Gallagher, & Gelbier, 1996). Seven studies reported improved attitudes, but these did not reach the level of significance (Diesel & Taliaferro, 2013; Gutierrez, 2014; Kemppamen, Dubbert, & Williams, 1996; Mockiene et al., 2011; Orlander et al., 1994; Shah, 2014; Uys et al., 2009).

The effect size for attitudes toward PLWHA were extracted or calculated from 13 studies (Arora et al., 2014; Balogun et al., 1998; Collins et al., 2006; Diesel & Taliaferro, 2013; Held, 1993; Mak et al., 2015; Mockiene et al., 2011; Nanayakkara & Choi, 2016; Pulerwitz, Oanh, Akinwolemiwa, Ashburn, & Nyblade, 2015; Stiernborg, 1996; Uys et al., 2009; Varas-Díaz et al., 2012; Yiu, 2010), including one pre-post study (Collins et al., 2006). As shown in Appendices Table 6-5, the short-term effect sizes ranged from small to large (d=0.02-19.98). One RCT guided by the social cognitive theory reported a small long-term effect size at the one-year follow-up session (d=0.30) (Varas-Díaz et al., 2012).

Affective attitude towards caring

A total of 14 studies assessed the affective attitude towards caring for PLWHA. Nine studies measured the fear, worry, anxiety, blame, or mood-related to care. Six reported a significant improvement in the fear or mood-related to caring for PLWHA (Mak et al., 2015; Pisal et al., 2007; Pulerwitz et al., 2015; Varas-Díaz et al., 2012; Yiu, 2010; Young, Koch, & Preston, 1989). One study, which involved the simple giving of information, reported reduced anxiety levels but without statistical

significance (All & Sullivan, 1997). Two studies combining the giving of information and contact with PLWHA did not achieve a statistically significant improvement in fear of contagion among the participants (McCann & Sharkey, 1998; Shah, 2014).

Five studies measured the comfort level in caring for PLWHA. Four studies with two or three approaches (information, counselling, in combination with skills building or contact with PLWHA) achieved a significant improvement in the level of comfort in caring for PLWHA after the intervention (Bluespruce et al., 2001; Britton et al., 1999; Collins et al., 2006; Stewart, DiClemente, & Ross, 1999). The effect of two studies was maintained at the 7-month and 46-month follow-up sessions, respectively (Bluespruce et al., 2001; Britton et al., 1999). However, one study with three 1-hour sessions that combined the information, skills building, and contact approaches failed to achieve a significant improvement in the level of comfort in caring for PLWHA (Kemppamen et al., 1996).

Self-efficacy and perceived skills for caring

Eight studies measured the participants' self-efficacy and perceived skills in caring for PLWHA (Bluespruce et al., 2001; Britton et al., 1999; Kamiru, Ross, Bartholomew, McCurdy, & Kline, 2009; Kemppamen et al., 1996; Orlander et al., 1994; Uys et al., 2009; Varas-Díaz et al., 2012; D. Wang, Operario, Hong, Zhang, & Coates, 2009). In five studies that measured the participants' self-efficacy in caring (Bluespruce et al., 2001; Kamiru et al., 2009; Kemppamen et al., 1996; Orlander et al., 1994; Varas-Díaz et al., 2012), and in two studies that measured their level of skills in caring for PLWHA (Britton et al., 1999; D. Wang et al., 2009) significant improvements were reported in self-efficacy and skills after the intervention.

However, one study of nurses did not find improvements in self-efficacy in caring (Uys et al., 2009).

Behaviour towards PLWHA

Among 22 studies that measured changes in behaviour towards PLWHA, 14 measured the participants' willingness/reluctance to care for PLWHA. Of these, a significant improvement in the willingness to care was reported in 10 studies. In two studies, the effect was maintained at the 12-month and 46-month follow-up sessions, respectively (Britton et al., 1999; Li et al., 2010). However, in three experimental studies (one RCT, two quasi-experimental studies) a statistically significant improvement was not achieved in the willingness of the participants in the intervention to care for PLWHA (Balogun et al., 1998; Kemppamen et al., 1996; Orlander et al., 1994) (Appendices Table 6-3).

The effect size of the willingness to care for PLWHA was extracted or calculated from six studies (Balogun et al., 1998; Diesel & Taliaferro, 2013; Held, 1993; Mak et al., 2015; Shah, 2014; Yiu, 2010) (See Appendices Table 6-6). The short-term effect sizes ranged from small to large (d=0.16 to 0.58, η^2=51.6-53.5%). One RCT study found that a large effect size in the willingness to care for PLWHA was achieved in both arms of the intervention (an informative lecture plus an interactive game with PLHWA, and an educational lecture plus a 90-minute interpersonal sharing session lead by PLWHA) and that the effect maintained at the one-month follow-up session (Mak et al., 2015).

Acts of discrimination by the participants or their intention to discriminate were measured in four studies (Gutierrez, 2014; Mak et al., 2015; Pulerwitz et al., 2015; Shah, 2014). Three studies with multiple approaches achieved a significant

reduction in discriminatory behaviour on the part of the participants toward PLWHA after the interventions (Mak et al., 2015; Pulerwitz et al., 2015; Shah, 2014), while one study that employed an information-only approach failed to achieve a statistically significant reduction in discriminatory behaviour (Gutierrez, 2014).

HIV/AIDS-related infection control practices were assessed in five studies (Charuluxananan, Migasena, Somboonviboon, Chinachot, & Kunthollaxami, 2000; Lueveswanij, Nittayananta, & Robison, 2000; Stewart et al., 1999; Uwakwe, 2000; S. Wu et al., 2008). Three studies that combined information and skills building strategies with a contact or counselling skills approach achieved a significant result in HIV/AIDS-related control behaviours (Lueveswanij et al., 2000; Stewart et al., 1999; S. Wu et al., 2008), as did another study featuring a seven-week training intervention (Uwakwe, 2000). However, another two-day intervention using an information only approach did not achieve a statistically significant improvement in HIV/AIDS-related control behaviours (Charuluxananan et al., 2000).

6.7. Discussion

The purpose of the review was to describe current evidence on HIV/AIDS-related stigma interventions among professionals and students from health-related disciplines in order to shed light on the development of similar interventions for sex workers. The majority of the included studies demonstrated promise in improving the participants' knowledge, attitudes, and willingness to care for PLWHA. The characteristics of the interventions and the implications for developing a stigma-reduction intervention related to sex work are discussed below.

Intervention approaches

All of the studies adopted a framework for developing interventions, with the social cognitive theory and intergroup contact theory the most frequently adopted frameworks. It has been suggested that theory-guided interventions are more likely to produce significant results in improving behaviour than those not guided by theory (Avery, Donovan, Horwood, & Lane, 2013; Noar, Black, & Pierce, 2009). It is recommended that the social cognitive theory and intergroup contact theory be adopted when developing interventions, in order to reduce the stigmatized attitudes of health professionals towards sex workers.

This review identified various approaches that were employed in stigma-reduction interventions for professionals and students in health disciplines. These included the giving of information, the building of skills, counselling, contact with or sharing by PLWHA, biomedical protection, and structural approaches. In the majority of the interventions, various combinations of multiple approaches were adopted, making it difficult to conclude which was the best combination of approaches for reducing stigma. However, there was evidence that the single approach of giving information over a short period was less likely to generate as large effect size as interventions in which multiple approaches were used over a longer duration. Thus, it is concluded that in interventions to reduce the stigmatized attitudes of health professionals towards sex workers multiple approaches and a longer duration / multiple sessions should be adopted to achieve the intended results.

Contact with and sharing by PLWHA was identified as the second most commonly adopted approach in these interventions. This approach is also widely used in interventions to reduce stigmatized attitudes towards other disadvantaged populations or people with certain conditions, such as those with mental illness,

sexual minorities, and patients with tuberculosis (Chaudoir, Wang, & Pachankis, 2017; Couture & Penn, 2003; Heijnders & Van Der Meij, 2006). This approach is based on the intergroup contact theory (Allport, Clark, & Pettigrew, 1954). In this theory, four conditions must be met for optimal intergroup contact: equal status, common goals, intergroup cooperation, and institutional support (Allport et al., 1954). It has been suggested that contact between healthcare providers and PLWHA reduces prejudice toward the PLWHA (Mak et al., 2017). It is concluded that this approach may also have the potential to reduce stigmatized attitudes toward specific groups disproportionately affected by HIV, such as sex workers.

The findings from this review indicate that interventions are especially useful in improving a participant's HIV/AIDS-related knowledge. However, the results related to attitudes and behaviours were mixed, although the overall evidence was positive. There was collinearity between the various dimensions of stigma (cognitive, affective, and willingness to care), in that one dimension may affect the other (Hanisch et al., 2016). Future studies should examine the relationships among these various dimensions.

Outcome measures

Standardized measurements of knowledge, attitudes, and behaviours were lacking in the intervention studies that were included. This was identified as an unsolved problem in the field (Brown et al., 2003; Mahajan et al., 2008; Mak et al., 2017; Sengupta et al., 2011; Stangl et al., 2013). Most of the studies used self-developed measurements, and many failed to report on the validity and reliability of the measurements. A recent review indicated that validated and standardized measurements of attitudes toward sex workers are also lacking (Fitzgerald-Husek et

al., 2017). The priority is to first define the various dimensions of stigma, and then to develop standardized ways of measuring the effectiveness of stigma-reduction interventions.

6.8. Limitations of the study

There are several limitations to the review. First, due to the heterogeneity of the interventions, study design, and measurements, a meta-analysis could not be conducted. Second, as many of the studies were rated as being of poor quality and utilized invalidated measurements, the results should be interpreted with caution.

6.9. Summary

Overall, the review suggested the HIV/AIDS-related stigma-reduction interventions among healthcare providers and students from health-related disciplines show promise. These results imply that developing standardized measurements should be the top priority in the development of an intervention to reduce stigma related to sex work.

Chapter 7

The stigma of sex work and associated health care professionals and services

(Summary of the literature reviews and identification of research gaps)

7.1.Main findings

7.2.Research gap identified

7.3.Aims and objectives of this study

7.4.Summary

The above literature reviews concentrated on five aspects: sex workers and motherhood; attitudes of different stakeholders towards sex workers; barriers and facilitators to the accessing of health services by sex workers; the conceptualization of stigma and the stigma associated with sex work; HIV/AIDS-related stigma-reduction intervention for professionals and students in health-related disciplines – implications for stigma-reduction interventions related to sex work. It is based on an extensive review of the literature. The research gaps in this area are identified.

7.1. Main findings

Sex workers and motherhood (Chapter 2)

Motherhood was an important identity for FSWs and influenced their lives, self-esteem, and decisions. However, the stigma associated with sex work had a significant impact on FSWs' identity as a mother, and subsequently their health and their children's well-being. A more holistic approach is necessary to meet FSWs' multiple health, economic, and social needs. Services should be provided in a sensitive and non-judgmental manner. Further, to advance the health and safety of FSWs and their children, prostitution law may need to move toward decriminalization of sex work. This review contributed to raising the awareness of the general public toward FSWs as an individual and mother.

Attitudes of different stakeholders towards sex workers (Chapter 3)

Different stakeholders, including the law enforcement, professionals in health and social services, clients of sex workers, and the general public health care providers, held ambivalence, inconsistency, and even contradictory views toward sex workers and prostitution laws. The negative attitudes of the stakeholders toward prostitution might lead to increased occupational risks of sex workers. For example, the

stigmatized attitude of health care providers may affect healthcare delivery for sex workers and further result in sex workers' avoidance of treatment and deterioration in their health. Interventions need to be implemented among different professional groups who may affect the well-being of sex workers.

Barriers and facilitators to the accessing of health services by sex workers (Chapter 4)

A wide range of barriers and facilitators at multiple socio-ecological levels could influence sex workers' utilization of health care services, including intrapersonal, interpersonal, institutional, community, and policy levels. Findings from this review highlighted the importance of removing obstacles faced by sex workers in accessing health services and combating stigma in healthcare settings. This information could help policymakers, health care providers, and advocates for sex workers develop acceptable, affordable, and accessible health services for sex workers. Also, health services or future intervention studies should take into account the facilitators and barriers identified in this review to improve the health services utilization and health of sex workers, as part of the effort to protect the right of humans to health.

The conceptualization of stigma and the stigma associated with sex work (Chapter 5)

This chapter reviewed the conceptualized of stigma. According to the social cognitive model, stigma consists of three components: stereotype, prejudice, and discrimination. There are three main levels of stigma: public stigma, self-stigma, and structural stigma. Stigma has a significant impact on sex workers occupational health and safety, and their health-seeking behaviours. One approach to improve their

health care services uptake would be to change the health care providers' negative attitudes toward sex workers.

HIV/AIDS-related stigma-reduction intervention for professionals and students in health-related disciplines – implications for stigma-reduction interventions related to sex work (Chapter 6)

HIV/AIDS-related stigma-reduction interventions among healthcare providers and students from health-related disciplines showed promise. Common approaches included giving of information, the building of skills, counselling, contact with or sharing by PLWHA, biomedical protection, and structural approaches. Theory-guided interventions were more likely to produce significant results in improving behaviour than those not guided by theory (Avery et al., 2013; Noar et al., 2009). It was recommended that the social cognitive theory and intergroup contact theory be adopted when developing interventions, in order to reduce the stigmatized attitudes of health professionals towards sex workers. The results also implied that developing standardized measurements should be the top priority in the development of an intervention to reduce stigma related to sex work.

7.2. Research gap identified

Based on the review of the literature, it is suggested that studies on the impact of the stigma of sex work have been extensively studied, the study on the attitudes of health care providers toward sex workers is limited in terms of the following aspects:

- Most studies mainly focused on the views of the general public attitudes toward sex workers. Few studies focused on health care providers' attitudes toward sex workers with HIV/STD symptoms (**Chapter 3**).

- Although nurses are usually the first point of contact for clients and have more interactions with patients than other health professionals. Scant research focused on the attitudes of nurses and nursing students toward sex workers and factors associated with their attitudes and behaviours (**Chapter 3**).
- Extensive studies have been conducted on the barriers to access health care services among sex workers (**Chapter 4**). However, there is a shortage of literature to understand the phenomenon from the perspective of sex workers in Hong Kong.
- Although the stigma attached to sex work is prevalent in health care settings, few interventions were found specially focused on reducing stigma towards sex workers among professionals and students from health-related disciplines, including nursing profession (**Chapter 6**).

7.3. Aims and objectives of this study

This study **aims** to examine the stigma of sex work and associated health care services from the perspectives of sex workers, nurses, and nursing students in Hong Kong, and to develop an intervention to reduce stigma towards sex workers among nurses.

The **objectives** of this study are: (1) explore how sex workers experience stigma and develop coping strategies when accessing health care services in Hong Kong; (2) to explore the knowledge, attitudes, and willingness, of Hong Kong nurses in relation to the issue of providing care for sex workers**;** (3) to examine and compare students in the general and mental health nursing programmes in Hong Kong in terms of their knowledge of, attitudes towards, and willingness to care for sex workers in their future practice; and the factors associated with attitudes towards

and willingness to care for sex workers among all nursing students, general nursing students, and mental health nursing students; (4) to develop a conceptual framework for reducing sex work-related stigma among nurses and nursing students; (5) to develop an intervention to reduce stigma towards sex workers among nurses in Hong Kong.

7.4. Summary

Theses reviews suggested that stigma reduction intervention may improve the health and health care-seeking behaviours of sex workers. However, few interventions have been explicitly identified on reducing stigma towards sex workers among professionals and students from the health-related disciplines. To establish the evidence needed to develop an intervention to reduce stigma towards sex workers among nurses in Hong Kong, there is a need to understand the stigma of sex work and associated with health care services from the perspectives of sex workers, nurses, and nursing students.

The methodology of the study will be described in the next chapter.

PART III THE STUDY CONDUCTED

Chapter 8 Methodology

8.1.Methodology of the study

8.2.Sampling and recruitment

- 8.2.1. Phase one
- 8.2.2. Phase two
- 8.2.3. Phase three

8.3. Ethical consideration

8.4. Data collection

- 8.4.1. Qualitative data
- 8.4.2. Quantitative data
- 8.4.3. Sample size
- 8.4.4. Validity and reliability of the questionnaire

8.5. Data analysis

- 8.5.1. Qualitative data analysis
- 8.5.2. Quantitative data analysis

8.1. The methodology of the study

The stigma associated with sex work is a complex social phenomenon, and multi-level factors could influence nurses and nursing students' attitudes toward sex workers. Thus, it is concluded that a complex intervention, based on extensive evidence, is needed to reduce stigma towards sex workers among nurses. The Medical Research Council (MRC) framework on developing complex interventions was used to guide the development of an intervention to reduce stigma towards sex workers among nurses (Craig et al., 2008; Medical Research Council, 2019).

The first step of developing a complex intervention was to identify the relevant evidence. An extensive review of the literature was conducted to identify the existing evidence of the stigma of sex work and associated health care services.

Research design

To gain a better understanding of the complex social phenomena of the stigma associated with sex work, this study adopted a mixed-method approach that integrates both quantitative and qualitative research. There is an increasing recognition of the value of mixed-method study in social, health, and behavioural research (Creswell, Gutmann, & Hanson, 2003; Curry et al., 2013; Teddlie & Tashakkori, 2009). It provides both broad general knowledge as well as deep insights. It allows the researcher to investigate the studied problems at both macro and micro levels (Foss & Ellefsen, 2002). It holds the potential for a rigorous and high level of the complexity of the study (Creswell et al., 2003).

The study followed a sequential qualitative-quantitative design, in which qualitative approach was conducted as an exploratory inquiry and followed by a quantitative study that offered the researcher with a bigger picture to identify key

factors/ issues for the development of a preliminary framework (Cameron, 2009; Morgan, 1998). In this study, the information acquired from the qualitative study reflected the attitudes and experiences of the sex workers and nurses, provided the researcher a deeper understanding of the relevant key issues, informing the key outcome measures to be included in the quantitative survey which provided the researcher a better understanding of the extent of nursing student's knowledge ad attitude towards sex workers,. It helped the researcher to understand the micro and the macro level of the issue on hand.

This study was conducted in three phases. Firstly, a qualitative study was conducted among the practicing nurses to collect information on their knowledge, attitudes, and willingness, in relation to the issue of providing care for sex workers. Secondly, another qualitative interview was conducted to include the voices of female sex workers (FSWs) in an attempt to understand their health needs and experiences with accessing health care services, and explore how they experience stigma and develop coping strategies when accessing health care services. Thirdly, a cross-sectional study was conducted to explore and compare students in the general and mental health nursing programmes in Hong Kong in terms of their knowledge of, attitudes towards, and willingness to care for sex workers

8.2. Sampling and recruitment

8.2.1. Phase one

After obtaining ethical approval for this study from the Human Subjects Ethics Sub-committee of the Hong Kong Polytechnic University, the study started with phase one during which a qualitative study was conducted among the practicing nurses. A combination of convenience sampling and snowball sampling was adopted to recruit

practicing nurses in Hong Kong. Convenience sampling was used to recruit practicing nurses enrolled in master or doctoral programs in one of the three universities in Hong Kong with a School of Nursing. This university has the largest number of postgraduate nursing students in Hong Kong, with nearly 400 practicing registered nurses studying for their master's or doctoral degree.

The subject teachers of the master's or doctoral program were approached and asked to put aside some time at the beginning of their class to allow the researcher (a non-teaching research student) to recruit potential participants. The researcher first introduced herself as a postgraduate student in the School, then provided information about the aim of the study before inviting the students to take part in a focus group discussion. Those who were willing to take part were asked to give their email contact details to the researcher and to indicate their availability on some dates designated for group interviews. The potential participants were also encouraged to invite their colleagues or classmates to participate.

The criteria for inclusion in the study were to be a practicing nurse; had the ability to speak fluent Cantonese/Putonghua; be a Hong Kong resident, and to be willing to be interviewed with informed consent. Those who were not able to speak Cantonese/Putonghua; not Hong Kong Chinese or practicing nurses, and who were unwilling to be interviewed were excluded.

8.2.2. Phase two

In phase two, individual interviews were conducted with FSWs. FSWs are a hard-to-reach population. Since local NGOs had established a relationship of trust with FSWs, the potential participants were recruited with the support of NGOs, including the Action for Reach Out (AFRO) and the JJJ Association. These organizations focus

on the social inclusion of FSWs and assist them in dealing with health, safety, legal, and human rights issues. They also run outreach teams and are in regular contact with a number of FSWs throughout the city. One of the authors received training from NGOs and worked with them during outreach activities, campaigns, and events related to sex workers' rights. The long-term relationship between the author and NGOs contributed to the success of recruitment.

A combination of convenience and snowball sampling techniques were used to recruit the FSWs. The staff of NGOs accompanied the researcher to reach the sex worker. In fact, many sex workers were referred by another sex worker through a snowball sampling method. Many of them had never visited NGOs or talked with the staff of NGOs before the interview. Each FSW was offered HK$400 (US$1 USD ≈ HK$7.8) as compensation for their time and willingness to share their experiences in seeking health care.

The criteria for inclusion in the study were FSWs who were: 1) over 18 years of age; 2) currently engaged in sex work, defined as having offered to perform at least one sexual service for money within the last four weeks; 3) able to speak Cantonese/Putonghua; and 4) able to give informed consent. Excluded from the study were: 1) those unable to speak Cantonese/Putonghua; 2) who had been diagnosed with and were currently undergoing medical or psychological treatment for a serious psychological health problem such as psychosis, bipolar disorder, and/or severe affective disorder; 3) who had self-reported current suicidal ideation and/or attempts; 4) who refused to give their informed consent to participate in the study.

A safe and comfortable environment was essential to ensure the safety for both FSWs and the interviewer. The interview took place at the office of one NGO or

at one-woman brothels accompanied by an NGO staff member. Also, due to the sensitive nature of the topic, the “same-gender” interviewing was considered beneficial to build rapport between the researcher and the participants. All the interviews were conducted by a female research student who came from a postgraduate research background and had received qualitative interview training during her master of public health and doctor of philosophy programmes. The research student was a registered nurse, who had experience in providing sexual and reproductive health care services to FSWs at the local NGO, and had gained rich experience in talking with FSWs in a sensitive, open, and non-judgmental manner. Moreover, the research student had received Mental Health First Aid training in Hong Kong, and the skills that she had learnt from the course helped her to assess the mental health of the participants during the interview.

The researcher did not contact FSWs directly. Instead, the staff of NGOs contacted potential participants directly via phone calls or during outreach activities and provided them with the information sheet and the consent form of the study. They described the aims of the study, went through the information sheet, and invited FSWs to participate. Once the potential participant agreed to participate, the staff of NGOs confirmed with the research student about the eligibility of the participants, the interview date, time, and venue by email or instant message (i.e., WhatsApp).

Before the interview started, the research student started the conversation casually to establish rapport with the participants. Then, the research student explained the aims of the project and checked potential participants for eligibility. She then invited those who were eligible to participate and obtained their informed consent prior to conducting the interview.

The author would disseminate the results to the participants upon their request. The participants were given options for receiving the research findings from journal papers, seminars, one-on-one meetings, and other social media (i.e. Facebook, Twitter, WeChat, or WhatsApp). Also, the two NGOs would be involved in the dissemination of the findings of the study to FSWs community and healthcare organizations.

8.2.3. Phase three

After completing the qualitative interviews with nurses and FSWs, in phase three, a cross-sectional survey was conducted among the undergraduate students. The sampling frame for participants in the survey was all students enrolled in two Bachelor of Science Honours Degree in Nursing programmes (General Nursing and Mental Health Nursing) at one of the three major universities in Hong Kong. This university has the largest number of nursing students in Hong Kong. There were a total of 850 general nursing students and 350 mental health nursing students in the undergraduate programme. All students were aged 18 or above, studying full time, and almost all possessed a smartphone.

Undergraduate nursing students were recruited during the regular full class meeting with programme leaders held at the beginning of each semester. The non-teaching researcher (a PhD student) from the School of Nursing explained the aim of the study. The programme leaders also helped to remind students to take part in the study via a mass email.

8.3. Ethical considerations

Ethical approvals of the three studies were obtained from the Human Subjects Ethics Sub-committee of the Hong Kong Polytechnic University. The written approval

(email) of the qualitative study among FSWs was also obtained from the ethical review board of NGOs.

In phase one and two, written consent was obtained from nurses and FSWs before the commencement of the study. In phase three, nursing students who scanned the QR code and submitted a completed questionnaire were considered to have given their implied consent to take part in the study. The participants were informed of their right to withdraw at any time during the interview, and their participation was voluntary. They were assured of dignity, privacy, confidentiality, and anonymity in their participation in the study. Only numerical identifiers were used to protect the identity of the participants.

To minimize the risk of emotional disturbance when discussing sensitive topics, the researcher closely observed the participants' psychological responses. In addition, at the end of each focus group discussion among nurses, the participants were given time to engage in an informal discussion. The nursing students were given contact information to access the psychological support and counseling services available at the Office of Counseling and Wellness of the University. They were also given the number of a crisis hotline.

The interviews among FSWs were conducted with caution and with the guidance and support of the NGOs. The risk that the FSWs encountered as participants in the study was no greater than what they would experience in their everyday life, as this study primarily focused on their health care needs and experiences with health care services. Staff from the NGOs helped to monitor the emotional reactions of the FSWs during the interview and provided psychological support to the participants if needed. The FSWs were also offered the number of a crisis hotline.

All of the research data were stored in locked cabinets. The electronic data were protected using a password. Only the researcher could access the data.

8.4. Data collection

The study was conducted after receiving ethical approval from the Human Subjects Ethics Sub-committee of the Hong Kong Polytechnic University and the ethical review board of NGOs.

8.4.1. Qualitative data

Both focus group discussions and individual interviews were adopted as methods for collecting data among nurses. A focus group discussion approach was adopted to facilitate the generating and sharing of ideas among the participants. Individual interviews were used to collect detailed individual accounts of the attitudes and beliefs of the participants. Both methods provided the researchers with valuable insights into people's attitudes and practices (Kaplowitz & Hoehn, 2001). Besides, individual interviews among the FSWs was chosen because such an approach is considered best suited to topics that are sensitive in nature (Kaplowitz & Hoehn, 2001).

The semi-structured interview was used, as it is considered as a flexible tool to capture the voice and experience of the participants. This method uses a prepared interview guide, but the open-end and probing questions are flexible to allow the participants to recount their experience and even expand the original questions and responses (Al-Busaidi, 2008; Mishler, 1991).

The semi-structured interview guide of the study was developed by the research student based on a review of the literature and on her previous experience

with working and volunteering at an NGO that offers health services to FSWs. The proposed questions were further discussed with a university professor who is an expert in women's health and with the service in-charge of the NGOs, who is a social worker.

In the interviews, the interview questions were only used as a guide; the discussion was not restricted to the issues raised in those questions. However, the research student ensured that the discussions remained on topic.

The interview questions for nurses included asking the practicing nurses what they thought of people who engage in sex work, how they saw their duty as nurses in caring for these people, the provision of their nursing care, when there was a patient whom they suspected, was involved in sex work, and whether they were prepared to take care of these patients (See Appendix X-Interview Guide).

The interview guide for FSWs covered the following topics: FSWs' health and service needs, access to and experience with health care services, the attitude of health professionals, the disclosure of the FSWs' status in the health care settings, and whether they had any recommendations for better health care services (See Appendix XII-Interview Guide).

All of the interviews were conducted in Cantonese (a dialect commonly spoken in Hong Kong) or Putonghua. Most of the individual interviews were audio-recorded with the consent of the participants. Five FSWs refused to be recorded during their interviews, and handwritten notes were taken during those interviews. In addition, communication with a hearing and speech impaired FSW was conducted by writing notes on a computer. The numbers of focus group discussions and FSWs were determined by data saturation (i.e., when no new findings or concepts emerged from the interviews).

8.4.2. Quantitative data

In phase three, students were invited to take part in the survey by using the university's 'MySurvey' platform. A Quick Response code (QR code) was created for the 'MySurvey', and shown to the students using a PowerPoint slide. The students were instructed to access 'MySurvey' after scanning the QR code with their smartphones. Students who scanned the provided QR code and submitted the survey were considered to have given their consent to participate in the study.

The preliminary questionnaire was developed based on extensive literature review and findings from the qualitative interviews among nurses and FSWs in the previous two phases, and was further validated by experts. The questionnaire was comprised of eight sections: 1) the socio-demographic information of the students; 2) their knowledge of sex workers; 3) the Attitudes toward Prostitutes and Prostitution Scale; 4) the nursing students' attitudes towards sex workers; 5) their support for the human rights of sex workers; 6) their willingness to care for sex workers in their future practice, 7) their cultural competence in caring for sex workers; 8) their educational needs in caring for sex workers.

Section 1 of the questionnaire solicited the socio-demographic information of the students, including their age, gender, birthplace, religion, years of study, and programme of study.

Section 2 contained seven questions developed by the researchers of this study to explore the students' knowledge of prostitution law, whether they had ever attended a related lecture or seminar, their perceived level of knowledge of sex workers, and their educational needs in caring for sex workers. The response formats used in this section varied. For example, four dichotomous items related to their personal contact with sex workers and perceived need to learn about sex workers

were answered in by a yes/no response. The hours of sex-work related education and self-rated knowledge about caring for sex workers were measured on a 3-point Likert-type scale. The knowledge of prostitution law was asked with multiple possible answers provided.

Section 3 consisted of the 29-item Attitudes toward Prostitutes and Prostitution Scale (Levin and Peled, 2011). The scale contains two subscales on prostitutes: as normative / deviant (8 items), and as choosing / victimized (6 items). Two subscales on prostitution: as normative / deviant (8 items), and as choice / victimization (7 items). The items are measured on a 5-point Likert-type scale (1 = strongly disagree, 5 = strongly agree). Agreement with each statement indicates a belief in deviance / victimization. Disagreement with each statement suggests a normative view of sex workers, with sex work regarded as a choice. The Cronbach's alpha reliability of the four subscales ranged from 0.81 to 0.88, and was 0.81 for the overall scale. Permission to use this scale was obtained from the authors.

Section 4 was the scale measuring the nursing students' attitudes toward sex workers, which was adopted from a scale developed by Melby V et al. (1992) to determine nurses' attitudes towards prostitutes. A 5-point Likert-type scale was used, with 1 = strongly disagree, and 5 = strongly agree. The scale on nursing students' attitudes was comprised of eight items on attitude, with three related to morals, two to control, and three to sympathy. Negative items (Items 2 to 7) were reversely coded, with higher scores representing positive attitudes, and lower scores representing negative attitudes toward sex workers. The psychometric properties of the scale were not reported in the literature. Permission to use this scale was obtained from the authors.

Section 5 assessed levels of support for the human rights of sex workers. The

nine items in this section were developed based on notions concerning women's sexual and reproductive health and rights as laid out by the United Nations' Office of the High Commissioner for Human Rights (The Office of the High Commissioner of Human Rights, 2014). Responses were measured on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The total score of the scale ranged from 9 to 45 points, with a higher score indicating more support for the human rights of sex workers.

Section 6 focused on the students' willingness to care for sex workers. The scale was developed based on previous studies assessing the willingness of nursing students to treat people living with HIV/AIDS in Hong Kong (Yiu, 2010). It contains three items: (1) If I am allowed to choose, I would not choose to serve patients who are sex workers; (2) I would refuse to care for patients who are sex workers; (3) I am willing to take care of patients who are sex workers. Responses to each item ranged from 1 (strongly disagree) to 5 (strongly agree). Items one and two were reversely scored, with a higher score representing a greater willingness to care for sex workers. The Cronbach's alpha was reported to be 0.81 in the pre-intervention phase and 0.80 in the follow-up phase of the previous study (Yiu, 2010).

Section 7 consisted of the Cultural Competence Assessment Tool developed by Doorenbos et al. (2005) to assess the cultural competence of nursing students in caring for sex workers (Doorenbos, Schim, Benkert, & Borse, 2005). The scale consists of 25 items that measure cultural awareness, cultural sensitivity, and cultural competency behaviours. A 5-point Likert scale was used to assess the cultural awareness and sensitivity in a response set of strongly agree, agree, no opinion, disagree, and strongly disagree. Cultural competency behaviours were assessed using a 5-point Likert scale in a response set of always, often, at times, never, and not sure.

The scores were summed up and transformed into a 1 to 125 scale, with a higher score representing a higher level of cultural competency in caring for sex workers. The Cronbach's alpha was reported to be 0.86 in previous studies (Doorenbos et al., 2005).

Section 8 contained only two items, developed by the research team, for assessing the educational needs of nursing students in caring for sex workers: 1) Do you think the topic of sex workers should be addressed in the undergraduate nursing curriculum? (Yes / No). 2) Which educational approach would you prefer to acquire knowledge related to caring for sex workers? (Multiple possible answers were provided).

8.4.3. Sample size

The ratio of 15 subjects per predictor variable was adopted to calculate the sample size among the nursing students (Stevens, 2012). It was estimated that the maximum number of predictors in the regression would be 20. Thus, the estimated sample size of the study was 300.

8.4.4. Validity and reliability of the questionnaire

Content validity

The validity and reliability of the questionnaire were tested before the online 'MySurvey' study was conducted. The content validity of each item and the scales were assessed by a panel of six experts comprising two experts in women's health, one in mental health, one in cultural sensitivity, one in nursing education and cultural sensitivity, and one in social work with sex workers.

The experts were asked to rate each item using a 4-point scale: 1 = not

relevant; 2 = somewhat relevant; 3 = quite relevant; and 4 = highly relevant. The content validity index (CVI) for each item (I-CVI) and the entire scale (S-CVI) were calculated. For each item, I-CVI was calculated based on the number of experts giving a rating of either 3 or 4 divided by the six experts. For each scale, the S-CVI was calculated by averaging the I-CVI for all items on that scale. Items with an I-CVI of at least 0.78 and scales with an S-CVI of at least 0.90 were deemed to meet the criteria for inclusion in the questionnaire (Polit, Beck, & Owen, 2007; Waltz, Strickland, & Lenz, 2010). Items and scales that failed to meet the I-CVI / S-CVI criteria were removed from the questionnaire. The items were also amended according to comments and suggestions from the experts. For example, two experts edited the wording of a few items for clarity, and one added an item relating to support for the human rights of sex workers.

The results of the content validity test of the measurements are shown in Appendices Table 8-1. All of the items on the nursing students' knowledge of sex workers and prostitution law, attitudes toward sex workers, support for the human rights of sex workers, willingness to care for sex workers, and educational needs demonstrated adequate content validity, with I-CVIs ranging from 0.83-1.00, and S-CVIs of 1.00, 0.963, and 1.00, respectively. One of the items in the attitudes toward prostitutes and prostitution scale was considered inappropriate, with an I-CVI of 0.667, and was removed. The S-CVI of the scale was 0.891, and the scale was removed from the questionnaire.

The S-CVI for the cultural competence scale was 0.833, with five out of the 25 items having an I-CVI of as low as 0.17 to 0.33 and less than 0.78. Two experts on cultural sensitivity questioned the use of the cultural competence scale in the survey. They also pointed out that cultural competence has been criticized for leading

to the stereotyping of cultural groups (Kleinman, 2006). They also voiced the suspicion that cultural competence would be low among undergraduate nursing students, as experience and exposure are required to develop cultural competence. On the suggestion of all of the experts in the panel, the cultural competence scale on caring for sex workers was removed from the questionnaire.

Pilot study: reliability of the questionnaire

A pilot study was conducted to establish the reliability of the questionnaire. A total of 20 undergraduate nursing students were invited to complete the questionnaire in January 2019. Internal consistency was measured by Cronbach's alpha. The two-week test-retest reliability was estimated using the intra-class correlation coefficient (ICC). A Cronbach's alpha α value of less than 0.50 is regarded as unacceptable, 0.50 - 0.60 as poor, 0.60 - 0.70 as acceptable; 0.70 - 0.90 as good; and over 0.90 as excellent (Nunnally & Bernstein, 1967). An ICC value of ≤ 0.4 is considered poor; 0.41 - 0.60 moderate; 0.61 - 0.80 good; and 0.81 - 1.00 excellent (Nunnally & Bernstein, 1967). Minor changes were made based on the participants' feedback on clarity. The individuals who were involved in the pilot study were not included as study participants in the main study.

The psychometric properties of the measurements are shown in Appendices Table 8-2. The findings indicate that the measures used in the study had acceptable internal consistency (α=0.653 to 0.967) and an excellent level of stability (ICC=0.844 to 0.911) within the two-week period.

8.5. Data analysis

8.5.1. Qualitative data analysis

According to Kimberly A. Neuendorf, content analysis "fits the positivism paradigm of social research. The goal of the scientific methods is generalizable knowledge, with the concomitant functions of description, prediction, explanation, and control." (p.18) (Neuendofr, K.A., 2016). Content analysis is used to detect manifest and latent meaning from data, and is considered as a flexible way for analyzing text data.

Conventional content analysis of qualitative study among nurses

Conventional content analysis is generally used with a study design whose aim is to describe a phenomenon. This type of design is usually appropriate when an existing theory or research literature on a phenomenon is limited. Researchers avoid using preconceived categories, instead of allowing the categories and names for categories to flow from the data. It is an inductive category development. There is a lack of literature on the attitudes and willingness to care for sex workers among nurses or other health care providers. Thus, this approach was adopted in the qualitative study among nurses.

In this process, the transcriptions were read by two researchers independently without any attempts to conduct coding, to obtain an overall picture of the interview. Next, different segments of the text were fractured into meaning units and assigned a code. A meaning unit is the smallest unit that contains aspects related to each other through their content and context. It could be words, phrases, or sentences. Codes were chosen to retain the core meaning of the participants' experiences. The codes were then grouped into subcategories and main categories.

Individual interviews were only used to collect detailed individual accounts

of the attitudes and beliefs of the participants who were not available for focus group discussions.

Three individual interviews were conducted among a mental health nurse who was also a sexual therapist, and two staff from the social hygiene clinics. The three participants had the experience of taking care of sex workers. Because it was difficult to organize focus group discussions among the three key informants, they were interviewed separately.

Directed content analysis of qualitative study among FSWs

Directed content analysis is adopted when "the existing theory or prior research exists about a phenomenon that is incomplete or would benefit from further description" (p.1281) (Hsieh & Shannon, 2005). This is considered as a deductive use of theory. The present study started with the previously developed conceptualization of self-stigma and aimed to explore the experience of the stigma of FSWs when accessing health care services. The predetermined coding categories for stigma from the literature were: experienced, anticipated, and internalized stigma. Besides, the classification of coping behaviours has been extensively studied, it could be divided into two general categories: active coping and passive coping. Therefore, a directed content analysis was adopted to analyze the interview data and field notes.

First, the transcriptions and field notes were read by two researchers independently without any attempts to conduct coding, to obtain an overall picture of the interview. The meaning units related to the participants' experiences of stigma and coping strategies were identified and highlighted, which included simple and clear phrases and sentences, such as "bad attitudes", "I feel ashamed of myself", "I

feel stressed on the way to the clinic", etc. After that, the meaning units were coded with the predetermined coding categories if possible. The data that could not be coded in these categories were coded with other categories and themes by adopting the inductive approach. The two researchers discussed the resulting themes until they reached a consensus. Once no new concepts emerged from the data, the researchers re-examined the data and agreed upon a number of higher-order themes. Only after the themes were identified and confirmed were the quotations translated into English by the researchers for use in writing the report. The number at the end of each quote refers to the number assigned to the individual who was interviewed.

In the qualitative study, member checking is considered as a crucial technique to ensure the accuracy, credibility and validity of the results. It was performed after the data analysis of the study. All the participants were invited to review the analyzed data and gave comments on the accuracy of the interpretation.

Techniques to ensure the accuracy and veracity of the translation

Due to the sensitive nature of the topic, the study did not involve a translator. Instead, the research student, who is fluent in both English and Chinese, worked as an analyst and translator.

Full engagement in the research helped the research student make the analytic and translation process more transparent and minimize the risks of misinterpretation during translation. The original data was firstly analyzed in Chinese. Then, the subthemes and theme were developed in Chinese. After that, the data was translated from Chinese to English, and the subthemes and themes were developed in English. The two versions of quotes, codes, subthemes, themes were compared.

To further ensure the accuracy and veracity of the translation, the research student further discussed the translated data, coding, subthemes, and themes with a professor, who was fluent in both languages.

Only after the themes were identified and confirmed were the quotations translated into English by the researchers for use in writing the report. The FGD or II found in brackets at the end of each quote refer to focus group or individual interviews respectively, with the number referring to the number of the group or individuals who was interviewed.

8.5.2. Quantitative data analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS v. 25). The frequencies, percentages, means, standard deviations, and median were explored with descriptive statistics. An independent sample t-test was used to compare the mean values of the continuous variables, and a chi-square test was used to compare differences in the proportions of categorical variables between the general nursing students and the mental health nursing students. A stepwise multiple linear regression was conducted to identify factors associated with the attitudes and willingness of students to care for sex workers. A p-value of < 0.05 was considered to be statistically significant.

Figure 8-1 illustrates the steps taken and studies conducted corresponding to the MRC framework in developing a complex intervention.

The following three chapters will present the study results and discussion according to the three phases of the study process.

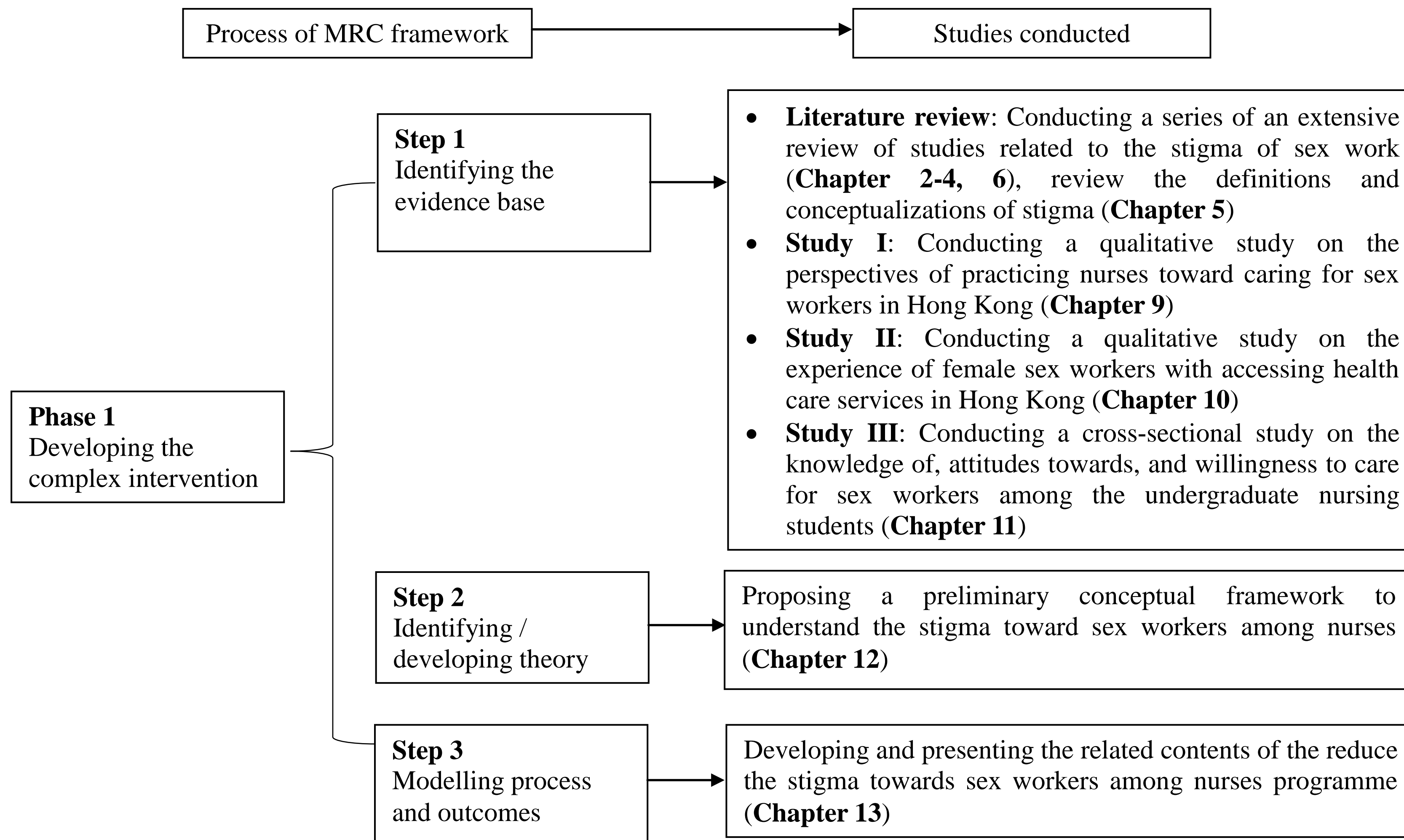

Figure 8-1 Steps taken and studies conducted corresponding to MRC framework in developing a complex intervention

Chapter 9

STUDY I Caring for female sex workers:

a qualitative study on perspectives of practicing nurses in Hong Kong

9.1.Results

9.1.1. Participants' characteristics

9.1.2. Themes that emerged from the interviews

9.2.Discussion

9.3.Implications

9.4.Conclusion

*Content of this chapter is submitted:

Ma, P. H., & Loke, A. Y. (2019). Caring for female sex workers: a qualitative study on perspectives of practicing nurses in Hong Kong. Under reviwe at AIDS Care Psychology, Health & Medicine Vulnerable Children and Youth Studies. (*AIDS Care*, *submitted 22nd Mar, 2019*).

In phase one, from April to July 2018, seven semi-structured focus group discussions were conducted among 33 practicing nurses, with three to six nurses in each interview group. Five focus group discussions were conducted at the school of nursing, and two focus group discussions were conducted in hospitals. The focus group discussions lasted from 63 to 123 minutes. Individual interviews were conducted with three key informants, including a mental health nurse who was also a sex therapist, and two nurses currently working in a social hygiene clinic. Two interviews were carried out at the school of nursing, and one interview was conducted at the social hygiene clinic. Individual interviews lasted from 40 to 139 minutes.

9.1. Results

9.1.1. Characteristics of the participants

The 36 participants were working in a range of outpatient/inpatient health care settings in Hong Kong, including the social hygiene clinic, department of obstetrics & gynecology, psychiatric unit, general out-patient clinics (GOPC), occupational health unit, neonatal intensive care unit (NICU), operating theatre, hematology unit, intensive care unit (ICU), orthopedics unit, dermatology clinic, and old-age homes.

The participants were 21 to 63 years of age, and had four months to 40 years of experience. Well over half of the participants were female (69.4%), and half were single. The majority of them were registered nurses (88.9%), and over 80% had received a university education or above. Only two psychiatric nurses and a nurse from a social hygiene clinic had received on-the-job training on working with sex workers. A gynecology nurse received training on sex work in her certificate course on sex therapy.

Only nine participants reported that they had ever taken care of sex workers in their health care settings or of someone who may have been involved in sex work. These were four psychiatric nurses working in psychiatric units, two nurses working in social hygiene clinics, two nurses from the obstetrics & gynecology department, and one nurse from the general outpatient clinic.

9.1.2. Themes of the study

Content analysis of the interview transcriptions revealed four major themes: (1) generally conflicting attitudes toward sex workers; (2) the professional obligation to provide care to all; (3) acknowledgment of one's hesitation in caring for sex workers; and (4) the preparations involved in caring for patients who might be involved in sex work. Examples of meaning units, summarized meaning units, sub-theme and theme are presented in Table 9-1.

Overall, the nurses showed conflicting attitudes toward sex workers. While they understood that their professional code of ethics stipulates that all patients should be treated equally, they hesitated to provide care for sex workers. There were also barriers preventing them from providing optimal care to sex workers. However, only a few of the nurses agreed that training should be provided to equip nurses with the competency to provide care to those who might be involved in sex work.

Theme 1: Generally conflicting attitudes toward sex workers

Generally speaking, the nurses apparently held various attitudes toward sex workers. The majority of the participants normalized sex work and considered it to be driven by "supply and demand." They regarded sex work as having had a long history and as unlikely to disappear. Some nurses believed that sex work was a personal choice.

Three had no hesitation admitting that they had friends who worked as prostitutes. By contrast, a few nurses viewed sex work as an act of male exploitation of women's bodies and were clearly opposed to sex work. Nevertheless, the majority of the nurses who were interviewed believed that anyone could easily spot sex workers in the street by the provocative manner in which they dressed or behaved.

Meanwhile, the majority of the participants also showed conflicting and ambivalent attitudes toward sex workers. Although some alleged that they had an open mind toward "sex work," they would disapprove of such work as an individual, and would not accept having family members or close friends who did sex work or made use of the services of sex workers. For example, one said:

On one hand, I see sex workers as vulnerable people, and think that there must be a sad story behind their selling their bodies for money. But there was an incident when I first learned that a friend of mine since childhood was working in a nightclub as a prostitute – without thinking, it just popped out of my mouth to ask why she wanted to do that kind of dirty job. (FGD1-5, female general nurse, occupational health department, 42y)

The majority considered sex work to be immoral. They stated clearly that they could not accept any variations in engagement in sex work. For example:

There are young girls nowadays who would go out on dates with strange men in exchange for money/gifts of what they want. They do not think that there is anything wrong in such a money-sex exchange. To me, this is a different kind of "prostitute." I think many of us cannot accept this "choice" for making money. (FGD5-1, female obstetrics & gynecology *nurse & sex therapist, lecturer, 44y)*

Moreover, influenced by news reports, some held ambivalent attitudes towards sex workers. As one nurse said:

I thought that most sex workers are no longer forced into this kind of work. These people just choose to make quick and easy money. Then, one day I read from a news report in China that some young girls were forced to do sex work against their will. I now have mixed feelings towards them. (FGD5-5, general nurse, lecturer, 37y)

There was also an association between being a sex worker and contracting HIV. A few argued that everyone was at risk of getting HIV without protected sex, and some even contended that sex workers might be less likely to contract HIV since they were aware of the need to protect themselves and therefore would take precautions. However, a nurse from a general outpatient clinic (GOPC) said that she associated HIV with sex workers.

When we learn of a patient with a confirmed diagnosis of HIV or who is referred to the social hygiene clinic, then we often think that the person is likely to be a sex worker. (FGD1-4, female GOPC nurse, 35y)

A nurse who was previously working in a social hygiene clinic caring for sex workers had a different attitude towards sex workers, but he confessed that his attitude has changed.

When I was a general nurse, I admit that I was prejudiced against sex workers. As I learned more about them and started to care for these people, I realized that I should not discriminate against them. These people generally suffer from low self-esteem and have had unhappy life experiences. (II-1, male nurse, social hygiene clinic, 63y)

The same nurse believed that these people chose sex work because they had no other option, and that they were a vulnerable group of people who needed to have the acceptance and empathy of others.

There are many sex workers from the mainland who married older men in

Hong Kong, but the marriage did not last. They have to leave their children in China with their own family and work as a sex worker to make money to support their children and family back home. (II-1, male nurse, social hygiene clinic, 63y)

The interviews revealed that the majority of nurses, as members of the community, had a similar attitude towards sex workers as that held by the general public. They judged sex work as immoral, and saw it as a way that many use to make quick and easy money. Although they claimed to be open-minded, they would not be able to accept it if family members or friends chose sex work. Only when nurses started to care for sex workers and came to learn about their sufferings did they start to change their view of sex workers and develop an empathetic attitude towards them.

Theme 2: The professional obligation to provide care to all

All of the nurses who were interviewed asserted that they had all been taught in their nursing education to provide fair treatment to all people. They declared that there was a code of professional ethics for nurses, and that they understood that their responsibility was to provide care to all patients regardless of their background, including sex workers.

Some nurses elaborated by emphasizing the "heroic" nature of the nursing profession of providing care to patients, even to the extent of risking their own health. They gave an example of nursing professionalism the actions demonstrated by nurses during the epidemic of the severe acute respiratory symptom (SARS) in Hong Kong in 2003.

Nurses should shoulder the responsibility to maintain professionalism. During SARS, nurses stayed in hospitals to care for patients, even knowing that they risked being infected. We can only do our best to adhere to precautionary procedures

to prevent contracting infections. It is our responsibility to take care of patients, and be prepared to face the risks. (FGD2-4, female ICU nurse, 35y)

Nurses in the interviews said that they would not probe into a patient's work except in the case of a needle stick incident, which might put them at risk of contracting an infection.

We are professionals, and have a responsibility to serve all without considering their background or occupation. That's the expectation of our nursing profession. If we encounter someone with suspected HIV or a sex worker, we take universal precautions as usual for all our nursing care. (FGD1-5, female general nurse, 42y)

There were moments at work that nurses experienced feelings of ambivalence, both personally and professionally. Some nurses were aware of this and tried to provide professional care while suppressing their personal views.

I am a professional nurse, yet I am also a woman. Although professionally, I think I can provide equal nursing care to all patients, yet once in a while, the patient's sex work will pop up in my mind, and I keep telling myself that I shouldn't. (FGD1-5, female nurse, occupational health department, 42y)

While the majority of the nurses considered themselves to be upholding the code of professional ethics in providing equal care to sex workers, a nurse working in the social hygiene clinic and another psychiatric nurse both questioned whether nurses gave out verbal and non-verbal cues that betrayed prejudice towards sex workers. The two nurses expressed the opinion that although many nurses attempted to behave in a professional and desirable manner, as a matter of fact, their tone of voice, facial expression, physical distance, avoidance of direct eye contact, avoidance of attention, or other subtle non-verbal behaviours unintentionally showed

an attitude of stigmatization towards sex workers. They questioned whether there was a disparity between the care provided by the nurses and their deeply rooted discriminatory attitude.

Generally speaking, nurses may try very hard to adhere to their professional code of ethics, since they have learned from their education and training that this is what they should do. But I doubt if nurses can really provide equal care to all patients. I remember when I was working in a hospital, many nurses kept a distance from those they believed were sex workers when giving penicillin injections. I also witnessed co-workers who intentionally or unknowingly neglected sex workers when they learned about their sexually transmitted disease (STD) status. (II-1, male nurse, social hygiene clinic, 63y)

This theme revealed that all nurses knew that it was in their professional code of ethics to care for all patients, and they worked very hard to provide equal care as a way to avoid receiving complaints. Some were aware of their inner ambivalence, and of potential differences between what they thought of the care that they provided and the deeply rooted discrimination that they might have conveyed.

Theme 3: Acknowledgment of one's hesitation in caring for sex workers

Despite the ambivalence or alleged open-mindedness that they displayed towards sex workers and despite observing the profession's code of ethics, the majority of the participants acknowledged their hesitation in caring for sex workers.

There were nurses who realized the conflict between their personal values and their professional duties. This inner struggle led to hesitation in caring for sex workers.

I don't feel pity for those who choose to do this kind of work for easy and

quick money and then contract STDs or HIV. I do feel reluctant to take care of them, but I cannot discriminate against them outwardly, and must continue to provide the needed nursing care. (FGD1-3, female general nurse, 30y)

Some nurses felt compassion for the sex workers, and wanted to express their empathy and help them. But many were worried that they did not know how to do so, and thought that it might ruin the therapeutic relationship if they approached sex workers directly. They tended to play it safe and avoided raising sensitive topics.

I have empathy for sex workers. Although sometimes I would like to know more about these patients, I dare not ask because I am afraid that they might think that I am being nosy or discriminating against them. (FGD1-4, female GOPC nurse, 35y)

Some of the interviewed nurses pointed out that, sometimes, it was not the background of the clients that affects their willingness to care for them, but the clients' characteristics and attitudes. An obstetrics & gynecology nurse and sex therapist said:

There was one time when I was taking care of a teenage sex worker who had been diagnosed with an STD. I wanted to teach her about safe sex and condom use. She glanced at me and said offensively that it was none of my business. Her rudeness made me angry and I could not continue to do what I thought I should as a nurse caring for her. (FGD5-1, female obstetrics & gynecology *nurse & sex therapist, lecturer, 44y)*

Nurses also commented that because of self-stigma, sex workers might be sensitive to what they did or said. They believed that sex workers often misunderstood what it was that nurses did and worried about being "judged" by others.

We may wear a mask or gloves because of their infectious disease, but they take that as an indication that they are considered "dirty." The things that we say might not have any bad intention, but be regarded as discriminating against them. They are very sensitive to what we say and to our actions. I just don't know how to handle them. (FGD1-3, female nurse, general nurse, 30y)

Most nurses believed that sex workers usually hid their identity due to self-stigma and to the fear of not being accepted, but that created a barrier to communication. Their identity was usually not confirmed unless the clients were willing to reveal it; nurses would find it too a sensitive an issue to ask.

Many of this kind of patients will not fill in their occupation on the admission/intake form, or tell us what it is. We won't know for sure if they are sex workers, but can only guess. This is a sensitive topic to touch on, but it creates a barrier to communication and to conduct appropriate investigations. (FGD1-4, female GOPC nurse, 35y)

Those nurses who were in frequent contact with sex workers at work believed that nurses should be sensitive to the patient's work, since it affected the patient's health, and because nurses had the opportunity to find out about it. In fact, they considered it necessary to come right out and talk to patients.

Many patients involved in sex work hide their identity because they worry about how others see them; they know that not many in society accept them. However, I do think that nurses need to know, so that the patients can be provided with the appropriate care. Just be sensitive when talking to them, provide them with privacy, and tell them directly that it is not because we are nosy that we ask these questions, but because of our responsibilities as a nurse. (II-2, male nurse, social hygiene clinic, 34y)

Some nurses confessed that they hesitated to care for sex workers, because they had to be careful to protect themselves against complaints. They would approach these patients in a soft tone of voice and hide their facial expressions to avoid misunderstandings. As one nurse commented:

Many of the suspected sex workers have threatened to report us to our supervisor when they felt that they were being "discriminated" against. So we just provide routine care without "seemingly" discriminating against them. (FGD1-1, female general nurse, 33y)

Also, to protect patient confidentiality, nurses were not supposed to probe into the nature of the patients' work, particularly if a patient was suspected to be a sex worker. This was a sensitive matter, and talking about it would be regarded as gossip, since a patient's work was unrelated to nursing care. A nursing clinical instructor would discourage her students from exploring a patient's background.

A nursing student was very curious about a young patient with STD. I cautioned the student to be sensitive to the confidentiality of personal data. We also do not want to gossip about the personal life or work of the patients. (FGD1-2, female general nurse, lecturer, 45y)

Sometimes, it was the infectious disease that caused nurses to hesitate to take care of these clients, and not necessarily the fact that the patient was a sex worker. A few nurses confessed that they would take excessive personal precautions against infection when dealing with HIV patients, who so happened to be sex workers. There was the subtle implication of discrimination from nurses towards sex workers associated with a stigmatized disease such as HIV.

When I take care of patients with HIV, although I am not sure if they are sex workers, I will use an extra layer of gloves and big eyeglasses, and be cautious

about handling bodily fluids in suspected cases to protect myself. I do struggle and feel much tension when taking extraordinary precaution in executing this kind of responsibility to care for these clients. (FGD2-4, female ICU nurse, 35y)

Even in a social hygiene clinic where sex workers sought health care, nurses hesitated to care for clients suffering from STDs. A nurse recalled his early working experience in a social hygiene clinic when he was young:

It was the norm to keep a distance from clients with STDs in the social hygiene clinic, regardless of the job nature of the clients. (II-1, male nurse, social hygiene clinic, 63y)

The attitude of nurses, the responses of the sex worker to the care that was provided, the association of sex workers with detrimental infectious illnesses, and organizational norms had contributed to the hesitation that nurses felt about caring for sex workers. These influences, along with the general attitude of the nurses, the self-stigma of the sex workers, disease-related issues, and social issues had created a precarious dynamic in the nurse-patient relationship.

Theme 4: The preparations involved in caring for patients who might be involved in sex work

Nurses often found that they had little time to attend to the psychosocial aspect of caring for patients, and that it was even more difficult to provide such care when sex workers hid their identity and were "invisible" in health care settings.

I provide all patients with the treatments required according to protocol. But if I know about the patients' sex work, I can provide some health education on protective sex, since they are a high-risk group. (FGD2-3, male nurse, general nurse, 34y)

When nurses were asked if they thought that special training was needed to care for sex workers, their opinions were divided. A nurse teacher did not think that a special curriculum on sex workers and stigmatization was needed.

There is no specific nursing curriculum focused on sex workers. I believe it is more important to talk about equal treatment to all, instead of focusing on sex workers. Everyone is the same. I think it would be stigmatizing if the topic of sex workers were to be added to the nursing curriculum. (FGD5-1, female obstetrics & gynecology nurse & sex therapist, lecturer, 44y)

A practicing nurse working in an outpatient clinic thought that it was more important to emphasize communication skills in working with vulnerable or marginalized populations.

There are courses regularly offered by hospitals, not focusing on sex workers, but broadly on the skills for communicating with vulnerable or marginalized populations and for handling complaints. It is important not to give the impression to patients that we are discriminating against them. (FGD1-4, female GOPC nurse, 35y)

However, a psychiatric nurse reflected on her work before and after receiving training specifically on caring for sex workers in hospitals and nurse clinics. She highlighted the issue of patient-centered care and noted that nurses should update their knowledge and skills to provide care to patients as individuals, so as to meet their diverse health care needs.

When I was a nurse working in the hospital, I just provided patient care according to routine. The course taught me that nurses should have a better understanding of their clients and be able to recognize the multiple dimensions of health and wellness. Now, working in the nurse clinic, I will spend time listening to the concerns of clients, provide them with health education, and show them that I

care. (II-3, mental health nurse & sex therapist, nurse clinic, 40y)

Others suggested that training would be needed only for nurses who came into frequent contact with sex workers.

I don't think it is necessary to provide specific training to all nurses, but it would be good to offer courses to those who will come into frequent contact with sex workers, so that they are prepared to care for this special group of clients. This should include those working in psychiatric units, social hygiene clinics, and obstetrics & gynaecology units. (II-1, male nurse, social hygiene clinic, 63y)

This theme identified the various opinions held by the nurses on the issue of providing specific training on caring for sex workers. While the nursing curriculum emphasized providing equal treatment to all patients, it rarely mentioned any specific vulnerable and marginalized populations. The majority of the nurses did not agree on the need to have specific training related to sex workers, since their focus was on the treatment of diseases and the provision of nursing care. They also expressed the opinion that this kind of training might have the opposite effect and stigmatize sex workers. Such training was considered necessary only for those who worked in units that had frequent encounters with sex workers.

Table 9-1 Examples of meaning units, summarized meaning units, sub-themes and themes

Participants' quotes	**Codes**	**Sub-themes**	**Themes**
On one hand, I see sex workers as ***vulnerable*** *people. (FGD1-5)*	vulnerable people	Conflicting **moral** attitudes toward sex workers	**Theme 1:** Generally conflicting attitudes toward sex workers
But there was an incident when I first learned that a friend of mine was working in a nightclub as a prostitute – it just popped out of my mouth to ask why she wanted to do that ***kind of dirty job****. (FGD1-5)*	shaming and blaming work		
When we learn of a patient with ***a confirmed diagnosis of HIV*** *or who is* ***referred to the social hygiene clinic****, then we often think that the person is likely to be a* ***sex worker****. (FGD1-4)*	Sex worker = HIV	**Sex worker = HIV**?	
"sex workers might be **less likely to contract HIV** since they were aware of the need to protect themselves" (II-2)	Sex worker ≠ HIV		
Sex work is a **personal choice** (FGD6-1, male nurse, 34y)	Normalizing sex work	Liberal vs. conservative **feminist** attitudes toward sex work	
Sex work work as an act of **male exploitation** of women's bodies and were clearly opposed to sex work.	Condemning sex work		
We are to have the professional attitude to ***serve all without considering their occupation****. That's the expectation of our nursing profession. (FGD1)*	Equal treatment to all	Code of ethics in nursing	**Theme 2:** The professional obligation to provide

Participants' quotes	Codes	Sub-themes	Themes
*Generally speaking, nurses may try very hard to adhere to their **professional code of ethics…** But I **doubt** if nurses can really provide equal care to all patients…many nurses **kept a distance** from those they believed were **sex workers** when giving penicillin injections. (II-1)*	Subconsciously unequal treatment	Inner ambivalence	care to all
*I **don't feel pity** for those who choose to do this kind of work for easy and quick money and then contract STDs or HIV. I do feel **reluctant** to take care of them, but I **cannot discriminate against** them outwardly...(FGD1-3)*	Personal beliefs/values	Barriers to provided non-judgmental care at the **intrapersonal** level	**Theme 3:** Acknowledgment of one's hesitation in caring for sex workers
*Although sometimes I would like to know more about these patients, I **dare not ask** because I am afraid that they might think that I am being nosy or discriminating against them. (FGD1-4)*	Lack of self-efficacy		
*…I wanted to teach a teenage sex work about safe sex and condom use. She glanced at me and said **offensively** that it was none of my business. Her **rudeness made me angry**...(FGD5-1)*	Interaction, characteristics of the sex worker, diseases	Barriers to provided non-judgmental care at the **interpersonal** level	
*It was the **norm to keep a distance** from clients with STDs in the social hygiene clinic, regardless of the job nature of the clients. (II-1)*	Institutional values and norms, time constraints	Barriers to provided non-judgmental care at the **institutional** level	
*I believe it is more important to talk about **equal treatment to all**, instead of focusing on sex workers. (FGD5-1)*	**Against** sex work-related training	Satisfied with the current curriculum of caring vulnerable groups – formal	**Theme 4**: The preparations involved in caring for patients who might be

Participants' quotes	**Codes**	**Sub-themes**	**Themes**
		curriculum	involved in sex work
I don't think it is necessary to provide specific training to all nurses, but it would be good to offer courses to ***those who will come into frequent contact with sex workers****…(II-1)*	**Agree on** sex work-related training	Call for broad and sensitive nursing care	

9.2. Discussion

This is the first study to explore the attitudes of nurses toward caring for sex workers in Hong Kong. This qualitative study provides a preliminary understanding of nurses' perspectives on sex workers. The findings of this study highlight key issues that nurses should be aware of in caring for sex workers, namely: the intertwining of personal and professional attitudes in nurses; differences in attitudes toward sex workers across nursing specialties; and the use of a socio-ecological model for understanding the attitudes and practices of nurses in caring for sex workers.

The intertwining of personal and professional attitudes

The topic of sex workers is controversial, and heated discussions took place among the nurse participants, but no consensus on personal attitudes toward sex workers could be reached. Similar to the findings of a review of various stakeholders, in which diverse opinions on sex workers were expressed (Ma, Chan, & Loke, 2018b), nurses in Hong Kong held conflicting, inconsistent, and ambivalent personal feelings towards sex workers. However, it was encouraging to find that all of the nurses who were interviewed understood their professional nursing code of ethics and conceded that they were obligated to provide equal care to all patients, including sex workers.

As personal and professional attitudes are intertwined and inseparable (Pipes, Holstein, & Aguirre, 2005), the conflicting values could be found in the way in which they described their personal attitudes and willingness to care for sex workers. For example, nurses claimed that they would provide "sensitive" care when they perceived sex workers as "self-stigmatized," and that they would "keep a distance" when they viewed sex workers as "immoral" or "diseased." This finding is supported by the findings of other studies on the personal and professional attitudes of health

care providers (Dorsen & Van Devanter, 2016; Paprocki, 2014; Rabow, Remen, Parmelee, & Inui, 2010), which indicated that the inner struggles and tensions of nurses, and their hesitation to care for sex workers, might have an impact on their nursing care.

It is worth noting the potential discrepancy between the personal expectations and actual practice of the nurses. The conflict between their personal beliefs and professional ethics may cause inner discomfort and dilemmas, lead to hesitation, and subsequently have a negative impact on clinical practices (Paprocki, 2014). The implicit or explicit bias of nurses toward sex workers may prevent sex workers from receiving optimal care, resulting in health disparities. Nurses should reflect on their personal values and professional ethics, and examine their hesitation and clinical practices to ensure that they are providing the best care for their patients, including sex workers.

Differences in attitudes toward sex workers across nursing specialties

The findings from this study show that there are differences in the attitudes of nurses toward sex workers across the nursing specialties. A nurse's specialties, clinical experience, and training contribute to his/her ease, confidence, and willingness to care for sex workers. Generally speaking, among the nurses who were interviewed, those who worked in a social hygiene clinic, obstetrics & gynecology unit, and psychiatric unit were more willing and ready to talk with clients who were sex workers and more likely to try to understand them. These nurses were also those who considered it necessary to receive specific training to care for sex workers.

By the nature of their work, sex workers are at risk of developing sexual and reproductive health problems and mental disorders (Ross et al., 2012). As such,

nurses working in a social hygiene clinic, an obstetrics & gynecology unit, or a psychiatric unit have a greater chance of coming into contact with sex workers. Nurses from these departments were more likely to attend special training courses related to caring for sex workers at their workplaces. The specific training helped these nurses by improving their knowledge, communication skills, intention and willingness to care, and sensitivity to the psychosocial needs of sex workers.

The socio-ecological model for understanding the attitudes and practices of nurses in caring for sex workers

To better understand the personal attitudes and professional practices of nurses in caring for sex workers, a conceptual framework based on a socio-ecological model (SEM-NrSw) is proposed. The following multilevel factors are dynamic influences on the attitudes and clinical practices of nurses when caring for sex workers: intrapersonal (nurse), interpersonal (interaction with sex workers), institutional (organization and health care settings), and community (social and cultural).

At the intrapersonal level, the personal values, clinical speciality, and training received by the nurses affected their professional practices. It has been suggested that professional practices are influenced by deep-rooted personal values, which are formed by the community, social and cultural background, and work organization of the nurses (Goslin, 1969; Poorchangizi, Farokhzadian, Abbaszadeh, Mirzaee, & Borhani, 2017). At the interpersonal level, the impression/appearance of sex workers, their perceived self-stigma, the stigmatized diseases contracted by sex workers, and the dynamic interaction between nurses and sex workers, can also be influential, and should not be neglected.

At the institutional/organizational level, the professional code of ethics and

conduct, clinical norms and regulations, types of clinical specialties and environments, and the offer of training programs could also shape the professional values, attitudes, and practices of nurses.

At the community level, the established social and cultural positions that marginalize and stigmatize sex workers as immoral, deviant, and deserving of punishment have an impact on the attitudes and clinical practices of nurses (Shannon et al., 2015; World Health Organization, 2005). Selling one's body is still unacceptable in Chinese societies, and Hong Kong is no exception. Such a cultural position makes an open discussion on caring for sex workers difficult to conduct among nurses in health care settings.

The proposed conceptual framework (SEM-NrSw) makes the complexities of the determinants of nurses' attitudes and practices in caring for sex workers easier to understand. It can also be adopted as a guideline to inform the development of educational or intervention programs aimed at promoting high-quality services for sex workers delivered with sensitivity.

9.3. Implications

Everyone deserves to receive high-quality health services delivered in a respectful manner. In order to create a non-judgmental and friendly health care environment for sex workers, nurses need to be aware of their personal attitudes, and to comply with the profession's obligations when providing care to sex workers and other marginalized groups. The provision of education and intervention programs is recommended to address the influence of personal values and beliefs on nursing practices. The proposed conceptual framework (SEM-NrSw) highlights the opportunities for interventions to be delivered at different levels to increase the

quality of the care provided to sex workers.

At the individual level, it is important for nurses to recognize their deep-rooted personal values and beliefs towards sex workers, and to reflect upon and scrutinize their professional practices (Eng & Pai, 2015; Joyce-McCoach & Smith, 2016; Sandars, 2009). Nurses should understand their stereotyping attitudes and be aware of potential biases that may lead to health disparities in marginalized populations.

At the organizational level, educational or training courses are recommended to enhance nurses' understanding of sex workers. Such programs are particularly important for nurses working in psychiatric units, obstetrics & gynecology units, and social hygiene clinics.

The intergroup contact hypothesis developed by Allport et al. (1954) (Allport et al., 1954) suggests that intergroup contact can reduce prejudice and increase harmony between different groups. A study adopting this hypothesis was conducted by bringing together medical students and sex workers (Robitz et al., 2015). The study demonstrated the effectiveness of this approach in increasing empathy and decreasing stigma among medical students towards sex workers, as well as in empowering sex workers by making them more likely to seek health care and to make their opinions known. Therefore, training programs or workshops, aimed at enhancing mutual understanding through the exchange of views and experiences, have the potential to reduce stigma towards sex workers and increase the sensitivity of the care delivered by nurses. It will also remove one barrier to the seeking of health care by sex workers.

Finally, at the social and cultural level, the promotion of global health and human rights can be a strategy to lessen public stigma, discrimination, exploitation

and violence against sex workers, and to strengthen the human right to equal access to health care services (Amnesty International, 2015; Decker et al., 2015). Although a review of the literature did not find a consensus among various stakeholders on attitudes toward the legal status of sex workers (Ma et al., 2018b), it is paramount to call for an open discussion and for the formulation of laws and regulations on the human right of sex workers to health care.

Limitations

There are several limitations in this qualitative study. First, there is a possibility that socially desirable responses were provided by the interviewed nurses on this sensitive topic. Although the interviewer emphasized her non-judgmental attitude at the beginning of each interview, and assured the participants of confidentiality, nurse interviewees who held negative personal attitudes might have been reluctant to express their true feelings, and hence provided politically or professionally correct answers. The findings from the interviews should be interpreted with caution.

Second, the results of the study may not be generalized. The recruitment of the participants was based on convenience and snowball sampling, and over 40% of the participants were recruited from among practicing nurses studying for their master's or doctoral degree in one of the universities in Hong Kong. Nevertheless, these nurses were working in a variety of health care settings and geographic locations, and represent the oices of nurses in Hong Kong.

Third, the majority of the participants only expressed their attitude towards and their care for patients who had been diagnosed with HIV or STDs, and whom they suspected to be sex workers. Future studies should consider recruiting only those nurses who have experience of providing services to sex workers.

9.4. Conclusion

Given that sex-related topics are still a taboo in Chinese communities, the health needs and stigmatization of sex workers are not topics that have been included in nursing education and clinical practices in Hong Kong. Nurses have had few opportunities to talk about sexual health or sex-related topics. This study already triggered much heated discussion among the nursing students in the study setting.

This study found that nurses held strong, but ambivalent, personal attitudes toward sex workers, but will comply with the professional code of ethics in providing care to patients whom they suspect to be sex workers. It is essential that nurses promote a safe and non-judgmental environment when providing health services, to ensure that all, including sex workers, have equal access to health care.

In a review of the literature on what affects usage of health care services by sex workers, the socio-ecological model was also used as a tool to understand the barriers and facilitators to the accessing of health services by sex workers (Ma, Chan, & Loke, 2017). The modified socio-ecological model (SEM-NrSw) in this study can inform education or training programs to enhance the self-reflection of nurses and the provision of quality of care for sex workers. The intergroup contact hypothesis approach intervention may be considered to reduce prejudice and increase harmony between nurses and sex workers.

Chapter 10

STUDY II A qualitative study into female sex workers' experience of stigma in the health care setting in Hong Kong

10.1.Results

10.1.1. Study participants

10.1.2. Health conditions and accessing health care services

10.1.3. Themes of the study

10.2.Discussion

10.3.Implications

10.4.Conclusion

*Content of this chapter is published (partial content included in this chapter):

Ma, H., & Loke, A. Y. (2019). A qualitative study into female sex workers' experience of stigma in the health care setting in Hong Kong. *International journal for equity in health*, *18*(1), 175.

In phase two, 22 semi-structured individual interviews were conducted with FSWs from December 2018 to February 2019. The interview was conducted by a research student at the office of one of the NGOs or at one-woman brothels accompanied by an NGO staff member. The interviews lasted from 42 to 124 minutes. The interview data were transcribed and briefly analyzed within one week after the holding of the interview. Data saturation was reached when 18 interviews had been completed. Four additional interviews were conducted to ensure that no new information would be generated.

10.1 Results

10.1.1. Characteristics of the participants

The participants were recruited from various settings with the assistance of the NGOs. They included those who work in one-woman brothels (n=18), massage parlors (n=3), and those who are involved in compensated dating (n=1). The participants were 30 to 59 years of age. The majority of the FSWs were born in mainland China (n=20), one was born in Hong Kong, and another in Vietnam. They had lived in Hong Kong from two to 20 years. Approximately half of them (n=10) had received a primary school education, while the rest had received a middle school education (n=12). All but one of them had had an unsuccessful marriage: two had separated from their spouse and 19 had divorced, with six of them having remarried. All but three of the participants had children, and 10 had had at least one induced abortion. The majority of them lived in government-subsidized public housing (n=8) or in a rented apartment (n=8), two lived in a private apartment, and four lived and worked in a rented one-woman brothel.

All the participants engaged in the sex industry for money and viewed sex

work as a rational choice. The reasons were complex, and many factors were interrelated. The majority of the divorced women (n=15) were confronted with great economic difficulties and viewed sex work as a means of survival, such as the responsibility of raising children, rent house, and live independently. Over half of the participants (n=14) reported a lack of job opportunities. Nine of them complained about the low-paid labor work in the service industry, four reported limited job opportunities due to their health condition, and one could not speak the local language fluently. Besides, three participants needed to pay off the family debt. Only one sex workers worked for buying luxury goods.

The participants had been engaged in sex work for an average of 3.95 years (range 0.5-12 years), and were serving about 2 to 7 clients a day. Their monthly income ranged from HKD$4,000 to HKD$100,000 (US$510-$12,800). Five of them had sources of income other than that derived from sex work.

In relation to self-protection in sex work, all except three of the participants used a condom consistently with their clients. However, two of them had had a condom slip off or removed by the client during intercourse, and 14 provided unprotected oral sex. All denied ever having engaged in anal sex.

10.1.2. Health conditions and accessing health care services

The participants engaged in various types of health risk behaviours, such as smoking (n=10), drinking alcohol (n=5), gambling (n=3), being shopaholics (n=2), and using illicit drugs (n=1).

The participants suffered from a range of diseases. STDs were the most frequently reported forms of disease, with urethritis being the most common (n=10), followed by vaginitis (n=5), chlamydia (n=2), syphilis (n=1), hepatitis B (n=1),

herpes (n=1), and acute pelvic inflammatory disease (n=1). The participants also suffered from chronic conditions, including hyperthyroidism (n=2), hypoglycemia (n=2), diabetes (n=1), heart disease (n=1), stomach ulcers (n=1), endometrial polyps (n=1), headache (n=1), back pain (n=1), and plantar fasciitis (n=1). (See Table 10-1)

All but two participants had ever sought health services in the past year (n=19). The most common reasons for seeking help were for HIV/STDs tests or treatments (n=15), followed by an annual health check-up (n=6) and for the management of chronic diseases (n=3).

The participants tended to seek health care from NGOs (n=10), followed by social hygiene clinics (n=7) and private doctors (n=6). The participants had reservations about seeking health services from public hospitals in Hong Kong. Among those who sought such services, four did so when they returned to mainland China and one when she returned to Vietnam; only three were willing to do so in Hong Kong. (See Table 10-2).

Table 10-1 Characteristics of the female sex workers (FSWs) and their sex work

Personal information	Description	N (%)
Age (years)	30-59	41.14 (SD=6.81)
Place of origin	Hong Kong	1 (0.05)
	Mainland China	20 (90.91)
	Vietnam	1 (0.05)
Duration of residence in Hong Kong (for non-locals)	2-20 years	10.43 (SD=6.14)
Educational level	Primary school	10 (45.45)
	Junior middle school	7 (31.82)
	Senior middle school	5 (22.73)
Marital status	Married	1 (0.05)
	Remarried	6 (27.23)
	Divorced	13 (59.09)
	Separated	2 (0.09)
Had at least one abortion		10 (45.45)
Has children		19 (86.36)
Type of housing	Private apartment	2 (0.09)
	Public housing	8 (36.36)
	Rental apartment	8 (36.36)
	Brothels	4 (18.18)
Sex work		
Reasons for practicing sex work	Economic difficulties	22 (100.00)
Personal monthly income (HKD)		
Work mode	Full-time	20 (90.91)
	Part-time	2 (0.09)
Working venue	One-woman brothel	18 (81.82)
	Massage parlor	3 (13.64)
	Hotel	1 (0.05)
Years in sex trade (years)	0.5-12	3.95 (SD=2.98)
Average number of clients per day	2-7	
Monthly income from sex trade (HKD)	4,000-100,000	36,789 (SD=22700)
Other sources of income aside from sex work		5 (22.7)
Unprotected sex with clients		
Vaginal sex		1 (0.05)
Ineffective use of condom (slippage during intercourse or removal of condom)		2 (0.09)
Oral sex		14 (63.64)
Anal sex		0 (0.00)

SD: Standard deviation

Table 10-2 Health status of the female sex workers and their utilization of health care services

Variable		N (%)
Health status		
Sexually transmitted diseases		
Syphilis		1 (0.05)
Chlamydia infection		2 (0.09)
Hepatitis B		1 (0.05)
Herpes		1 (0.05)
Vaginitis		5 (22.73)
Urethritis		10 (45.45)
Other diseases		
Acute pelvic inflammatory disease		1 (0.05)
Hyperthyroidism		2 (0.09)
Hypoglycaemia		2 (0.09)
Diabetes		1 (0.05)
Heart disease		1 (0.05)
Stomach ulcers		1 (0.05)
Endometrial polyps		1 (0.05)
Addictions		
Smoking	1-30 cigarettes/day	10 (45.45)
Drinking		5 (22.73)
Gambling		3 (13.64)
Shopaholic		2 (0.09)
Drugs		1 (0.05)
Health care service experience		
Had made use of health care services in the past year		19 (86.36)
Reasons for using the health care services		
Medical consultation/advice		6 (27.27)
HIV/STD testing and treatment		15 (68.18)
Chronic disease management		3 (13.64)
Health care services sought		
STDs clinic (Social hygiene clinic)		7 (31.82)
Private health sector		6 (27.27)
The non-governmental organization		10 (45.45)
Public hospital in Hong Kong		3 (13.64)
Public hospital in mainland China		4 (18.18)
Public hospital in Vietnam		1 (0.05)

10.1.3. Themes of the study

The interview data can be grouped into three themes: experience of stigma in the health care setting; coping with the stigma of sex work; and the call for non-judgmental holistic health care. Examples of meaning units, summarized meaning units, sub-themes and themes are presented in Table 10-3.

Theme 1: Experience of stigma in the health care setting

The experience of stigma and discrimination among FSWs who accessed healthcare services varied. We found that 12 out of the 22 participants indicated that they did not experience discrimination from the health care providers. Despite the long waiting time at the public health sectors, some commented favorably about the universal coverage of the health care services in Hong Kong. In fact, the majority of the participants did not perceive the bad attitude of the health care providers as a sign of stigma when seeking treatment. Instead, they perceived all patients were treated equally, or treated with equally bad attitudes.

By contrast, some FSWs had experienced stigmatized attitudes from health care providers when they sought treatment for their STDs. The participants believed that the stereotypes held by health care providers were that women who contracted STDs were sex workers and fallen women. They may experience, anticipated, or internalize stigma when accessing health care services.

Experienced stigma

The participants complained that health care providers, especially those from the public health sector, hold negative and discriminatory attitudes towards them. A participant described her unfortunate experience at a social hygiene clinic.

I visited a social hygiene clinic three years ago. The staff there probably suspected that I was a sex worker, because they were rude and spoke to me in harsh reprimanding voices. I felt humiliated. I definitely won't go there again. (#5)

Anticipated stigma

The FSWs believed the health care providers held prejudiced attitudes toward sex

work and STDs, and would judge them as sinful and diseased. Being worried about and anticipating or having experienced disdain from health care providers, FSWs accentuated their self-stigma when they were forced to access to health services for STDs:

I was so scared and worried about being humiliated when I first sought help for STDs. I wore a mask and big sunglasses when I visited the clinic. As soon as I had completed my medical consultation, I ran away like "a rat scampering in the street." (#12)

Internalized stigma

The experienced stigma and the anticipated stigma could lead FSWs to internalize the prejudice, manifesting in shame, fear, and low self-esteem. The majority of the FSWs felt ashamed of their occupation. They feared that their identity as a sex worker might be revealed in the process of visiting STDs clinics, and were worried about the consequence of being identified as a sex worker, such as gossip and discriminated by the health care providers.

I felt ashamed of myself when I visited the social hygiene clinic. A good woman does not need to have the STDs examination. The health care providers must associate me with a sex worker and a dirty woman. They must look down on me. (#5)

The FSWs believed the general public, including their "sex customers," held prejudiced attitudes toward sex work and STDs. They would feel ashamed if they were witnessed visiting the public STDs clinic.

It would be embarrassing to bump into acquaintances at the social hygiene clinics. I won't seek help from public health services or social hygiene clinics. (#11)

In summary, FSWs acknowledged that the sex trade and STDs were socially

despised. They had experienced or anticipated stigma and discrimination in the health care setting. In addition to the stigma associated with sex work and STD, the new immigrants may encounter more prejudice and expect a different treatment from the health care providers. The perceived lack of public acceptance when they sought help at health services clinics for STDs led to a feeling of stress, fear, and shame.

Theme 2: Coping with the stigma of sex work

The participants adopted various strategies to cope with the stigma associated with sex work and STDs in the health care setting. Those who accepted the social stigma of sex work may adopt passive coping strategies, including the concealment of sex worker identity, avoidance of stigmatizing situations, ignore the stigma. FSWs who resisted the social stigma of sex work may adopt active coping strategies, including selective disclosure of sex worker identity, justification of sex work, seek out social support. Below is a description of the coping strategies.

Passive coping

Concealment of sex worker identity

The majority of the participants worried that if they disclosed their sex work they would be inviting moral judgments from health care providers and gossip about their identity, leading to shame and embarrassment as well as possibly impacting the care that they would receive. Thus, the majority would attempt to protect their privacy when seeking health care services. For example:

I will lose face if I disclose my sex worker identity to the health care provider. It is an untold secret. (#1)

Some would lie about their work. For example, one participant commented:

I can be a housewife or a manager in a company. It is not necessary to tell health care workers the truth about my work when seeing a doctor. Even if I get HIV, it does not mean that I necessarily got it from my sex work. Everyone has a chance to become infected. (#13)

Sex work is a taboo in the health care setting, and most of the FSWs were aware that health care providers in Hong Kong are not allowed to directly ask them this sensitive question. One FSW described how a doctor asked her about her sexual activities:

Once I went to a clinic for STDs or gynaecological diseases, and I could tell that the doctor there suspected me of engaging in sex work, but he knew that it would be offensive if he asked directly. Instead, he asked me whether or not I use a condom with my partner and whether or not I have a job. (#19)

Avoidance of stigmatizing situations

Some FSWs believed the health care providers, especially those from the public health sectors, held prejudiced attitudes toward sex work and STDs. To avoid situations that may result in stigma and discrimination, many FSWs preferred to use clinics operated by NGOs, where they could receive both informational and emotional support and enjoyed free condoms and sexual and reproductive health care services. They did not have to worry about disclosing their sex work to the NGOs since the service was anonymous.

I would go to the local NGOs for regular STDs tests. Because it is a sex worker-friendly organization, I feel safe and be respected there. (#4)

To avoid being identified as a sex worker, some FSWs would visit a hospital of the neighbouring city or their hometown in mainland China. Moreover, they

commented that the service in mainland China was more convenient and comprehensive, and they did not to feel embarrassed since they could avoid talking about STDs.

If I want to get sexual health check-up, I can go to the department of obstetrics and gynaecological department instead of the STDs clinics. No one will associate me with a sex worker there. Also, I could have a full body check-up without mentioning STDs tests. (#7)

Ignore the stigma

Ignore the attitudes of the health care providers was considered as an important strategy to buffer against the stress and fear when accessing health care services. Many participants built resilience and had learnt to ignore others' perception. As one participant explained:

I understand that not everyone accepts sex workers. Therefore, I pay more attention to the disease treatment than the attitudes of the health care provider. Their perception of me would not affect my life. (#3)

Active coping

Selective disclosure of sex worker identity

FSWs would weigh the risks and benefits of revealing their identity. Sometimes, the perceived benefits of revealing the truth to receive appropriate and timely diagnostic tests and medical treatment might trigger the decision to make the disclosure.

We could receive more comprehensive and necessary diagnostic tests and treatments if we disclose our sex work at the social hygiene clinic. Besides blood tests, they also offer a saliva test and a Pap smear test. (#12)

When a serious illness such as HIV is suspected, it is better for us to disclose our sex work because it is important information that will help the doctors and nurses to decide on the diagnostic tests and treatment plan. Only if we tell the truth can we get prompt treatment. (#9)

The participants also commented on the supportive health care environment that empowered them to be open. The participants were confident about the maintenance of confidentiality in the public and private health sectors, and therefore did not see the need to conceal their identity from the health care providers.

There was a gradual change in FSWs' attitudes toward STD services. Several FSWs admitted that they felt embarrassed and ashamed to have STDs tests when they entered into the sex industry, and were reluctant to reveal their identity to the health care providers at the social hygiene clinic. Only after they became acquainted with them and had established mutual trust were they able to disclose their sex work. They observed that the attitudes of the health care providers did not change after they disclosed their secret.

The attitude of the health care professionals in the social hygiene clinic did not change after I disclosed my sex work. The nurse was gentle when she was examining me. She also spoke softly, telling me to "Relax, relax!" (#15)

Justification of sex work

In most circumstances, FSWs resisted the stereotype that sex work was immoral or deviant. They tended to justify sex work as a personal and rational choice, and were not ashamed of engaging in it. They felt that, as divorced women, single mothers, and lacking in education and other skills, they had limited job opportunities and choices. They confided that sex work offers economic benefits, flexible work hours,

and allows them to provide their family with the necessities of life. As an FSW commented:

Women engage in sex work for various reasons, many FSWs scarify their pride and dignity for their family. I need to pay for the rent, the tuition fee of my son, and the living expenses. Sex work is the only way for me to make a living and be a responsible mother. The health care providers should not judge me based on the sex work I do. (#20)

Some even suggested that their work could reduce the incidence of rape for the public good. These FSWs justified their sex work as labor they undertook to support their family and felt empowered to disclose their identity to health care providers. For example:

The attitudes of the health care provider won't upset me. I have no other choice, and I am proud that I can make a living for myself. I also think that sex workers have helped to reduce the incidence of rape and the crime rate. (#16)

The participants also emphasized that in Hong Kong, commercial sexual services between two adults was not illegal, and being an FSW was not illegal as long as one serves in a one-woman brothel and was legally resident in Hong Kong. The participants were free from the fear of being arrested even if they disclosed their work.

Seek out social support

Social support played a vital role in reducing the fears and stress of FSWs. Many participants were accompanied by peers or staff of NGOs during their visit to doctors. The emotional support and the resilience of peers who against the stigma of sex work helped to reduce their psychological stress. An FSW commented:

My peers gave me great support. They encouraged me to have routine STDs tests and even accompanied me to the hospitals. This makes me feel less stressed when visiting the doctor. (#12)

In summary, the interviewed FSWs adopted various strategies to combat stigma in the health care setting. The majority of the FSWs chose to hide their identity due to the fear of stigma. Those who were able to disclose their identity were empowered by their open-minded attitude towards sex work, the perceived benefits of disclosing their identity, and the perception of a supportive health care environment. Sometimes, FSWs would ignore the attitudes of the health care providers or sought help from the place where they felt safe and friendly. Some FSWs tended to justify sex work and emphasize their contribution to their family and the society. Moreover, the social support they received allowed them to deal with the stress and fear when accessing health care services.

Theme 3: The call for non-judgmental holistic health care

The majority of the participants believed they would more readily access to health services if the health care team had a good understanding of the sex industry, recognized them as people, and treated them holistically with dignity. Besides sexual health, they desired comprehensive and holistic health care which could take into consideration of their multiple health care needs, such as mental disorders, diabetes, hypoglycemia, insomnia, plantar fasciitis, problem gambling, and other addictions.

"Our comprehensive health care needs should be addressed. For example, my heel is killing me, and I could not walk a long distance. However, I have no idea where to seek help. I wish someone could help me with these problems other than STDs." (#15)

Multiple health care needs beside STDs

Due to life difficulties/traumas and the stigma associated with sex work and STDs, many participants had developed mental health problems, such as severe stress, anxiety, insomnia, and depression, and some had even attempted suicide. Several participants engaged in various types of addiction to cope with the difficulties of their lives and with emotional disorders, including chain smoking, drinking alcohol, binge drinking, shopping, taking drugs, and gambling. All except one did not seek mental health care services. The one person who had visited a mental health care provider was merely told "not to think too much." She then drank a great deal of alcohol to deal with her depression and sadness.

When I feel sad or unhappy, I will go out with friends and drown my sorrows with alcohol. (#17)

Another FSW who suffered from a gambling addiction described her emotional despair:

I am a gambler! That way I can free myself from thinking of my troubles. But once I lost a huge amount of money in a casino. I hated myself so much and attempted to commit suicide with a knife. Eventually, I called the police for help. (#15)

Expand the scope of services

FSWs with multiple health care needs made a strong call for the provision of non-judgmental holistic care. Some participants highlighted the needs of the health care providers to understand the sex industry and their occupational health and safety.

Only if health care providers have a good understanding of the sex industry and our work environment would they understand our occupational risks and be

more sensitive to our multiple health care needs. They would also understand our fears, sorrows, and depression beyond those related to the contraction of STDs. (#14)

Further, some FSWs spoke very favorably of the free sexual services provided by the social hygiene clinic and the NGOs, especially the non-judgmental care and outreach services provided by the NGOs. However, they also highlighted that the services provided by these organizations were not comprehensive enough, and they made a series of recommendation for the expansion of health services. For example:

Sometimes, I feel depressed. But I never seek help from a health professional because I can neither afford the years-long waiting time at the public health sector nor afford the expenses in the private health sector. Since we have regular STDs screening tests at the NGOs or the social hygiene clinic, it would be great if they could offer more supportive services, like psychological counselling or referral to mental health treatment. (#15)

This theme revealed that besides STDs, FSWs had multiple health care needs. They were also at risk of developing mental disorders and addictions as a result of social stigma and life difficulties. STD clinics or NGOs should take a holistic approach that considers multiple health care needs when caring for FSWs.

Table 10-3 Examples of meaning units, summarized meaning units, sub-theme and theme

Meaning unit	Summarized meaning unit	Sub-theme	Theme
I visited a social hygiene clinic three years ago. The staff there probably suspected that I was a sex worker, because they were rude and spoke to me in harsh reprimanding voices. I felt humiliated. I definitely won't go there again.	Negative experience	Experienced stigma	Experience of stigma in the health care setting
I was so scared and worried about being humiliated when I first sought help for STDs. I wore a mask and big sunglasses when I visited the clinic. As soon as I had completed my medical consultation, I ran away like "a rat scampering in the street.	Worried about being humiliated	Anticipated stigma	
It would be embarrassing to bump into acquaintances at the social hygiene clinics. I won't seek help from public health services or social hygiene clinics.	Being witnessed in the public health sector cause stress	Internalized stigma	
I can be a housewife or a manager in a company. It is not necessary to tell health care workers the truth about my work when seeing a doctor. Even if I get HIV, it does not mean that I necessarily got it from my sex work. Everyone has a chance to become infected.	Hide private information and to set boundaries with health care providers	Concealment of sex worker identity	Coping with the stigma of sex work
I would go to the local NGOs for regular STDs tests. Because it is a sex worker-friendly organization, I feel safe and be respected there.	Choose stigma-free alternative services	Avoidance of stigmatizing situations	
I understand that not everyone accept sex workers. Therefore, I pay more attention to the disease treatment than the attitudes of the health care provider. Their perception of me would not affect my life	Normalize others' negative attitudes	Ignore the stigma	
We could receive more comprehensive and necessary	Analyze the risks and	Selective	

Meaning unit	Summarized meaning unit	Sub-theme	Theme
diagnostic tests and treatments if we disclose our sex work at the social hygiene clinic. Besides blood tests, they also offer a saliva test and a Pap smear test	benefits	disclosure of sex worker identity	
Women engage in sex work for various reasons, many FSWs scarify their pride and dignity for their family. I need to pay for the rent, the tuition fee of my son, and the living expenses. Sex work is the only way for me to make a living and be a responsible mother. The health care providers could not imagine how difficult for a single mother living in Hong Kong. They should not judge me based on the sex work I do	Use poverty as an excuse of sex work	Justification of sex work	
My peers gave me great support. They encouraged me to have routine STDs tests and even accompanied me to the hospitals. This makes me feel less stressed when visiting the doctor.	Handle stress with social support networks	Seek out social support	
When I feel sad or unhappy, I will go out with friends and drown my sorrows with alcohol.	Understand the complex needs	Multiple health care needs beside STDs	The call for non-judgmental holistic health care
Only if health care providers have a good understanding of the sex industry and our work environment would they understand our occupational risks and be more sensitive to our multiple health care needs. They would also understand our fears, sorrows, and depression beyond those related to the contraction of STDs.	Suggest for better health care services	Expand the scope of services	

10.2. Discussion

The study aimed to investigate the experience of stigma in the health care setting and stigma coping strategies among the FSWs in Hong Kong. Generally speaking, stigma was not viewed as a concern for some FSWs unless they sought for STDs services from the public STDs clinic. The participants believed that the stereotypes held by the health care providers were that women who contracted STDs were sex workers. The finding of this study is consistent with literature showing that, for FSWs, stigma is an important issue when accessing of HIV/STDs health care services (Beattie et al., 2012; Mtetwa et al., 2013; Scorgie et al., 2013). Despite the available, accessible, and affordable public health care services in Hong Kong (Kong et al., 2015), being a sex worker or having STDs is not socially acceptable and sometimes a significant concern for FSWs when seeking help from the health care providers.

The results revealed the flexibility of FSWs in responding to the stigma of sex work and associated STDs in the health care setting. Their choice of stigma coping strategies varied as a result of the self-perception, the perception of the occupation, the perception of STDs and the severity of the disease, the perceived risks and benefits, the complex interactions with the health care providers, and the availability of the social supports. This finding provides insights into FSWs' internal dilemma, on making a decision whether or not to disclose their identity. Consistent with reports in the literature that FSWs rarely reveal their sex worker identity when seeking professional help (Ndung'u, 2016; Urada & Simmons, 2014), the paradox of coming out as a "sex worker" was considered as most challenging for the majority of the FSWs in this study. However, holding back one's feelings and emotions could lead to stress and subsequent physical health problems (Paxton, 2002). The burden of

internalized stigma and perceived stigma from the public and health professionals could lead to a vicious cycle of internalized stigma, poor self-esteem, and illness.

It was quite encouraging to notice that a few participants were empowered to open themselves up to face the stigma in society. The perceived seriousness of their health condition and the potential benefits of disclosing their identity may cause them to feel a pressing need to respond to their health problems and prompt them to disclose their private information to the health care providers. Such disclosure often invited more support from the health care providers, such as comprehensive and timely diagnostic tests and treatments, empathetic, respectful, and non-judgmental care, and free resources and services. Meanwhile, findings from this study further indicated that the support in the health care setting facilitated FSWs' access to health care services and the disclosure of private information. Similar findings have been reported in other countries that indicated the disclosure of sex work could lead to increased social support and vice versa (Benoit et al., 2018). Thus, it is crucial to raise the awareness of health care providers that their support could help to end the vicious cycle of stigma and illness among FSWs. The provision of a friendly environment offering non-judgmental health services could help to mitigate the stigma felt by FSWs and encourage them to access the services. The sexual and reproductive health service provided by NGOs was considered to be friendly and sensitive, which facilitates the provision of better services and bolsters the service uptake rate.

In addition, results from the study highlight the need to address the multiple health needs of the FSWs. Besides STDs, FSWs also need support for other conditions, such as mental illness and addictions. However, they are facing barriers to access specialty care which could have a significant impact on their health. As

many of the FSWs have regular STDs check-ups, the health care providers of the STDs clinics and NGOs should be sensitive to the needs of FSWs and offer referral to those who need specialty care. Besides, it is suggested that a multidisciplinary team may be considered to integrate mental health services and addiction with STDs services.

10.3. Implications

The stigma of sex worker and associated STD may influence the experience of health care services among FSWs, especially the experience of STDs services. In order to improve the FSWs' experience of health care, interventions programmes could be conducted at different levels.

At the individual level, interventions are needed to reduce FSWs' internalized stigma According to the social identity theory (Tajfel, Turner, Austin, & Worchel, 1979), identity management strategies may help members of the stigmatized group cope with stigma, restore their positive social identity, and improve the self-esteem. Regarding various coping strategies FSWs may adopt, researchers are suggested to take into the perspectives of the FSWs and find the fit identity management strategy in which FSWs feel comfortable. Also, self-stigma reduction interventions among people with other stigmatized conditions could be used as a reference to develop the intervention to reduce the self-stigma among the sex workers, such as psychoeducation, cognitive restructuring, and narrative intervention (Ma, Chan, & Loke, 2018a; Yanos, Lucksted, Drapalski, Roe, & Lysaker, 2015).

At the instructional level, it is crucial to raise the health care providers' awareness of the stigma or subconscious bias toward FSWs. Health care providers and students in the health care professions should participate in sensitivity-training

programs. These could focus on increasing their awareness and understanding of the sex industry, increasing their knowledge about the multiple health risks and health care needs of FSWs, and improving their history-taking skills and their ability to encourage FSWs to disclose their health concerns, and instructing them on how to promote a friendly and non-judgmental medical environment. The intergroup contact theory suggested that the intergroup contact under the conditions of equal status, common goals, intergroup cooperation, and institutional support could reduce the bias and improve understanding (Allport et al., 1954). This approach may be used to reduce stigmatized attitudes towards sex workers among health care providers.

Furthermore, communications with FSWs should not be based on the assumption that they were merely vulnerable to contracting HIV/STDs, since this study also revealed that FSWs face other work-related risks beyond STDs, such as mental illness, addictions, and other chronic diseases. Health care providers need to conduct a comprehensive assessment of all clients, using patient-centered care principles.

At the societal level, community empowerment may be used to promote a respectful environment for FSWs. The Sonagachi Project in India achieved success in reducing the social stigma toward sex workers as well as empowering sex workers (Gangopadhyay et al., 2005). It promoted human rights, provided condoms and material resources, and created a sense of collective identity among FSWs. The local NGOs in Hong Kong could play an essential role in promoting the recognition and decriminalization of sex work, which, in turn, empower FSWs when accessing health care services. Furthermore, open discussions on the best legal framework for dealing with prostitution and protecting the human rights of prostitutes should be encouraged.

Limitations of the study

The study was conducted among a subgroup of FSWs in Hong Kong (those operating out of one-woman brothels). The findings of this study may not be applicable to other groups of FSWs. A further study should be conducted of other subgroups of FSWs, such as adolescent FSWs, sex-trafficked women, migrant FSWs, or FSWs based in other venues.

Second, due to the highly sensitive nature of the topic, the possibility exists that the FSWs gave socially desirable responses when describing their health, sexual activities, and health behaviours towards the utilization of health care services.

10.4. Conclusion

Although stigma does not affect all FSWs when accessing health care services in the study, it remains an important issue for a significant proportion of FSWs when they seek timely professional help, fully disclose their secret of being involved in sex work, and receive comprehensive health care services. Thus, stigma is still an important aspect to address. The study also contributes to the existing literature on various coping strategies that FSWs adopted in dealing with stigma in the health care setting. Findings from the study also highlight the need for understanding and addressing multiple healthcare needs of FSWs, and NGOs and the social hygiene clinic may consider expand its services to other health concerns beyond STDs. Moreover, it contributes to increasing awareness of, and respect for, the health care needs and human rights of FSWs among health care professionals and students in the health care professions.

Chapter 11

STUDY III Knowledge of, attitudes towards, and willingness to care for sex workers: differences between general and mental health nursing students

11.1. Results

11.1.1. Demographic characteristics of the participants

11.1.2. Knowledge and education needs of the participants in relations to caring for sex workers

11.1.3. Attitudes toward sex workers

11.1.4. Support for the human rights of sex workers

11.1.5. Willingness to care for sex workers

11.1.6. Factors associated with attitudes toward sex workers

11.1.7. Factors associated with Willingness to care for sex workers

11.2. Discussion

11.3. Implications

11.4. Conclusion

* Content of this chapter is published (partial content included in this chapter):

Ma, Haixia., & Loke, A. Y. (2020). Knowledge of, attitudes toward, and willingness to care for female sex workers: differences between general and mental health nursing student. *Journal of rofessional Nursing (In press).*

11.1. Results

11.1.1. Demographic characteristics of the participants

In phase three, from January 2019 to March 2019, a total of 450 undergraduate students were invited to take part in the study. A total of 327 students (80.0%) returned the questionnaire electronically. However, 10 questionnaires were incomplete and therefore discarded, leaving 317 questionnaires to be analyzed and included in this study.

Of the 317 participants, 141 were studying in the general nursing programme, and 176 in the mental health nursing programme, comprising 16.6% of the students in the general programme and 50.3% of those in the mental health programme in the School.

Table 11-1 shows the demographics of the participants. The students had a mean age of 20.64 (SD=1.88), 76.0% were females, 85.5% were born in Hong Kong, and 24.6% had a religious affiliation. The distribution of students studying in years one to five was 85 (26.8%), 77 (24.3%), 51 (16.1%), 44 (13.9%), and 60 (18.9%), respectively. Since more year-one students in the mental health nursing programme and more year-five students in the general nursing programme took part in the study, there were significant differences in the mean age of the students, with students in the general programme being slightly older than those in the mental health programme.

Table 11-1 Demographic characteristics of the participants (N=317)

Factors	Total (n=317) n (%)	General nursing (n=141) n (%)	Mental health nursing (n=176) n (%)	X^2/t test	p-value
Mean age (SD)	20.64 (1.949)	21.05 (1.983)	20.32 (1.864)	3.37	**0.001**
Gender					
Male	76 (24.0)	24 (17.0)	52 (29.5)	6.74	**0.009**
Female	241 (76.0)	117 (83.0)	124 (70.5)		
Place of origin					
Hong Kong	275 (86.8)	121 (85.8)	154 (87.5)	0.20	0.903
Mainland China	38 (12.0)	18 (12.8)	20 (11.4)		
Overseas	4 (1.3)	2 (1.4)	2 (1.1)		
Religion affiliation					
Yes	78 (24.6)	36 (25.5)	42 (23.9)	0.117	0.732
No	239 (75.4)	105 (74.5)	134 (76.1)		
Year of study				12.47	**0.014**
Year one	85 (26.8)	26 (18.4)	59 (33.5)	9.08	**0.003**
Year two	77 (24.3)	32 (22.7)	45 (25.6)	0.35	0.553
Year three	51 (16.1)	26 (18.4)	25 (14.2)	1.04	0.308
Year four	44 (13.9)	23 (16.3)	21 (11.9)	1.26	0.262
Year five	60 (18.9)	34 (24.1)	26 (14.8)	4.45	**0.035**
District					
Hong Kong Island	48 (15.1)	20 (14.2)	28 (15.9)	2.50	0.287
Kowloon	85 (26.8)	44 (31.2)	41 (23.3)		
New territories	184 (58.0)	77 (54.6)	107 (60.8)		

11.1.2. Knowledge and educational needs of the participants in relation to caring for sex workers

Table 11-2 shows the knowledge and educational needs of students in relation to caring for sex workers. Only a small percentage (3.8%) of students knew anyone who was a sex worker, and 22.7% claimed that they could recognize people who might be sex workers. Only one-quarter (25.2%) knew that prostitution was not illegal according to Hong Kong's prostitution law.

When students were asked about their education in relation to caring for sex workers, only 14.5% said that they had ever attended lectures, courses, or community forums about sex workers, and 85.5% reported that they had never received sex work-related training. Only a few students (3.2%) expressed the belief that they have a good knowledge of how to care for sex workers. The majority perceived a need for related knowledge on caring for sex workers (82.0%) and said that such content should be included in the nursing curriculum (75.4%). Most said that they would prefer to receive such training in workshops / seminars (53.9%) and in lectures (47.9%). However, 5.7% of the participants were not interested in receiving such training. There was a statistically significant difference between the students in the two programmes in their preference in educational approach, with the students in the general nursing programme preferring workshops / seminars (X^2=4.852, p=.028) and volunteer training offered by non-governmental organizations (X^2=4.351, p=.037).

Table 11-2 Knowledge or training of students related to care for sex workers

	Total (n=317) n (%)	General nursing (n=141) n (%)	Mental health nursing (n=176) n (%)	X^2 test	p-value
Interpersonal contact with sex workers					
Yes	12 (3.8)	5 (3.5)	7 (4.0)	0.040	0.842
No	305 (96.2)	136 (96.5)	169 (96.0)		
Can recognize a person as sex worker					
Yes	72 (22.7)	32 (22.7)	40 (22.7)	3.491	0.175
No /not sure	245(77.3)	109 977.3)	136 (77.3)		
Knowledge of prostitution law in Hong Kong					
Prostitution is legal	62 (19.6)	25 (17.7)	37 (21.0)	2.105	0.551
Prostitution is illegal	126 (39.7)	54 (38.3)	72 (40.9)		
Prostitution is not illegal	80 (25.2)	41 (29.1)	39 (22.2)		
No idea	49 (15.5)	21 (14.9)	28 (15.9)		
Ever received training related to caring for sex workers					
Yes	46 (14.5)	21 (14.9)	25 (14.2)	0.030	0.863
No or can't remember	271 (85.5)	120 (85.1)	151 (85.8)		
Hours of education on caring for sex workers in nursing curriculum					
None	223 (70.3)	100 (70.9)	123 (69.9)	1.286	0.526
1-5h	78 (24.6)	32 (22.7)	46 (26.1)		
>5 h	16 (5.0)	9 (6.4)	7 (4.0)		
Self-rated knowledge about caring for sex workers					
No or very little	28 (8.8)	16 (11.3)	12 (6.8)	4.262	0.119
Some knowledge	279 (88.0)	123 (87.2)	156 (88.6)		
Good knowledge	10 (3.2)	2 (1.4)	8 (4.5)		
Perceived need for having knowledge in caring for sex workers					
Yes	260 (82.0)	120 (85.1)	140 (79.5)	1.641	0.200
No	57 (18.0)	21 (14.9)	36 (20.5)		
Perceived need for addressing sex workers in nursing curriculum					
Yes	239 (75.4)	112 (79.4)	127 (72.2)	1.767	0.184
No	78 (24.6)	29 (20.6)	49 (27.8)		
Prefer education approach to acquire knowledge related to caring for sex workers					
Lecture	152 (47.9)	63 (44.7)	89 (50.6)	1.193	0.275
Workshop / seminar	171 (53.9)	86 (61.0)	85 (48.3)	4.852	**0.028**
Service - learning	100 (31.5)	39 (27.7)	61 (34.7)	1.870	0.171
Self-directed learning	71 (22.4)	28 (19.9)	43 (24.4)	0.996	0.318
NGO volunteer training	106 (33.4)	56 (39.7)	50 (28.4)	4.351	**0.037**
Not interested to attend	18 (5.7)	4 (2.8)	14 (8.0)	3.875	0.054

11.1.3. Attitudes toward sex workers

Table 11-3 presents the attitudes of students towards sex workers. Polarization was observed in the students' attitudes toward prostitution. Nearly one third (27.8%) of the participants called for prostitution to be legalized, while one third (28.1%) opposed legalization. Almost one third (31.2%) expressed the view that prostitution was immoral, while one third (27.8%) disagreed with this statement (had a positive attitude).

Of the students, 70.7% believed that sex workers should undergo compulsory medical tests, and 68.5% thought that they should be routinely tested for HIV / sexually transmitted diseases (STDs). A majority (68.5%) also expressed sympathy for sex workers who had contacted HIV/STDs through sex work (68.5%), and 62.5% agreed that sex workers should be given free condoms.

A chi-square test and an independent sample t-test were conducted to examine the differences between the two groups in their attitudes toward sex workers (Table 11-3). A statistically significant difference was found between the two groups of students in their attitude that 'sex workers who become infected with HIV/STDs deserve no sympathy', in that students in the general nursing programme were more sympathetic, while those in the mental health programme were more neutral (X^2=9.217, p=0.01). There were no statistically significant differences between the two groups in their overall mean score on attitudes toward sex workers (t=0.669, p=0.504).

Table 11-3 Attitudes of students toward sex workers

Items	Total (N=317) n (%)	General nursing (n=141) n (%)	Mental health nursing (n=176) n (%)	X^2 test	p-value
Prostitution should be legalized				0.42	0.81
Disagree/strongly disagree	89 (28.1)	42 (29.8)	47 (26.7)		
Neutral	140 (44.2)	60 (42.6)	80 (45.5)		
Agree/strongly agree	88 (27.8)	39 (27.7)	49 (27.8)		
Prostitution is immoral				1.52	0.47
Disagree/strongly disagree	88 (27.8)	38 (27.0)	50 (28.4)		
Neutral	130 (41.0)	54 (38.3)	76 (43.2)		
Agree/strongly agree	99 (31.2)	49 (34.8)	50 (28.4)		
Prostitution is a sin				0.94	0.63
Disagree/strongly disagree	135 (42.6)	62 (44.0)	73 (41.5)		
Neutral	148 (46.7)	62 (44.0)	86 (48.9)		
Agree/strongly agree	34 (10.7)	17 (12.1)	17 (9.7)		
There should be compulsory medical tests of sex workers				5.33	0.07
Disagree/strongly disagree	19 (6.0)	11 (7.8)	8 (4.5)		
Neutral	74 (23.3)	25 (17.7)	49 (27.8)		
Agree/strongly agree	224 (70.7)	105 (74.5)	119 (67.6)		
Before admission to hospital, sex workers should be routinely tested for HIV/STDs				1.57	0.46
Disagree/strongly disagree	23 (7.3)	13 (9.2)	10 (5.7)		
Neutral	74 (23.3)	31 (22.0)	43 (24.4)		
Agree/strongly agree	220 (69.4)	97 (68.8)	123 (69.9)		
Sex workers who become infected with HIV/STDs deserve no sympathy				9.22	**0.01**
Disagree/strongly disagree	217 (68.5)	106 (75.2)	111 (63.1)		
Neutral	75 (23.7)	22 (15.6)	53 (30.1)		
Agree/strongly agree	25 (7.9)	13 (9.2)	12 (6.8)		
Sex workers who get HIV/STDs through their activity should have to pay for medical care				0.65	0.72
Disagree/strongly disagree	64 (20.2)	30 (21.3)	34 (19.3)		
Neutral	136 (42.9)	57 (40.4)	79 (44.9)		
Agree/strongly agree	117 (36.9)	54 (38.3)	63 (35.8)		
Sex workers should be given free condoms to reduce the spread of HIV/STDs				0.64	0.73
Disagree/strongly disagree	38 (12.0)	17 (12.1)	21 (11.9)		
Neutral	81 (25.6)	33 (23.4)	48 (27.3)		
Agree/strongly agree	198 (62.5)	91 (64.5)	107 (60.8)		
Total score	Mean (SD): 24.07 (3.338)	Mean (SD): 24.21 (3.282)	Mean (SD): 23.96 (3.388)	t-test value 0.67	0.50

Note: The negatively worded items were reversed in their scoring, including item 2-7 in the attitudes toward FSWs scale.

11.1.4. Support for the human rights of sex workers

Table 11-4 presents the students' support for the human rights of sex workers. Over 80% of the students in both programmes expressed support for the human rights of sex workers, including for their right to quality of life, health and safety, and equal treatment. A chi-square test and independent t-test were used to assess the differences between the two groups on this issue.

The students in the general nursing programme were more supportive of the right of sex workers to nondiscrimination and equal treatment (item 1), to marry and start a family (item 4), to privacy of their personal information (item 5), to have access to the highest attainable standard of health (item 7), to benefit from health-related progress in the sciences, such as in areas related to the prevention of harm (item 8), and to have access to the basic necessities to ensure an adequate standard of living (item 9) (X^2 test, all $p<0.05$). The results showed that students in the general nursing programme were more supportive of the human rights of sex workers than students in the mental health programme ($t=2.817$, $p=0.005$).

Table 11-4 Support of human rights of sex workers among students (N=317)

Scales	Total (N=317) n (%)	General nursing (n=141) n (%)	Mental health nursing (n=176) n (%)	X^2 test /t-test	p-value
Sex workers have the right to nondiscrimination and equal treatment.				7.726	**0.021**
Disagree/strongly disagree	9 (2.8)	2 (1.4)	7 (4.0)		
Neutral	48 (15.1)	14 (9.9)	34 (19.3)		
Agree/strongly agree	260 (82.0)	125 (88.7)	135 (76.7)		
Sex workers have the right to life, including quality of life.				3.888	0.143
Disagree/strongly disagree	5 (1.6)	2 (1.4)	3 (1.7)		
Neutral	45 (14.2)	14 (9.9)	31 (17.6)		
Agree/strongly agree	267 (84.2)	125 (88.7)	142 (80.7)		
Sex workers have the right to maintain their physical integrity, without fear of violence.				4.518	0.104
Disagree/strongly disagree	5 (1.6)	1 (0.7)	4 (2.3)		
Neutral	46 (14.5)	15 (10.6)	31 (17.6)		
Agree/strongly agree	266 (83.9)	125 (88.7)	141 (80.1)		
Sex workers have the right to marry and start a family.				6.002	**0.050**
Disagree/strongly disagree	6 (1.9)	1 (0.7)	5 (2.8)		
Neutral	55 (17.4)	18 (12.8)	37 (21.0)		
Agree/strongly agree	256 (80.8)	122 (86.5)	134 (76.1)		
Sex workers have the right to privacy of their personal information.				6.672	**0.036**
Disagree/strongly disagree	5 (1.6)	1 (0.7)	4 (2.3)		
Neutral	45 (14.2)	13 (9.2)	32 (18.2)		
Agree/strongly agree	267 (84.2)	127 (90.1)	140 (79.5)		
Sex workers have the right to information and education that may affect their well-being.				4.831	0.089
Disagree/strongly disagree	2 (0.6)	1 (0.7)	1 (.6)		
Neutral	47 (14.8)	14 (9.9)	33 (18.8)		
Agree/strongly agree	268 (84.5)	126 (89.4)	142 (80.7)		
Sex workers have right to access the highest attainable standard of health (physical and psychosocial).				7.770	**0.021**
Disagree/strongly disagree	4 (1.3)	1 (0.7)	3 (1.7)		
Neutral	48 (15.1)	13 (9.2)	35 (19.9)		
Agree/strongly agree	265 (83.6)	127 (90.1)	138 (78.4)		
Sex workers have the right to benefit from health-related scientific progress.				7.487	**0.024**
Disagree/strongly disagree	5 (1.6)	1 (0.7)	4 (2.3)		
Neutral	49 (15.5)	14 (9.9)	35 (19.9)		
Agree/strongly agree	263 (83.0)	126 (89.4)	137 (77.8)		
Sex workers have the right to access the basic necessities (housing, food, and clothing) for an adequate standard of living.				6.647	**0.036**
Disagree/strongly disagree	4 (1.3)	1 (0.7)	3 (1.7)		
Neutral	54 (18.3)	16 (11.3)	38 (21.6)		
Agree/strongly agree	259 (81.7)	124 (87.9)	135 (76.7)		
Total score	36.99 (5.791)*	38.00 (5.258)*	36.18 (6.080)*	2.817[#]	**0.005**

*Data is presented as mean (SD).

11.1.5. Willingness to care for sex workers

Table 11-5 presents the willingness of students to care for sex workers. The majority of the students responded positively, with 72.6% of them stating that they would choose to provide care to sex workers, 77.6% that they would care for sex workers, and 67.5% that they would be willing to care for them. However, 6.6% would not provide care to sex workers if they were allowed to choose, and 3.5% would refuse to care for them. A chi-square test and independent t-test analysis indicated that there were no statistically significant differences between the students in the general and mental health nursing programmes in their willingness to care for sex workers (all p>0.05).

Table 11-5 Willingness of nursing students to care for sex workers (N=317)

Scales	Total (N=317) n (%)	General nursing (n=141) n (%)	Mental health nursing (n=176) n (%)	X^2 test /t-test	p-value
If I am allowed to choose, I will not choose to provide care to patients who are sex workers				1.575	0.455
Disagree/strongly disagree	230 (72.6)	107 (75.9)	123 (69.9)		
Neutral	66 (20.8)	25 (17.7)	41 (23.3)		
Agree/strongly agree	21 (6.6)	9 (6.4)	12 (6.8)		
I would refuse to care for patients who are sex workers				2.289	0.318
Disagree/strongly disagree	246 (77.6)	115 (81.6)	131 (74.4)		
Neutral	60 (18.9)	22 (15.6)	38 (21.6)		
Agree/strongly agree	11 (3.5)	4 (2.8)	7 (4.0)		
I am willing to take care of patients who are sex workers				4.684	0.096
Disagree/strongly disagree	13 (4.1)	4 (2.8)	9 (5.1)		
Neutral	90 (28.4)	33 (23.4)	57 (32.4)		
Agree/strongly agree	214 (67.5)	104 (73.8)	110 (62.5)		
Total score	Mean (SD): 11.74 (2.082)	Mean (SD): 11.95 (2.071)	Mean (SD): 11.57 (2.080)	1.629	0.104

Note: The negatively worded items were reversed in their scoring, including item 1-2 in the willingness to care for FSWs scale.

11.1.6. Factors associated with attitudes toward sex workers

A linear regression analysis was conducted to identify the predictors of the students' attitudes towards sex workers (Table 11-6). The analysis was first conducted of the students in the study as a whole, and then separately of students in the general nursing and mental health nursing programmes.

The following variables were entered into the analysis: age, gender, religion, birthplace, year of study, programme, district of residence, interpersonal contact with sex workers, ability to recognize a person as a sex worker, knowledge of prostitution law in Hong Kong, had received training related to sex workers, self-rated knowledge about caring for sex workers, perceived a need to have knowledge about caring for sex workers, perceived a need to address in the nursing curriculum issues relating to sex workers, expressed support for the human rights of sex workers, and a willingness to care for sex workers. Six negative statements (items 2 to 7) were reverse-scored to compute the total score for attitudes.

The results showed that nursing students who were willing to care for sex workers, perceived the need to have knowledge relating to the care of sex workers, and who were in year five (the final year) of the programme had more positive attitudes toward sex workers. The three variables explained 7.7% of the variance in attitudes toward sex workers among all the nursing students.

The factors associated with positive attitudes toward sex workers among students in the general nursing programme were self-rated good knowledge related to sex workers, a willingness to care, and a perception of the need for related knowledge. The three variables explained 19.9% of the variance in attitudes toward sex workers among students in the general nursing programme. The factors associated with a positive attitude on the part of students in the mental health nursing

programme were a perception of the need to have related knowledge and being in one's final year of study. The two variables explained 4.8% of the variance in attitudes toward sex workers among students in the mental health nursing programme.

Table 11-6 Stepwise linear regression to identify the correlating factors of students' attitudes toward sex workers

Variables	Categories	b	SE	Beta	t	p	95% CI
All nursing students							
[1]Constant		19.381	1.065		18.204	0.000	17.287-21.476
Willingness to care for FSWs total score		0.296	0.092	0.184	3.220	0.001	0.115-0.477
Perceived need for having knowledge relating to sex workers	Yes	1.247	0.504	0.142	2.473	0.014	0.255-2.239
Year of study (Reference group: year 1)	Year five	1.034	0.467	0.122	2.216	0.027	0.116-1.953
Students in the general nursing programme							
[2]Constant		20.010	1.542		12.973	0.000	16.960-23.060
Self-rated knowledge of FSWs (reference group: little or no knowledge)	Good knowledge	7.007	2.192	0.253	3.197	0.002	2.673-11.341
Willingness to care for FSWs total score		0.347	0.130	0.219	2.671	0.008	0.090-0.603
Gender (ref: male)	Female	-1.636	0.677	-0.188	-2.416	0.017	(-2.974)-(-0.297)
Perceived need for having knowledge relating to sex workers	Yes	1.549	0.745	0.169	2.079	0.039	0.076-3.022
Students in the mental health nursing programme							
[3]Constant		22.485	0.582		38.602	0.000	21.335-23.635
Perceived need for having knowledge relating to sex workers	Yes	1.560	0.635	0.182	2.457	0.015	0.307-2.813
Year of study (ref: year 1)	Year five	1.584	0.706	0.167	2.244	0.026	0.190-2.978

[1]R=0.277, R^2=0.077, adjusted R^2=0.068, F=8.629, Model p=0.000.
[2]R=0.446, R^2=0.199, adjusted R^2=0.176, F=8.456, Model p=0.000.
[3]R=0.242, R^2=0.059, adjusted R^2=0.048, F=5.338, Model p=0.006.

11.1.7. Factors associated with the willingness of students to care for sex workers

A linear regression analysis was conducted to identify the predictors of the nursing students' willingness to care for sex workers. Separate analyses were conducted for students in the general nursing and mental health nursing programmes (Table 11-7). The following variables were entered into the analysis: age, gender, religion, birthplace, year of study, programme, district of residence, interpersonal contact with sex workers, the ability to recognize a person as a sex worker, knowledge of prostitution law in Hong Kong, the receipt of training related to sex workers, self-rated knowledge about caring for sex workers, the perception of a need to have knowledge about caring for sex workers, the expression of a need to address sex workers in the nursing curriculum, attitudes toward sex workers, and support for the human rights of sex workers. Two negative statements (item 1 and item 2) were reverse-scored to compute the total score on willingness.

The results showed that predictors of the willingness of nursing students to care for sex workers in their future career were the expression of a need to have knowledge about caring for sex workers, the ability to recognize a person as a sex worker, the holding of positive attitudes toward sex workers, and the expression of support for the human rights of sex workers. The four variables explained 36.2% of the variance among all nursing students in the willingness to care for sex workers.

The factors associated with a willingness among students in the general nursing programme to care for sex workers were the expression of a need to have knowledge about caring for sex workers, the ability to recognize a person as sex worker, the holding of positive attitudes toward sex workers, and the expression of support for the human rights of sex workers. The four variables explained 36.1% of

Table 11-7 Stepwise linear regression of the correlating factors for the willingness of nursing students to care for sex workers

Variables	Categories	b	SE	Beta	t	p	95% CI
All nursing students							
[1]Constant		2.815	0.842		3.343	0.001	1.158-4.472
Support for FSWs' human rights total score		0.179	0.017	0.500	10.634	0.000	0.146-0.212
Perceived need for having knowledge relating to sex workers	Yes	0.812	0.257	0.149	3.165	0.002	0.307-1.317
Able to recognize FSWs in daily lives	Yes	0.576	0.226	0.116	2.556	0.011	0.133-1.020
Attitudes toward FSWs total score		0.063	0.029	0.102	2.202	0.028	0.007-.120
Students in the general nursing programme							
[2]Constant		1.760	1.381		1.275	0.205	(-0.970)-4.490
Support for FSWs' human rights total score		0.177	0.028	0.449	6.315	0.000	0.122-0.232
Attitudes toward FSWs total score		0.105	0.045	0.167	2.362	0.020	0.017-0.194
Perceived need for having knowledge relating to sex workers	Yes	0.885	0.411	0.153	2.153	0.033	0.072-1.698
Able to recognize FSWs in daily lives	Yes	0.715	0.343	0.145	2.083	0.039	0.036-1.393
Students in the mental health nursing programme							
[3]Constant		3.994	0.749		5.331	0.000	2.515-5.474
Support for FSWs' human rights total score		0.185	0.021	0.546	8.839	0.000	0.144-0.227
Perceived need for having knowledge relating to sex workers	Yes	0.770	0.324	0.148	2.381	0.018	0.132-1.409
Knowledge of the local prostitution law (ref: incorrect answer)	Correct	0.618	0.299	0.124	2.069	0.040	0.028-1.208
Religion (ref: none)	Yes	0.588	0.292	0.121	2.009	0.046	0.010-1.165

[1]R=0.609, R^2=0.371, adjusted R^2=0.362, F=45.626, Model p=0.000.
[2]R=0.600, R^2=0.361, adjusted R^2=0.342, F=19.167, Model p=0.000.
[3]R=0.631, R^2=0.399, adjusted R^2=0.384, F=28.010, Model p=0.000.

the variance among students in the general nursing programme in the willingness to care for sex workers.

The factors associated with a willingness of students in the mental health nursing programme to care for sex workers were a religious affiliation, a perception of the need to have knowledge about caring for sex workers, correct knowledge of the prostitution law in Hong Kong, and support for the human rights of sex workers. The four variables explained 39.9% of the variance among students in the mental health nursing programme in the willingness to care for sex workers.

11.2. Discussion

This is the first study to explore and compare the knowledge, attitudes, and willingness to care for sex workers of nursing students studying in general and mental health nursing programmes in Hong Kong, and the factors associated with these attitudes and willingness. It was encouraging to find that the majority of students had a positive attitude, expressed support for the human rights of sex workers, and were willing to care for them, although they were lacking in related knowledge.

Inadequate knowledge about sex workers

The findings from the study showed that nursing students had little or inaccurate knowledge about prostitutes and prostitution law in Hong Kong. Similar results were reported on medical students' knowledge of sex workers (Nakagawa & Akpinar-Elci, 2014). The stigma associated with sex work and the legal constraints on prostitution have compelled sex workers to hide, causing them to become invisible, ignored, and forgotten in society (Decker et al., 2015; W. C. Wong et al., 2011).

The coverage of sex workers in the nursing curriculum is considered inadequate, as the students reported having not received related information from their nursing curriculum. The nursing schools, as a microcosm of society, appear to have avoided a topic that is commonly regarded as controversial. Similar findings have also been reported on nursing students' understanding of other marginalized and vulnerable populations, such as the lesbian, gay, bisexual, and transgender (LGBT) community, drug abusers, and victims of domestic violence (Cornelius & Carrick, 2015; Doran & Hutchinson, 2017; Vargas Vilela, Ventura, & Silva, 2010). Also, studies have shown that nursing students are generally given little chance in their studies to talk about topics related to sexuality, beyond discussions about sexual and reproductive health problems (Aaberg, 2016; Carabez et al., 2015). The inadequate knowledge and training in the nursing curriculum might raise concerns about the competence of nursing students in caring for sex workers after graduation. Thus, introducing sensitive topics about disadvantaged and marginalized populations in the nursing curriculum, such as sex workers, may help to promote an understanding of marginalized and vulnerable patients and result in more sensitive care.

Polarized attitudes towards sex workers

In line with the literature, the nursing students, as members of society, expressed polarized views towards sex workers (Lai et al., 2015; Ma et al., 2018b). Although there has been a progressive shift in public attitudes towards sexuality and sexual behaviours in recent years (Loper, Lau, & Lau, 2014; Yip et al., 2013), some of the participants still held stereotyped and prejudicial attitudes towards sex workers, reflecting the social norms and moral values of society.

In Hong Kong, both traditional Confucianism and western Christianity have had a deep impact on the construction of norms and attitudes towards sexuality (Chiu, 2006; Kwok & Wu, 2015). In the Confucian philosophy, it is considered proper for women to be less sexually aggressive than men (Gao et al., 2012). In Christianity, only sex within marriage is approved, while extramarital sex is condemned (Chiu, 2006). In addition, in Hong Kong the law states that 'a person who in a public place or in view of the public solicits for any immoral purpose' shall be guilty of an offense (Hong Kong Crimes Ordinance (Cap 200), 1990). Therefore, it is not surprising that sex work was viewed by participants in this study as immoral and unethical.

It is worth noting that approximately 70% of the students agreed that sex workers should undergo compulsory medical tests and be routinely tested for HIV/AIDS. This finding is consistent with that from a study of nurses in Northern Ireland, who held strong views on the control and regulation of sex workers (Melby et al., 1992). Such prejudice or fear against sex workers (Schaffauser, 2010) may reinforce the already stigmatized belief that sex workers are 'vectors of disease' (Global Network of Sex Worker Projects, 2015). The control and regulation of sex workers may violate the human right to have control over one's health and medical screening (Bekker et al., 2015; Decker et al., 2015). There is also no evidence that mandatory or compulsory testing would contribute to public health (Bekker et al., 2015; Decker et al., 2015). The World Health Organization (WHO) has recommended that voluntary HIV testing and counselling be offered to sex workers at least annually, whenever they request it (World Health Organization, 2013). It is essential to raise the awareness of students that they may hold stereotypes about sex workers and that sex workers have the right to decide on their screening or treatment.

Support for the human rights of sex workers

It is comforting to know that the majority of the nursing students expressed respect for the human rights of sex workers, particularly of their right to quality of life and equal access to health and healthcare services. Their support for the human rights of sex workers may be partially attributed to their knowledge of the nursing code of professional conduct. The code provides guidance on professional conduct and ethics in nursing. It clearly states that nurses must respect the dignity, values, and beliefs of patients, and provide them with equal treatment regardless of the patients' background. Nurses are also required to safeguard the confidentiality and privacy of their patients (The Nursing Council of Hong Kong, 2015). Pro-prostitution feminists and activists with non-governmental organizations in Hong Kong have also put tremendous effort into public education, and have called for the decriminalization of prostitution (Lim, 2008; Marchetti, 2015). Their advocacy activities may have increased the public's awareness of the human rights of sex workers.

Willingness to care for sex workers

The majority of the nursing students in this study were willing to care for sex workers. The finding is similar to that reported in a study of medical students, in which the majority indicated that they were willing to care for clients regardless of background, including those who were sex workers (Nakagawa & Akpinar-Elci, 2014). This demonstrated the potential of these students to provide equal care for all patients in their future practice, and thereby uphold the code of professional ethics.

However, the evidence also indicated that personal values, along with societal and organizational values, may have an impact on how health workers

behave (Ellis, 2017; Horton, Tschudin, & Forget, 2007). It is also possible that deeply rooted negative feelings about sex work may surface when these professionals come in contact with these clients, so that they fail to safeguard the equal rights of sex workers to healthcare services, creating a dissonance between their prejudicial attitudes towards marginalized populations and the expectations of a professional nurse (Pickles, de Lacey, & King, 2017).

It is therefore essential that nursing educators emphasize the professional code of conduct of nurses, and nurture in their students a sense of self-awareness and a habit of reflecting on their possible prejudicial and judgmental attitudes towards sex workers and other marginalized populations. The possible association between personal bias and the intended / unintended mistreatment of disadvantaged populations should also be discussed.

Correlating factors on attitudes towards and a willingness to care for sex workers

The findings from the study suggest a significant association between the nursing students' attitudes towards sex workers and their willingness to care for them. The finding of a positive association between the attitude of healthcare providers towards a stigmatized population and their willingness to care for members of that population is consistent and supported by evidence (Hou et al., 2006; Suominen et al., 2010; Yen et al., 2007).

The results of this study revealed an association between the nursing students' perception of a need for related knowledge and their attitudes towards and willingness to care for sex workers. Those who did not see the need for such information had negative attitudes and were unwilling to care for sex workers. This finding may be explained by the selective exposure theory (Hart et al., 2009). People

who hold negative attitudes are likely to defend their attitudes, beliefs, and behaviours by avoiding information that challenges their beliefs (Festinger, 1962; Hart et al., 2009; Sweeny, Melnyk, Miller, & Shepperd, 2010). The students who had negative attitudes towards sex workers may be resistant to changing their prejudice through learning about this population group. This personal bias will undoubtedly influence their future practice and service to these clients. How best to motivate these students to participate in related interventions / educational programmes will be a challenge.

The results of the study also showed that year-five students had more positive attitudes towards sex workers than year-one students. One possible explanation for this is simply that students in their fifth year in university are more mature than freshmen. Final- year students may be more knowledgeable about sexual health and the professional code of ethics of nurses than first-year students. Also, the subjects 'Ethics and Legal Aspects in Health Care' and 'Sexual and Reproductive Nursing Care' are taught in year-three of the two programmes. Another possible explanation is that students in their final year of study have had more clinical placements in various clinical settings and have had opportunities to work with diverse populations. A study had also found that final-year nursing students had more positive attitudes towards older people as compared to first-year nursing students (Lambrinou, Sourtzi, Kalokerinou, & Lemonidou, 2009). It is possible that final-year students have a higher level of competency and are better prepared to deal with differences than first-year students. Future studies are recommended to explore how subjects in the nursing curriculum help to prepare nursing graduates with the competence to provide care to marginalized populations.

An interesting finding was that being able to recognize sex workers in daily

life was associated with a willingness to care for them. Those who were able to identify sex workers in public places were likely to have been able to do so through the clothes that sex workers wear, the way that they talk, or other identifiers. This may reflect an awareness and some understanding of the sex trade and the sex workers. This contrasted with the finding that health care providers were likely to show negative attitudes and an unwillingness to care for clients if they could identity sex workers among HIV/STD patients (Phrasisombath et al., 2012). In healthcare settings, healthcare providers may suspect that a client is a sex worker if that client has a sexually transmitted disease or a history of contracting such diseases. Healthcare professionals may be more likely to make moral judgements about sex workers with sexually transmitted diseases as people who practise irresponsible behaviours (Hood & Friedman, 2011).

The results from this study show that there was no statistically significant difference between students in the general nursing and mental health nursing programmes in their attitudes and willingness to care for sex workers. However, there was a clear difference between the two groups in their support for the human rights of sex workers. Surprisingly, there was a statistical significance between general nursing students and mental health nursing students on their support for the human rights of sex workers. Mental health nursing students scored lower on their support for the human rights of sex workers as compared to general nursing students. While students in mental health indicated that they are prepared to care for patients with mental illnesses, they unexpectedly showed less inclination than students in general nursing to respect the human rights of marginalized population groups. However, this finding should be interpreted with caution, as there is a possibility of sample bias. The response rates of the students from the general and the mental

health programmes were 16.6% and 45.5% respectively, and more of the latter than the former were in their first two years of study (41.1% vs 59.1%). The variation in the response rate of the students may due to the class arrangement at the time of the study, and that the teacher who invited the students showed interest in this topic as well.

11.3. Implications

Due to the mobile and hidden nature of the work, there are no estimates of the number of sex workers in Hong Kong. However, based on the outreach efforts of non-governmental organizations in Hong Kong, there were perhaps anywhere from 20,000 to 100,000 sex workers in the city in 2001 (Ziteng, 2001). In the past two decades, there has been a dramatic increase in the number of sex workers crossing the border from mainland China into Hong Kong (Cheung, 2012; Ziteng, 2001). Given the special health needs of sex workers, students in nursing should be prepared to care for this special group of clients. The results of this study indicate that there is a need to reform the current nursing curriculum to better prepare nursing students to care for diverse populations.

First, social justice is the foundation of health equity (Hatchett, Elster, Wasson, Anderson, & Parsi, 2015). It should be the underpinning for how decisions are made in terms of equitable distribution and the allocation of healthcare services and resources (Shaw & Degazon, 2008). The American Association of Colleges of Nursing have recommended that social justice be considered an essential part of the baccalaureate level of education for professional nurses (American Association of Colleges of Nursing, 2008). A good understanding of social justice may help to prepare future nurses to address health disparities and complex social problems. They may also be able to reflect on how personal biases and stereotypes could lead

to social injustice and health disparities for stigmatized populations.

Second, the development of a culture of respect and support for the human rights of patients holds the potential to empower both patients and advocates of social justice. The negative attitudes of nurses may contribute to violations of the human rights of sex workers stemming from the norms manifested in the clinical environment. The promotion of human rights is encouraged and should be incorporated into nursing education and professional training.

Third, there is a need to develop intervention programmes in professional education to reduce the prejudices and biases of healthcare students. As the Equality Challenge Unit emphasized, ‘It is not enough to simply alert people to the existence of bias and/or to alert them to their own particular biases; people need to be given strategies for addressing their biases which make them feel empowered and autonomous, rather than guilty and controlled’ (p.68) (Equality Challenge Unit, 2013). Stigma-reduction intervention programmes through education or other strategies, such as contact with marginalized populations, have been shown to be effective at lessening prejudicial attitudes towards stigmatized groups, such as people living with HIV, patients with mental illness, and drug abusers (Dalky, 2012; Heijnders & Van Der Meij, 2006; Livingston, Milne, Fang, & Amari, 2012; Sengupta et al., 2011). Strategies may be borrowed from successful programmes.

Limitations of this study

First, the generalizability of the findings is limited due to the low participation rate and to the use of convenience sampling from one university in Hong Kong. The participants represent only around 26.0% of the total student population in that university’s School of Nursing. Given the sensitive nature of this study, many

students might have decided not to participate; thus, there is a possibility of selection bias. Second, the study may have failed to include all critical predictive variables, since the multiple linear models only explain 7.7% of the variance in attitudes towards sex workers, with 92.3% of the variance unexplored. Third, the cross-sectional nature of this study has limited the ability of the researchers to determine causal relationships.

11.4. Conclusion

This study contributes to an understanding of the knowledge, attitudes, and willingness of undergraduate nursing students in mental health and in general nursing programmes to care for sex workers. This study found that undergraduate nursing students had an overall low level of knowledge of sex workers, and that their attitudes were polarized.

A perceived need to have related knowledge was associated with both positive attitudes and a willingness to care for sex workers. This study showed that it is essential to improve the attitudes of nursing students and their support for the human rights of sex workers to improve their willingness to care for sex workers in their future practice. The findings emphasized the need to prepare competent nursing graduates to address health disparities from a social justice perspective. The development of self-awareness and self-reflection may enable nursing graduates to provide non-judgmental care. Moreover, to minimize fears and prejudicial attitudes towards sex workers, it is recommended that stigma-reduction intervention programmes be conducted.

Chapter 12

IDENTIFYNG / DEVELOPING THEORY

A preliminary conceptual framework to understand the stigma toward sex workers among nurses

12.1.The social ecological model identified from the qualitative study

12.2.Theories from the literature review

12.3.Preliminary conceptual framework to reduce stigma towards sex workers among nurses

12.4.Summary

According to the MRC framework, theory or conceptual framework is an essential element in the development of a complex intervention (Craig et al., 2008; Medical Research Council, 2019). It is defined as a network of interlinked concepts that serves the purpose of understanding a phenomenon of interest (Jabareen, 2009). Only a complex intervention will be developed based on the fundamental concepts of a comprehensive framework.

This chapter presents a proposed preliminary conceptual framework to understand stigma toward sex workers among nurses based on the findings of reviews of literature and from the qualitative and quantitative studies, with the ultimate aim to reduce stigma towards sex workers among nurses and disparities in the health and health care access among sex workers in Hong Kong.

12.1. The social-ecological model identified from the qualitative study

The social-ecological model (SEM) was used to understand the interactive effects of multi-level factors on behaviours, including intrapersonal, interpersonal, institutional, community, and policy levels (McLeroy, Bibeau, Steckler, & Glanz, 1988). A number of existing stigma framework is developed based on the social-ecological model (Hatzenbuehler et al., 2013; Logie, James, Tharao, & Loutfy, 2011; Pescosolido, Martin, Lang, & Olafsdottir, 2008; Stangl et al., 2019). Based on this model, a modified SEM-NrSw was proposed in the qualitative study among nurses to better understand the personal attitudes and professional practices of nurses in caring for sex workers (**Chapter 9**). It could inform education or training programs to enhance the self-reflection of nurses and the provision of quality of care for sex workers.

The modified SEM-NrSw suggested that multi-level factors had a powerful influence on the attitudes and clinical practices of nurses when caring for sex

workers: intrapersonal, interpersonal, institutional, and community. Moreover, the findings from the cross-sectional survey among nursing students provided additional information on the factors associated with nursing students' attitudes or willingness to care for sex workers, including knowledge of sex workers (i.e. the ability to recognize a person as sex workers), a perceived need for education relating to caring for sex workers, the year of study, and support for the human rights of sex workers (**Chapter 11**).

The SEM suggests that multiple-level intervention may be more effective than targeting a single level of the SEM (Paskett et al., 2016). Yet, it may not be feasible to conduct a multi-level intervention to reduce the stigma towards caring for sex workers at the current stage. For example, the structural level intervention is considered as one of the most effective ways to address the stigma associated with sex work. The researchers and the sex worker activists call for the decriminalization of prostitution (Decker et al., 2015). However, changes the law is hardly achievable through an intervention.

12.2. Theories from the literature review

Through the process of scoping review of HIV/AIDS-related stigma reduction intervention among professionals and students from health-related disciplines, it was suggested that the social cognitive theory and the intergroup contact theory could be adopted when developing interventions to reduce the stigma towards sex workers among nurses. The social cognitive theory and the intergroup contact theory are useful to understand the origin and remediation of prejudice (Aboud, 2008; Allport et al., 1954).

Social cognitive theory

The social cognitive theory (SCT) developed by Albert Bandura in 1960s was originally used to explain the health behaviour. It is the most widely adopted theory in HIV/AIDS-related stigma reduction intervention among health care professionals and students in the health-related disciplines. It is suggested that the individual could learn attitudes and reactions by observing others in social contexts (Bandura, 2009; Bandura & Walters, 1977). This theory emphasizes on the triadic reciprocal causation in which personal factors (i.e., cognitive, affective, and biological events), environmental influences, and behaviours continually interact (Bandura & Walters, 1977). The SCT is suitable for explaining the impact of multi-level factors (i.e. personal and environmental level factors) on a specific behaviour change.

According to the SCT, the health-related knowledge, the self-efficacy, the goals, the outcome expectation, and socio-structural factors are the core determinants of one's health behaviours (Bandura, 2004). Self-efficacy is a vital element of the social cognitive theory, which represents the level of confidence in one's ability to perform a behaviour (Bandura, 1997). It provides the foundation for one's motivation, accomplishments, and well-being (Bandura, 2010). As a critical determinant, self-efficacy could affect the behaviour directly or indirectly through its impacts on goals, outcome expectations, and socio-structural factors (Bandura, 2004). It is a partial mediator that connects knowledge and behaviour (Sukserm & Takahashi, 2012). In the HIV/AIDS-related stigma reduction interventions, self-efficacy links the knowledge of health care professionals' confidence in and their competency in caring for PLWHA (Reid, 2005).

The SCT provides a theoretical base for the understanding of stigma at the societal level (Corrigan, 2000), and has been widely used in health behaviour

interventions, such as nutrition, physical activities, substance abuse, and sexual behaviours (Painter, Borba, Hynes, Mays, & Glanz, 2008).

Intergroup contact theory

Intergroup contact theory proposed that prejudice is generated due to the lack of positive personal contact or low levels of contact among members between different groups (Allport et al., 1954; Pettigrew & Tropp, 2006). Positive intergroup contact could lead to more positive intergroup contact. It is more likely to occur under four conditions: equal status, common goals, intergroup cooperation, and institutional support (Allport et al., 1954). Findings from a meta-analysis of 515 studies suggested that intergroup contact theory was particularly effective in reduction intergroup prejudice (Pettigrew & Tropp, 2006). Intergroup contact theory has been widely used in reducing the stigmatized attitudes toward various disadvantaged groups (Chaudoir et al., 2017; Couture & Penn, 2003; Heijnders & Van Der Meij, 2006).

12.3. A preliminary conceptual framework to understand the stigma toward sex workers among nurses

Based on the theories and models that were described, a preliminary conceptual framework to understand the stigma toward sex workers among nurses was proposed (Figure 12-1). It included the following three domains: multilevel factors influencing stigma toward sex workers among nurses; stigma mediators, and stigma outcomes. This process occurs within a broader social, cultural, and legal context.

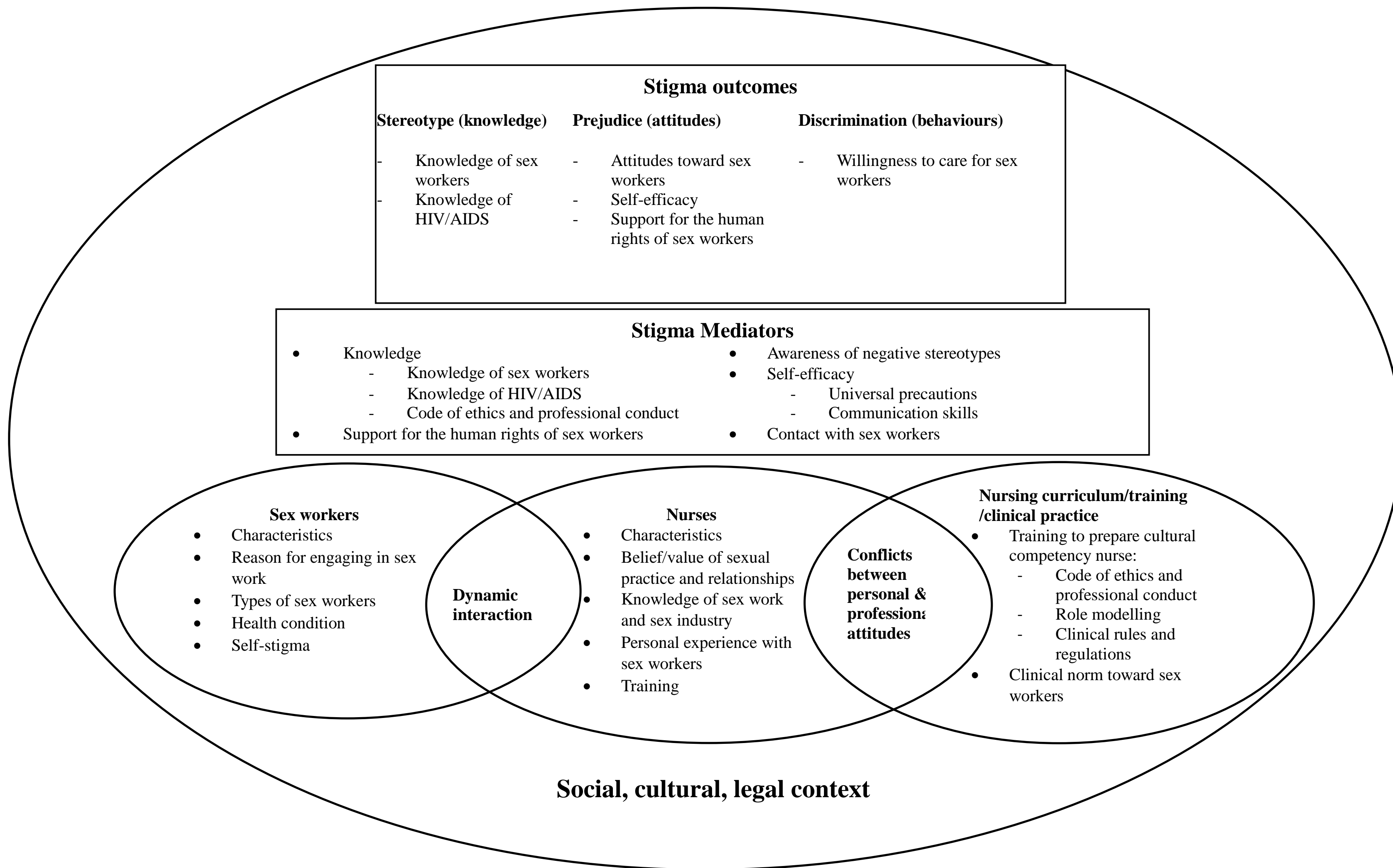

Figure 12-1 Preliminary conceptual framework to understand stigma toward sex workers among nurses

For our target population, multilevel factors could influence the stigma toward sex workers among nurses. The social-ecological model depicted the intrapersonal, interpersonal, institutional, as well as broader social, cultural, legal, and environmental context could influence nurses' professional practice. At the intrapersonal level, various factors could influence their attitudes toward sex workers, such as the characteristics of nurses, their personal beliefs and values of sexual practice and relationships, knowledge of sex work and the sex industry, and personal experience with sex workers, and training received.

At the interpersonal level, the characteristics of sex workers, the reasons for engaging in sex work, self-stigma, the health condition, and the dynamic interaction between nurses and sex workers, can also be influential. At the institutional level, the training to prepare cultural competence nurse could influence nurses' attitudes, such as the professional code of ethics and conduct, role modelling, clinical rules and regulations. Clinical norms could impact nurses' professional practices. Since personal and professional attitudes are intertwined and inseparable. The conflict between their personal and professional beliefs may contribute to their endorsement of stigmatizing attitudes toward sex workers in their practice.

The domain of stigma mediators included the following components: knowledge (i.e., knowledge of sex worker, knowledge of HIV/AIDS, knowledge of code of ethics and professional conduct), support for the human rights of sex workers, awareness of negative stereotypes, self-efficacy (i.e., universal precautions, communication skills), and contact with sex workers. Findings from the review of the HIV/AIDS-related stigma reduction interventions suggested that providing information about the stigmatized population could contribute to increase of the awareness of personal negative stereotypes and reduce the stigmatized attitudes

among professionals and students from health-related disciplines. Such as information about the stigmatized condition (i.e. HIV/AIDS), the code of professional ethics, the human rights of the stigmatized population (**Chapter 6**). The self-efficacy include nurses' universal precautions skills and communication skills with sex workers. According to the intergroup theory, contact was an essential factor in reducing stigma between two different groups (Allport et al., 1954). Contact may foster empathy and minimize the distance between nurses and sex workers, and reduce myth and prejudice about sex workers.

The domain of stigma outcome included knowledge, attitudes, and behaviours. According to the social cognitive model, stigma consists of three components: stereotype (knowledge), prejudice (attitudes), and discrimination (behaviours) (Corrigan, 2000; Corrigan, Edwards, et al., 2001) (Corrigan & Watson, 2002; Thornicroft et al., 2007). Knowledge of sex worker and HIV/AIDS will be used to reflect the stereotype about sex workers. Attitudes toward sex workers, self-efficacy, and support for human rights of sex workers will be used to reflect the prejudice toward sex workers. Discrimination is indicated by nurses' willingness to care for sex workers in their practice.

It is worth noting that the contextual factors may affect the endorsement of stigma toward sex workers among the nurses, including the social, cultural, and legal factors.

12.4. Summary

In the present chapter, a preliminary conceptual framework to understand the stigma toward sex workers among nurses was proposed. The exploration of the inter-relationship among different domains will aid the development of a complex

intervention that aims at reducing the stigma toward sex workers among nurses. It is hoped that such an intervention will result in improvement in stigma outcomes, including knowledge, attitudes, and willingness to care for sex workers in their practice. It is also hoped that such an intervention would reduce the health care disparities of sex workers in the long run.

Chapter 13

MODELLING THE PROCESS AND OUTCOMES

The development of a complex intervention: reduce stigma towards sex workers among nurses

13.1. The identified evidence

13.1.1. Evidence from the literature review

13.1.2. Evidence from the sequential qualitative-quantitative study

13.2.The proposed theory

13.3.The developed intervention to reduce stigma towards sex workers among nurses

13.4.Summary

In following the MRC framework, a series of literature reviews have been carried out to identify the evidence, identify/develop a framework, and develop an intervention to reduce the stigma associated with sex work among nurses. This chapter aims to describe the process of developing a complex intervention to reduce the stigma toward caring for sex workers among nurses in Hong Kong.

The MRC framework was adopted to guide the development of the intervention to reduce the stigma towards caring for sex workers among nurses in Hong Kong. According to the MRC framework, there are four phases in the process of developing and implementing a complex intervention: development, feasibility/piloting, evaluation, and implementation (Medical Research Council, 2019). The development stage consists of three steps: identifying the evidence base, identifying/developing theory, and modelling process and outcomes (Craig et al., 2008). The first stage of development of the complex intervention was included in the thesis.

13.1. The identified evidence

According to the Medical Research Council (MRC) framework (Craig et al., 2008; Medical Research Council, 2019), the first step in developing a complex intervention is to identify the evidence through conducting a series of reviews and identify evidence from a series of studies in Hong Kong.

13.1.1. Evidence from the literature review

A series of literature reviews were conducted to better understand the impact of stigma on sex workers' motherhood (Ma, Chan, & Loke, 2019); the attitudes of different stakeholders towards sex workers (Ma et al., 2018b), the barriers and

facilitators to the accessing of health services by sex workers (Ma et al., 2017), and to examine the effects of HIV/AIDS-related stigma-reduction intervention for professionals and students in health-related disciplines, to shed light on the development of stigma-reduction interventions related to sex work (**Chapter 6**). The thorough review of the literature created a solid foundation for the understanding of the stigma of sex work and associated health care services. The conceptualization of stigma suggested that stigma consists of three components: stereotype, prejudice, and discrimination (**Chapter 5**). Stigma has a significant impact on sex workers occupational health and safety, and their health-seeking behaviours. These reviews highlighted the need to improve sex workers' health care services uptake through reducing health care providers' negative attitudes toward sex workers.

Although there was a lack of intervention focusing on reducing the stigma of health professionals towards sex workers, interventions related to HIV/AIDS could be used as a reference to develop stigma-reduction interventions for health professionals with regard to sex work (**Chapter 6**). Recommendations for stigma-reduction interventions related to sex work among professionals and students from health disciplines are given below:

- Approaches and contents of interventions: Multiple-components intervention was suggested, such as providing of information, building of skills, counselling, contacting with or sharing by PLWHA, biomedical protection, and structural approaches.
- Theoretical framework: None, but findings from the scoping review recommended that the social cognitive theory and intergroup contact theory could be adopted when developing interventions to reduce the stigma towards caring for sex workers among professionals and students

from health-related disciplines. A preliminary conceptual framework may be developed based on the suggested theories.

- It is concluded that multiple approaches and a longer duration / multiple sessions should be adopted in interventions which aim to reduce the stigma towards caring for sex workers among professionals and students from health-related disciplines.
- Delivery of intervention: Face-to-face Intervention should be delivered by trained professionals. The professionals may include HIV experts, trained health care professionals, staff members from sex worker organizations, and sex workers.
- Outcomes of intervention: The outcomes of intervention should include knowledge of sex workers, attitudes toward sex workers, and willingness to care for sex workers.

The review of the literature provided a solid foundation for the understanding of stigma of sex work and associated health care services, identify research gaps, and offered recommendations for the reduction of stigma associated with sex work among professionals and students from health disciplines.

13.1.2. Evidence from a series of studies in Hong Kong

The findings from a series of studies in Hong Kong suggested that multi-level stigma associated with sex work and STDs played a significant role in influencing the health care-seeking behaviours of female sex workers (FSWs). Non-judgmental holistic health care could facilitate the uptake of health care services of FSWs. Although nurses in Hong Kong held conflicting, inconsistent, and ambivalent personal feelings

towards sex workers, all of the participants understood their professional nursing code of ethics and conceded that they were obligated to provide equal care to all patients regardless of their background. Nurses' specialties, clinical experience, and training may contribute to their ease, confidence, and willingness to care for sex workers. Thus, it is suggested that intervention should be provided to nurses to provide care to diverse populations.

13.2. The proposed theory

According to the MRC framework to develop a complex intervention, the second step is developing a conceptual framework. A preliminary conceptual framework to understand the stigma toward sex workers among nurses was proposed. It consisted of three domains: multilevel factors influencing stigma toward sex workers among nurses; stigma mediators, and stigma outcomes. This process occurs within a broader social, cultural, and legal context (**Chapter 12**).

13.3. The developed intervention to reduce stigma towards sex workers among nurses

An intervention is proposed based on the characteristics of related interventions from a scoping review of HIV/AIDS-related stigma reduction interventions aimed to reduce stigma among professional and students from health-related disciplines (**Chapter 6**).

Intervention

Key elements of the intervention

The key elements of the intervention have been developed according to the

preliminary conceptual framework for nurses (see Figure 13-1). It takes into consideration of three domains: multilevel factors influencing stigma of sex worker among nurses; stigma mediators, and stigma outcomes. The intervention is a two-consecutive-day workshop with six sessions, and each session will last 2 hours. The sessions will cover the following topics: an introduction of stigma (session 1), the stigma associated with sex work (session 2), sex work-related stigma in the healthcare setting (session 3), nursing ethical obligations (session 4), skills to reduce stigma toward sex workers (session 5), and ideas to promote stigma-free services (session 6).

Approaches

The intervention will adopt a combination of three approaches: providing information, skills building, and contact with sex workers.

1) *Information approach*

Information related stigma and its consequences on health disparities will be provided to nurses. Nurses will participate in a reflection activity and think about a time in their life when they feel stigmatized.

2) *Skills building approach*

Skills building refers to the learning of strategies to resolve negative attitudes, coping strategies, and hands-on skills (Brown et al., 2003; Stangl et al., 2013). In this programme, skills building mainly focuses on the development of universal precautions skills, communication skills, and sexual history taking skills.

3) Contact approach

To reduce the myth of sex workers, direct face-to-face interactions between the nurses and sex workers will be conducted. The guest sex worker will share her life stories, and experiences of stigma in the healthcare setting, and reflections on how stigma affects her health care-seeking behaviour.

Delivery of intervention

The research investigator will be one of the intervention providers of the study. She is a registered nurse in Mainland China and also a public health professional with experience in providing sexual and reproductive health service for sex workers in Hong Kong (Jun 2010 to Dec 2010). She participated in HIV/STI prevention and treatment outreach in bars, nightclubs, massage parlor, one-woman-brothel, and the streets. She also received volunteer training on Drug Issues of Ethnic Minority Sex Workers from Action for Research Out in 2016, and volunteer training on male sex workers from the Midnight Blue in 2019. The workshop will also invite speakers including a sex worker and sex worker activists (i.e. peer educators and AFRO staff).

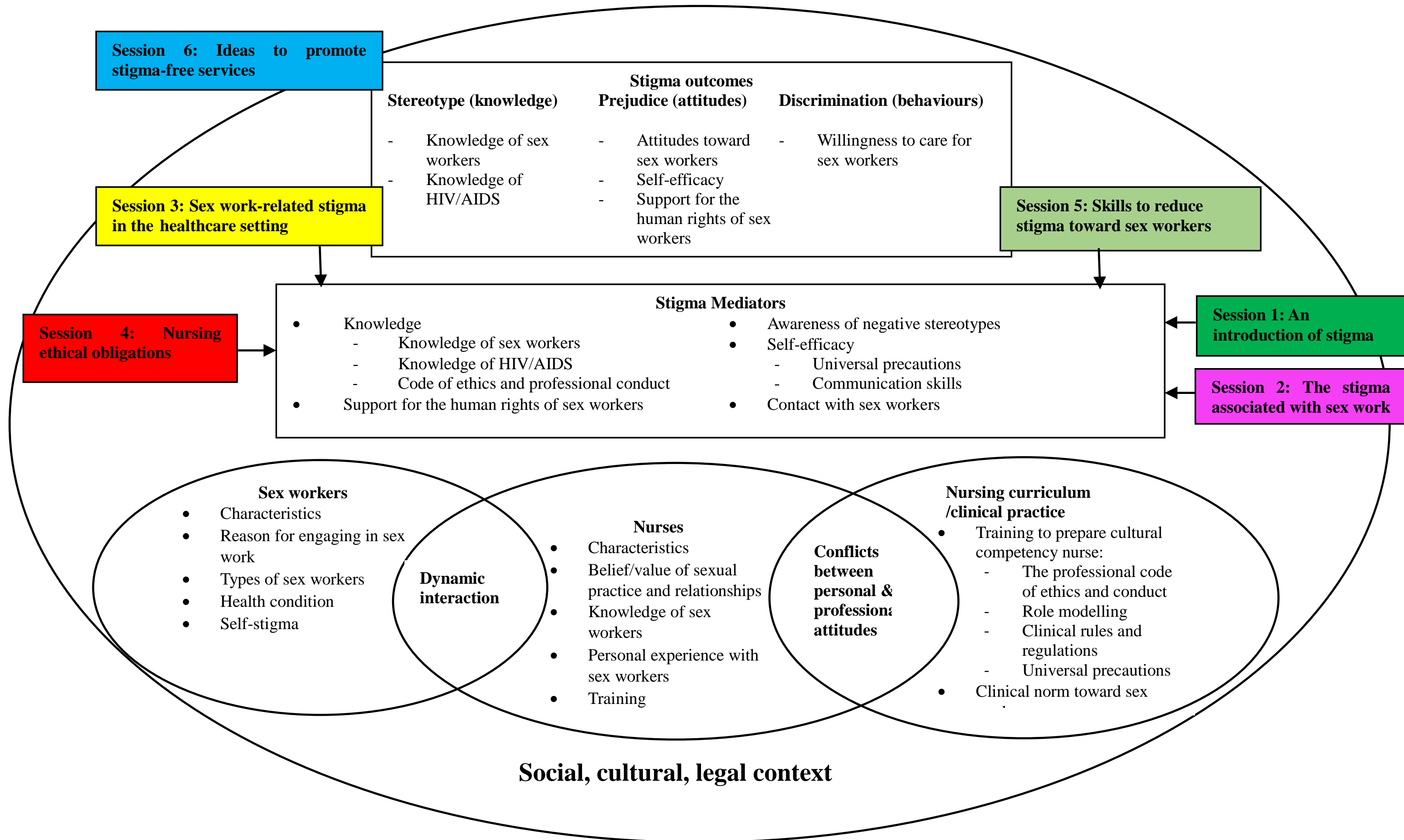

Figure 13-1 The key elements and focus of the intervention developed based on a preliminary conceptual framework for nurses

Table 13-1 Main contents and delivering outline of the intervention

	Session title	Objectives	Content	Intervention approach
Day one	Session 1: An introduction of stigma	• To increase the awareness of stigma. • To increase the awareness of stigma in health care.	• Participants will be asked "what do you think is the meaning of stigma" at the beginning of the first session. • As participants will give their ideas, record them in a circle diagram, then the researcher will give a 15-min PowerPoint presentation on stigma: including the definition of stigma, types of stigma, and consequences of stigma on health services. • After that, participants will be given 30-min to think about a time in their life when they feel stigmatized (reflection exercise), and share their experience with a partner, and then discuss with a larger group.	Information, skills building
	Session 2: The stigma associated with sex work	• To increase the knowledge of sex industry in Hong Kong.	• NGO staff will provide participants with the information about prostitution law and sex industry in Hong Kong. • They will start the session with questions, such as describing a sex worker, reasons of entering into the sex industry, attitudes toward sex worker, slang used in the sex industry, and asking the participants about prostitution law in Hong Kong. • They will correct false ideas about the prostitution law and sex worker. • They will describe the current situations of sex workers in Hong Kong, their human rights, stigma, and different types of violence from police and clients.	Information
	Session 3: Sex work-related stigma in the healthcare setting	• To increase the understanding of health and health care services of sex workers; • To reduce the myth of sex	• This session will be delivered by a sex worker and staff from the NGO. At the beginning of the session, participants will be asked to respect the confidentiality of the guest speaker. • The guest speaker will share her story regarding her life as a sex worker, experiences of stigma in the healthcare setting,	Contact with sex worker

	Session title	Objectives	Content	Intervention approach
		workers; • To increase the awareness of personal attitudes.	and reflections on how stigma affects her health care-seeking behaviour. • The participants will have the opportunity to ask questions, either openly or anonymously by submitting written questions. • After that, the guest speaker will share examples of positive experiences in the healthcare setting and brainstorm with students about strategies that could be employed to decrease stigmatizing behaviours in the health setting.	
Day two	Session 4: Nursing ethical obligations	• To increase the knowledge of professional obligations; • To increase the knowledge of the human rights of sex workers.	• Participants will be asked to reflect back on their own attitude and behaviour toward sex workers and/or other marginalized populations, and will be asked: "What can we do to make a difference in sex workers lives?" • The researcher will further emphasis patient's rights, legal and professional obligations in treating patients, clarify nurses' supportive role in caring for sex workers. Meanwhile, the occupational safety standards for nurses, such as universal precautions will also be addressed. • After the presentation, the participants will be divided into small groups, and discuss "How can we stop stigma in our future practice?" • Using the suggested approaches as the basis for paired role-play.	Information
	Session 5: Skills to reduce stigma toward sex workers	• To increase the knowledge of the sexual and reproductive health of sex workers; • To build universal precaution skills;	• The nurse will share her experience of offering sexual and reproductive health services for sex workers. • Information on HIV/AIDS, disease prevention, and universal precautions will be mentioned. • Communication skills in counseling and assessment will be emphasized, such as how to reduce sex workers' anxiety, how	Information, skills building

Session title	Objectives	Content	Intervention approach
	• To increase the communicating with sex workers.	to raise sensitive health topics, skills to build trust and respect. • The participants will have the opportunity to ask questions. • In the second half of the session, the participants will be divided into small groups, and practice the effective way of raising sensitive topics.	
Session 6: Ideas to promote stigma-free services	• Overview the programme; • To identify strategies to reduce stigma toward marginalized populations in practice.	• At the beginning of this session, the participants will be divided into small groups, they will be asked to write down the lessons learned from the workshop, discuss ideas to promote stigma-free services. • Then the participants will give a group presentation. • At the end of this session, they will be asked to fill the post-test questionnaire and evaluation form of the workshop.	Information

Outcome measurements

Based on the preliminary conceptual framework to understand the stigma towards sex worker among nurses, the expected outcome measures are: knowledge, attitudes, and willingness to care for sex workers. Since there is a lack of standardized measurement of stigma toward sex works, the preliminary questionnaire will be developed based on an extensive literature review and validated by experts. The validity and reliability of the questionnaire will be tested before the implementation of the intervention.

Knowledge of sex workers will be measured using self-developed questions. The items will explore the nurses' knowledge of sex workers, the local prostitution law, and knowledge of HIV/AIDS.

Nurses' attitudes toward sex workers will be measured using a scale developed by Melby V et al. (1992). It is a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The scale assesses three aspects of attitudes: morals, control, and sympathy. The Cronbach's alpha reliability was reported to be 0.653 in the previous cross-sectional study (**Chapter 11**).

Nurses' self-efficacy will be developed based on previous studies assessing the level of comfort and confidence of health care professionals with providing care to people who were living with HIV/AIDS (Bluespruce et al., 2001). It will be a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The eight-item self-efficacy scale will include two aspects of self-efficacy: comfort and confidence. For example, students will be asked about whether they feel confident that they get accurate information about sexual behaviour from sex workers, whether they have been well trained to take a sexual history, whether they feel comfortable asking sex workers about sexual practices.

Nurses' support for the human rights of sex workers will be measured by nine self-developed items. The nine items were developed based on notions concerning women's sexual and reproductive health and rights as laid out by the United Nations' Office of the High Commissioner for Human Rights (The Office of the High Commissioner of Human Rights, 2014). Responses were measured on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The total score of the scale ranged from 9 to 45 points, with a higher score indicating more support for the human rights of sex workers. Cronbach's alpha reliability was reported to be 0.967 in the previous cross-sectional study (**Chapter 11**).

Nurses' willingness to care for sex workers will be measured by using three self-developed items: (1) If I am allowed to choose, I would not choose to serve patients who are sex workers; (2) I would refuse to care for patients who are sex workers; (3) I am willing to take care of patients who are sex workers. Responses to each item ranged from 1 (strongly disagree) to 5 (strongly agree). Items one and two will be reversely scored, with a higher score representing a greater willingness to care for sex workers. The Cronbach's alpha reliability was reported to be 0.745 in the previous cross-sectional study (**Chapter 11**).

13.4 Summary

Guided by the MRC framework, an intervention to reduce stigma towards sex workers among nurses was developed by using the preliminary conceptual framework. This was done with supporting evidence from the reviews of the literature, findings from the qualitative study among nurses, the qualitative study among FSWs, and the cross-sectional study among nursing students. It is recommended that a pilot study should be conducted to evaluate the feasibility of the

intervention programme proposed.

PART IV CONCLUSIONS AND SUGGESTIONS FOR FUTURE RESEARCH

Chapter 14 Summary of the thesis

14.1.Introduction

14.2.Main findings

14.3.Implications for practice

14.4.Limitations

14.4.1. Limitations of the literature reviews

14.4.2. Limitations of the qualitative and cross-sectional studies

14.5.Recommendations for future research

14.6.Summary

14.1 Introduction

According to the Medical Research Council (MRC) framework, this thesis focused on the first phase: development of a complex intervention. Following the MRC guideline, a series of studies were conducted to identify the evidence, identify/develop a framework, and develop a complex intervention (see Figure 14-1).

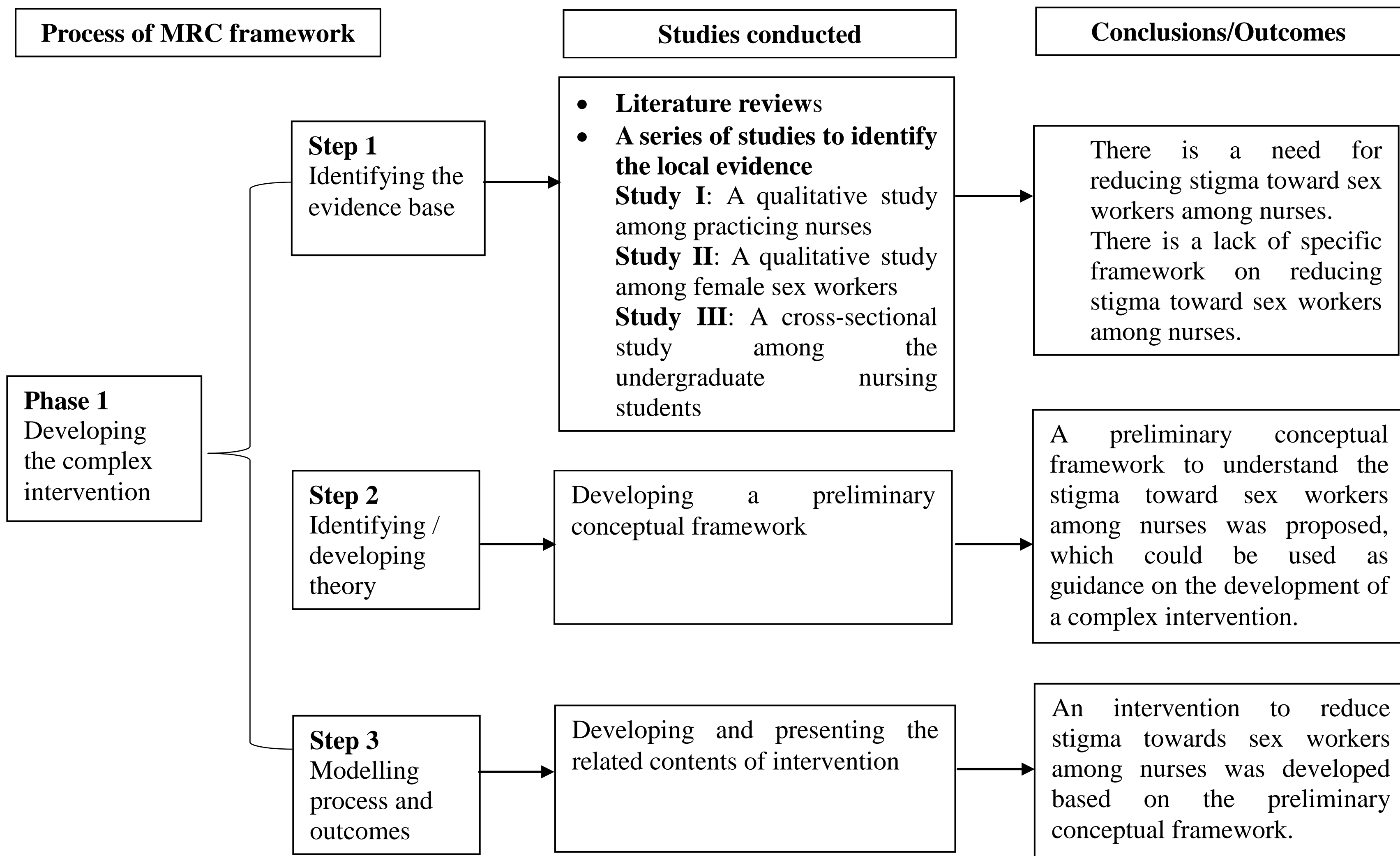

Figure 14-1 Steps taken and studies conducted corresponding to MRC framework

14.2 Main findings

Stage I: Development of the complex intervention

Step 1: Identifying the evidence base

Review of the literature (Chapter 2-4, 6), the conceptualization of stigma (Chapter 5), the qualitative study among nurses (Study I, Chapter 9), the qualitative study among sex workers (Study II, Chapter 10), and the cross-sectional study among nursing students (Study III, Chapter 11)

Chapter 7 summarized the main findings and identify the research gaps from the literature (chapter 2-6). Most studies mainly focused on the attitudes of the general public attitudes toward sex workers, few studies focused on health care providers' attitudes toward sex workers. Although extensive studies have highlighted the importance of combating stigma associated with sex work in healthcare settings, and few interventions were found specially focused on reducing the stigma toward sex workers among professionals and students from health-related disciplines. Findings obtained from these reviews provide sound evidence for the development of a complex intervention.

Study I: The qualitative study among nurses identified four themes after the content analysis. The four themes included generally conflicting attitudes toward sex workers, the professional obligation to provide care to all, acknowledgement of one's hesitation in caring for sex workers, and the preparations involved in caring for patients who might be involved in sex work. A conceptual framework based on a socio-ecological model (SEM-NrSw) could help to understand multilevel factors that influence attitudes and clinical practices of nurses when caring for sex workers, it

could also inform the development of education or training programs to enhance the self-reflection of nurses and the provision of quality of care to all.

Study II: The qualitative study among FSWs identified three themes after a direct content analysis, including the experience of stigma in the health care setting; coping with the stigma of sex work; and the call for non-judgmental holistic health care. Stigma remains the key barrier to their seeking timely professional help, fully disclosing their secret of being involved in sex work, and receiving comprehensive health care services. It also contributes to increasing awareness of, and respect for, the health care needs and human rights of FSWs among professionals and students from health-related disciplines.

Study III: The cross-sectional study among 317 nursing students reported an overall low knowledge of and polarized attitudes toward FSWs. The study confirms the positive correlation between nursing student's attitudes, support for FSWs' human rights, and willingness to care for FSWs. The major factors that influence the overall attitudes toward FSWs were the year of study, the perceived need for having FSWs-related knowledge, and knowledge of prostitution law. The study provided insights for preparing competent nurse in caring for FSWs and other marginalized population.

Summary of the main findings:

- Nurses and nursing students had **polarized and conflicted** attitudes towards sex workers;
- Nurses and nursing students were a **lack of knowledge and training** related to caring for sex workers;
- Majority of the nurses and nursing students were obligated to provide **equal**

care to all patients, including sex workers;

- The **subtle non-verbal behaviours** unintentionally showed an attitude of **stigmatization** towards sex workers (nurses & FSWs);
- Call for **non-judgmental holistic** health care when caring for sex workers.

Developing a preliminary conceptual framework (Chapter 12)

In Chapter 12, a preliminary conceptual framework to understand the stigma toward sex workers among nurses was proposed. It was developed based on the social-ecological model, the social cognitive theory, and intergroup contact theory. It could potentially be used to guide the development of an intervention to reduce stigma toward sex workers among nurses.

The proposed conceptual frameworks showed three interlinked components relating to stigma toward sex workers among nurses. At the bottom of the diagram, multilevel factors could influence stigma toward sex workers among nurses. In the middle of the diagram, the domain of stigma mediators indicated that knowledge (i.e. knowledge of sex work, knowledge of HIV/AIDS, knowledge of code of ethics and professional conducts), support for the human rights of sex workers, awareness of negative stereotypes, self-efficacy (i.e. universal precautions, communication skills), and contact with sex workers may reinforce or reduce the stigma toward sex workers among nurses. At the top of the diagram, the domain of stigma outcomes was comprised of stereotype (knowledge), prejudice (attitudes), and discrimination (behaviours).

The development of a complex intervention: reduce stigma towards sex workers among nurses (Chapter 13)

With the guidance of the conceptual framework, a programme to reduce stigma towards sex workers among nurses was proposed. The intervention mainly targeted the domain of stigma mediators. It will be a two-consecutive-day workshop with six sessions, and each session will last 2 hours. The program will combine different approaches, including providing information, skills building, and contact with sex workers. The main focus of the programme is to improve nurses' knowledge of sex work, HIV/AIDS, and code of ethics and professional conduct, and to improve their self-efficacy in caring for sex workers, especially communication skills and universal precautions. The programme also provides the opportunity to contact with sex workers. The content of the programme includes an introduction of stigma (session 1), the stigma associated with sex work (session 2), sex work-related stigma in the healthcare setting (session 3), nursing ethical obligations (session 4), skills to reduce stigma toward sex workers (session 5), and ideas to promote stigma-free services (session 6).

14.3 Implications for practice

According to the MRC framework of developing a complex intervention, further research need to test the feasibility/piloting the intervention, followed by evaluating and implementing the intervention (Craig et al., 2008; Medical Research Council, 2019). Thus, it is recommended that a pilot/feasibility study should be conducted in the next step to assess the feasibility of the study, such as the recruitment procedure, the response rate, the drop-out rate, the validity and reliability of the measurements, and estimate the sample size of the programme.

14.4 Limitations

Although potential contributions have been made to reduce the disparities in access to health care among sex workers. The projects have several limitations that needed to be acknowledged.

Limitations of the literature reviews

The articles included in the four reviews were only those published in peer-reviewed journals with English, which may increase the possibility of publication bias. Another limitation was that the meta-analysis was not performed, which might limit the generalization of the results. Thirdly, due to the sensitive nature of the topic, the studies could not be free from the social desirability bias.

Limitations of qualitative study among nurses

The majority of the participants had little chance to care for sex workers, and they only expressed their attitude towards and their care for patients who had been diagnosed with HIV or STDs, and whom they suspected to be sex workers. Another limitation is that the recruitment of the participants was based on convenience and snowball sampling, the results of the study may not be generalized. Lastly, there is a possibility that socially desirable responses were provided by the interviewed nurses on this sensitive topic.

Limitations of qualitative study among female sex workers (FSWs)

The study was conducted among a subgroup of FSWs in Hong Kong (those operating out of one-woman brothels). The findings of this study may not be applicable to other groups of FSWs.

Second, due to the highly sensitive nature of the topic, it was possible that the FSWs gave socially desirable responses when describing their health, sexual activities, and health behaviours towards the utilization of health care services.

Limitation of cross-sectional study among nursing students

The participants represent only a small proportion of the total student population in that university's School of Nursing, which may limit the generalizability of the results. Another limitation was that the study may have failed to include all critical predictive variables. Third, the cross-sectional nature of this study might limit the ability of the researchers to determine causal relationships.

14.5. Summary

The findings, which emerged from two qualitative studies and quantitative survey have contributed to a more holistic understanding of the attitudes toward sex workers from the perspectives of sex workers, nurses, and nursing students. This study contributes to a better understanding of the health care needs of FSWs in Hong Kong. It also contributes to increasing awareness of, and respect for, the human right of FSWs to receive non-discriminatory health services, informing the development of a nursing curriculum for the promotion of non-judgmental care for sex workers or disadvantaged client groups.

Guided by the MRC framework, this project has conducted the first stage of developing a complex intervention. This stage involved three steps: identify the relevant, existing evidence through conducting systematic reviews, identifying / developing theory, and modelling a complex intervention. The subsequent pilot/feasibility studies are recommended to test the feasibility of the intervention.

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Table 2-1: Summary of studies on female sex workers' experience of motherhood

Author, Year, Country	Aims	Participants (Response rate %)	Main findings	Themes	
Qualitative studies					
				Conflicting identities between sex workers and motherhood	**Response to social expectation on ideal motherhood**
Basu Ambar et al., 2011, India	To explore how does enunciation of sex worker identity influence patterns of health and HIV/AIDS communication.	46 (93.9%); (32 FSWs, 11 NGO staff, 3 husbands of FSWs) (age: not reported)	FSWs were described as incapable mothers by the mainstream assumptions. And communication about health and HIV/AIDS was practiced in the sex worker community was the children.	• Stigma and laws that undermine FSWs' abilities to be mothers: FSWs feared that their children would be stigmatized.	• Justification of sex work: Money earned from sex work enabled their children to have "more respectable" jobs; • Emphasis mothers' responsibility: They were very cautious about HIV/STDs and negotiated condom use; • Social support networks: NGOs in India provided FSWs with practical help.
Beckham Sarah W. et al. 2015, Tanzania	To explore the intersections between motherhood, sex work, and HIV-related risk behaviours among sex workers	30 (Response rate: not reported); (age range: 20-40y, mean age: 28.9y)	Being mothers affected FSWs' negotiating power in complex manners, which led to both increases in HIV related risk behaviours and decreases in risk behaviours.	• Internalizing stigma: FSWs stated that they felt ashamed to be working as a sex worker.	• Justification of sex work: They rationalized their work as being for their children; • Emphasis mothers' responsibility: Motherhood helped FSWs to avoid the stigma of childlessness; led to an increase/decrease in condom use, and to an increase in their desire to test for HIV.

Author, Year, Country	Aims	Participants (Response rate %)	Main findings	Themes	
Bletzer Keith V., 2006, U.S.	To ethnographically explore the influence of street life on childrearing by women involved in sex work and drug use in agricultural areas of the U.S.	38 (Response rate: not reported); (mean age: Black: 35.63, White: 33.29, Other: 35.40)	FSWs with children remained emotionally close to their children even when social contact was limited or non-existent. Their principle concern was assuring their children were raised in the best way available.	• Exposing children to an unsafe environment: Children repeated their mothers' experience (e.g., were abused or raped as children, engaged in sex work); • Internalizing stigma: FSWs expressed that they felt ashamed of having their children see them as sex workers, and some FSWs used drugs to self-medicate.	• Emphasis mothers' responsibility: FSWs were emotionally close to their children, some FSWs would limit their drug use during pregnancy; some FSWs believed that their children were better off being taken care of by others; • Restore positive social identity: Children motivated mothers to leave sex industry and complete drug treatment programs; • Social support networks: The children of most FSWs were living separately from their mothers/taken care of by fathers or extended family.
Dalla Rochelle, 2004, U.S.	To explore how and to what extent effective mothering can be promoted among women involved in street-level prostitution.	38 (Response rate: not reported); (mean age: 34.1y)	Barriers to effective mothers at the individual, community and societal levels. Suggestions for promoting effective mothering among FSWs are also provided: maternal well-being and self-care at the individual level, community-based resources at the community level, and policy and advocacy at the societal level.	• Exposing children to an unsafe environment: FSWs continued their sex work and drug use during pregnancy and had children born with fetal alcohol syndrome or addicted to substances, some FSWs' daughters became sex workers; • Some FSWs lost custody over their child; • Internalizing stigma:	• Emphasis mothers' responsibility: FSWs felt that their children were better off being cared for by others; • Restore positive social identity: FSWs had strong emotions about their children. Children motivated mothers to complete drug treatment programs; • Social support networks: FSWs left their children with extended family.

Author, Year, Country	Aims	Participants (Response rate %)	Main findings	Themes	
				FSWs expressed guilt for hurting their family and children, and regretted missing out on motherhood.	
Dodsworth Jane, 2012, U.K.	To explore the impact of involvement in sex work on managing motherhood.	24 (Response rate: not reported); (age range: 18-65)	There is a need to cope with the dual identities of FSWs and "good mother". The accumulated risk factors of early childhood and the resources available to individuals in adulthood were essential in managing both identities. Services should recognize individual, environmental and familial factors impacting on women with the dual identities in order to promote their resilience as mothers.	• Exposing children to an unsafe environment: Children of FSWs died/ were placed in care/were adopted/lived with relatives; • Internalizing stigma: Losing their children was painful, and in response FSWs increased their drug use and sex work.	• Justification of sex work: Some FSWs had a strong sense of self-efficacy and saw sex work as enabling them be a "good mother"; • Emphasis mothers' responsibility: FSWs were emotionally close to their children. The responsibility of motherhood motivated FSWs to start/leave sex work; • Restore positive social identity: Children motivated mothers to leave sex industry or complete drug treatment programs; • Social support networks: FSWs left their children with extended family.
Goh Esther C.L. & Praimkumara Shamini, 2015, Singapore	To understand the impact of the mother-child relationship on sex workers' decision to enter and leave the streets.	5 (100%) (age range: 21-36y)	The mother-child relationship context was a key influence on FSWs' decision to enter and/or leave the sex industry. Social work practice should meet the needs of FSWs and their children in a manner that promotes agency and	• Exposing children to an unsafe environment: Children of FSWs had been taken away by Social and Family Development services; • Internalizing stigma: FSWs feared that their children would follow in their footsteps, and they	• Justification of sex work: Sex work helped them to fulfill their maternal duties; • Restore positive social identity: Motherhood motivated FSWs leave the sex trade; • Social support networks: NGOs helped to meet their practical needs.

Author, Year, Country	Aims	Participants (Response rate %)	Main findings	Themes	
			preserves dignity.	felt guilty about lying to their children.	
John-Fisk 2013, India and U.S.	To understand the social issues that sex workers face as mothers in both India and the U.S.	17 (Response rate: not reported); (age range: 30-48y)	Motherhood was an important aspect in FSWs' lives. While they face great challenges in bring up their children. Supporting programs are needed to help FSWs and their children.	• Exposed children to an unsafe environment: FSWs and their children faced illness, poverty, the lack of a safe shelter, FSWs in India expressed the fear that their children would be bullied in school; • Some American FSWs lost custody over their children; • Stigma and laws that undermine FSWs' abilities to be mothers: Children of FSWs would be treated with discrimination and bullied at school; • Internalizing stigma: They felt ashamed and had low self-esteem; separation from children caused FSWs to feel depressed, and they increased their sex work and drug use.	• Emphasis mothers' responsibility: FSWs emphasized their maternal duties and would do anything for their children; • Restore positive social identity: Children motivated mothers to leave sex industry or complete drug treatment programs; • Social support networks: FSWs left their children with extended family.
McClelland Gabrielle Tracy & Newell Robert, 2008,	To explore the experiences and views of women with children in	20 (Response rate: not reported); (age range: 21-38y, mean age:30)	Drug use and prostitution had actual and perceived harm on mothering. Emphasis should be	• Exposing children to an unsafe environment: Children of FSWs were exposed to violence,	• N.A.

Author, Year, Country	Aims	Participants (Response rate %)	Main findings	Themes	
U.K.	the context of street-based prostitution and problematic drug use.		placed upon the proactive identification and implementation of positive supportive strategies.	clients, drugs, or other potential dangers; • FSWs loss of custody over their child; • Internalizing stigma: FSWs would increase their sex work or drug use to dull the pain of separation from their children.	
Peled Einat & Parker Ayelet, 2013, Israel	To explore the mothering experiences of sex-trafficked women.	8 (50%) (age range: 25-32y)	Give children a good childhood was presented as prime motivation for taking up prostitution. While painful and emotional childhood experiences seemed to play an important role in FSWs' constructions of good mothering.	• Internalizing stigma: FSWs felt guilty about not doing the right thing for their family, and they had a negative self-image.	• Emphasis mothers' responsibility: FSWs tried to fulfill their maternal obligations and ensure their children's welfare. They felt pride over the huge sacrifice they were making for their children; • Justification of sex work: Mothers showed self-esteem and felt proud about changing their children's lives; • Social support networks: FSWs left their children with extended family.
Rivers-Moore Megan, 2010, Costa Rica	To explore how sex workers have experienced and strategized their working and family lives in the specific context of neo-liberalism in Latin America.	136 (Response rate: not reported); participants (50 FSWs, 30 sex tourists, 56 state, NGO, and private sector employees (age: not reported)	Sex worker allows FSWs to think of themselves as goo mothers. Survival, consumption, and motherhood are discursively deployed, in often contradictory and conflicting ways, in order to counteract the	**N.A.**	• Emphasis mothers' responsibility: Motherhood was central to the sex workers' ability to combat stigma at work, FSWs engaged in sex trade for their children; • Justification of sex work: Sex work allowed FSWs to think of themselves as "a good mother"

Author, Year, Country	**Aims**	**Participants** (Response rate %)	**Main findings**	**Themes**	
			effects that stigma has on FSWs. It is also suggested that FSWs may very well be quintessential subjects of neo-liberalism in Latin America, in their embrace of entrepreneurial work and consumption.		who was able to provide for and spend quality time with her children.
Sloss Christine M & Harper Gary W., 2004, U.S.	To examine the experiences of women who are involved in both parenting and street sex work and to determine the interaction of these dual roles.	16 (80%) (age range: 20-46y, mean age: 32y)	FSWs' pregnancies and parenting altered their working productivity and practices, and their work also affected their parenting, they felt ashamed of themselves and their work and anxious for their own and their children's safety. FSWs who are mothers have unique needs and experiences that must be considered.	• Exposed children to an unsafe environment: Sex work during pregnancy posed multiple risks for their unborn baby; • FSWs had lost custody, gave up their children to extended family, or had their children removed by child welfare authorities; • Internalizing stigma: FSWs felt ashamed, guilty and anxious, and feared of the negative consequences on their unborn child; some FSWs used drugs to self-medicate.	• Emphasis mothers' responsibility: FSWs expressed concern about their children's safety when they were working; children and parenting had altered their sex work practice; they either increased or decreased their sex work; • Restore positive social identity: Almost all of them wanted to stop sex for drugs.
Willis Brian, et al., 2014, Bangladesh	To explore the threats to the health and welfare of children of	35 (Response rate: not reported) brothel madams (age: >18y)	Stigmatization and discrimination against FSWs and their children are underlying conditions	• Exposed children to an unsafe environment: Sex work during pregnancy exposed their unborn	N.A.

Author, Year, Country	Aims	Participants (Response rate %)	Main findings	Themes	
	FSWs.		that compromise their access to health and social services. Children of FSWs are vulnerable to numerous threats, family-based support are need to these mothers and children to meet basic needs, social welfare and other services.	baby to multiple risks that increased the changes of congenital birth defects, some mothers forced their daughters into sex work; • Stigma and laws that undermine FSWs' abilities to be mothers: Children of FSWs experience stigmatization from police officers/ schools/ landlords/ healthcare provider.	
Zalwango Flavia et al., 2010, Uganda	To explore the lives and work experiences of sex workers.	96 (Response rate: not reported); (age range: 19-55y)	FSWs distanced themselves from the public discourse of sex work as dishonorable and shameful, the antithesis of being good wife and mother.	• Exposed children to an unsafe environment: Mothers solicited potential clients in front of their babies; • Internalizing stigma: FSWs felt "in pain" when bringing their baby to solicit potential clients. They felt ashamed of their work.	• Emphasis mothers' responsibility: FSWs engaged in sex work for their children; • Justification of sex work: Sex work enabled FSWs to meet their children's needs. • Social support networks: FSWs left their children with extended family.
Quantitative studies					
Duff Putu et al., 2015, Canada	To examine the barriers faced by sex workers to accessing health/social services while	399 (Response rate: not reported); (age: >14y, median age of participants reporting parenting difficulties: 35y)	The prevalence of child apprehension among FSWs who were also mothers was 38.3%. Factors, such as servicing clients in	• Exposed children to an unsafe environment: • FSWs had lost custody and separated from children; • Internalizing stigma:	

Author, Year, Country	Aims	Participants (Response rate %)	Main findings	Themes	
	pregnant and parenting.		outdoor public spaces (adjusted odds ratio (aOR)=2.73, 95% confidence interval (CI): 1.27 to 5.90) , history of injecting drugs (aOR=2.53, 95% CI: 1.42 to 4.49), aboriginal ancestry (aOR=1.66, 95% CI: 1.01 to 2.74), were associated with increased odds of child apprehension.	FSWs experienced barrier to accessing health/social and support services.	
Papworth Erin et al., 2015, Burkina Faso	To evaluate the determinants of motherhood among FSWs, their sexually risky behaviours, and engagement in healthcare.	696 (Response rate: not reported) (age: >18y)	Motherhood was predictive of having reduced condomless vaginal or anal sex with a new client [age-adjusted odds ratio (aaOR), 0.80; 95% CI: 0.65 to 0.97] in the past 30 days, and increased condomless vaginal or anal sex with a nonpaying partner (aaOR, 1.49; 95% CI: 1.13 to 1.96). Motherhood was prognostic of a higher likelihood of ever being tested for HIV (aaOR: 1.89, 95% CI: 1.55 to 2.31).	**N.A.**	• Emphasis mothers' responsibility: Motherhood was a significant predictor of a woman's entry into sex work to provide for her family; motherhood influenced the behaviour of FSWs: reduced in condomless vaginal or anal sex with new clients, limited difficulty when accessing health care.
Duff Putu	To examine the	350 (Response rate:	34% of the FSWs	• Exposed children to an	**N.A.**

Author, Year, Country	Aims	Participants (Response rate %)	Main findings	Themes	
et al., 2014, Canada	prevalence of the apprehension of the children of FSWs in Canada.	not reported); (age: > 14y, age range: 19-61y)	reported that they had one or more barriers to health/social and support services while pregnant/parenting role. Lower education, homelessness, and history of injecting drugs were significantly correlated with these barriers.	unsafe environment: The prevalence of child apprehension: 38.3%; • Internalizing stigma: FSWs receive counseling to deal with the trauma of losing their children.	
Reed E. et al. 2013, India	To examine whether the responsibilities of motherhood are associated with women's vulnerability to HIV.	850 (Response rate: not reported); (age > 18y, median age=30y)	The challenging responsibilities related to caretaking of children are associated with heighted vulnerability to HIV risk among FSWs.	**N.A.**	• Emphasis mothers' responsibility: 85% of the FSWs reported entering sex work for their children and families; motherhood influenced mothers' health behaviours: e.g. FSWs with ≧ 3 children were less likely to report consistent condom use.
Yerpude Pravin & Jogdand Keerti, 2012, India	To describe the breastfeeding practice and child placement option chosen for children by brothel-based commercial sex workers in India.	87 (96.7%); (age: <20y (9.19%) 21-29y (44.84%) 30-39y (39.08%) > 40y (6.89%))	46.94% of children of the FSWs had been breast-fed for one year or more, 18.37% were never breast-fed. 34.96% of children of the FSWs were being raised in the brothel. The children were kept in the brothels up to five years of age. FSWs faced difficulties in getting school admission for their	• Exposed children to an unsafe environment: children were raised in the brothel; • Stigma and laws that undermine FSWs' abilities to be mothers: Children of FSWs experienced difficulty getting admitted to school.	• Social support networks: Local NGOs ran a residential school for the children of FSWs.

Author, Year, Country	Aims	Participants (Response rate %)	Main findings	Themes	
			children.		
Combined quantitative and qualitative studies					
Chege M.N., et al. 2002, Kenya	To determine the childcare practices of commercial sex workers.	385 (response rate: not stated) (age range: 18-49y, mean age = 32.4± 7y)	Finding from quantitative study: 3/4 of the participants practiced prostitution at home. About 3/4 of the mothers with adolescent children educated them on HIV/AIDS. Health seeking behaviours for the children were hampered by health care cost and consumption of alcohol by the mothers. Only 2.0% took time to converse or counsel the children. Findings from focus group discussion: children were left unattended at night while the mothers went out in search of clients. Efforts to provide better education for the children were undermined by lack of funds and truancy.1/3 of the participants had invested for the future maintenance of their children.	• Exposed children to an unsafe environment: e.g. socialized daughters into the sex trade; they failed to seek treatment for their children; • Some of them lost custody over their child. • Internalizing stigma: FSWs felt guilty about using drugs.	• Emphasis mothers' responsibility: 28.8% of FSWs had secured resources for the future maintenance of their children.

Author, Year, Country	Aims	Participants (Response rate %)	Main findings	Themes	
Pardeshi Geeta & Bhattacharya S., 2006, India	To describe child bearing, family support, dietary practices, and various placement options for raising children amongst brothel-based commercial sex workers.	60 (100.0%); (age: < 20y (3.3%) 21-29y (46.7%) 30-39y (46.7%) > 40y (3.3%))	In the process of raising their children, being a single parent, stigma and the profession, odd working hours and variable family support were major challenge for FSWs; while the fact that the women were earning, availability of rehabilitation centers, the homogeneous group within the brothels, supportive peers and the local non-governmental organizations were factors which helped them in the process of raising their children.	• Exposed children to an unsafe environment: Some FSWs continued to work during pregnancy, children were raised in the brothel.	• Emphasis mothers' responsibility: Children were regarded as hope for security and support; FSWs shouldered the main responsibility of providing financial support for their children. • Social support networks: Some children were sent to a residential school organized by local NGOs.
Rolon Maria Luisa et al., 2013, Mexico-U.S. border	To explore the experience of having children and its effects on FSWs and their intimate partners' HIV risk behaviours.	428 (Response rate: not reported); (214 FSWs, 214 intimate non-commercial partners) (median age: 35y, age range: 29-42y)	Children strengthened FSWs and their partners' relationship, concerns for children's well-being motivated couples to complete healthier lifestyle changes. However, childbearing costs motivated sex work and structural constrains prevented couple from enacting lifestyle changes.	• Exposed children to an unsafe environment • Lost custody over their children: children were taken away from FSWs by social services authorities; • Internalizing stigma: Separation from children caused FSWs pain and their drug use escalated.	• Emphasis mothers' responsibility: Children strengthened the relationship of couples, and mothers were involved in sex work for their children; Motherhood influenced decisions made by FSWs (to reduce drug use, find an alternative job, move to a safer place); • Justification of sex work: FSWs were not against sex work since it was for their family's own good;

Author, Year, Country	**Aims**	**Participants** (Response rate %)	**Main findings**	**Themes**
				• Restore positive social identity: Almost all of them wanted to stop sex for drugs.

Abbreviations: FSWs: female sex workers; N.A.: Not applicable.

Table 2-2 Prostitution law in countries included in the review

Country	Is Prostitution legal?	Are brothels legal?
Africa		
Burkina Faso	Prostitution is not specifically prohibited by the law, but soliciting and pimping are illegal	No
Kenya	Yes – However, it is illegal to live wholly or in part on the earning of prostitution and soliciting or importuning for immoral purpose.	No
Tanzania	No	No
Uganda	No	No
Asia		
Bangladesh	Yes	No
India	Yes	No
Israel	Yes	No
Singapore	Yes – however, it is illegal to live on the earnings of sex work, to solicit in public to sell sex	No
Europe		
United Kingdom	Yes – However, it is illegal to solicit to buy or sell sex in a public place.	No
North America		
Canada	Prostitution is limitedly legal	No
Costa Rico	Yes	No
Mexico	Yes	No
United States	No – Except Nevada	No

Remark: Countries are arranged by alphabetical order.

Table 2-3 Quality appraisal of selected studies

QL / Items	Basu et al. 2011, India	Beckham et al. 2015, Tanzania	Bletzer 2006 U.S.	Dalla 2004, U.S.	Dodsworth 2012, UK	Goh et al. 2015, Singapore	John-Fisk 2013, India and U.S.	McClelland et al. 2008, UK	Peled et al. 2013, Israel	Rivers-Moore 2010, Costa Rica	Sloss et al. 2004, U.S.	Willis et al. 2014, Bangladesh	Zalwango et al. 2010, Uganda
0.1.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
0.2.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1.1.	Y	N	N	N	N	Y	N	N	Y	N	Y	N	N
1.2.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1.3.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1.4.	N	N	N	N	N	N	N	Y	Y	N	N	N	N
Score	***	**	**	**	**	***	**	***	****	**	***	**	**

DS / Items	Duff et al. 2015, Canada	Papworth et al. 2015, Burkina Faso	Duff et al. 2014, Canada	Reed et al. 2013, India	Yerpude et al. 2012, India
0.1.	Y	Y	Y	Y	Y
0.2.	Y	Y	Y	Y	Y
4.1.	Y	Y	Y	Y	Y
4.2.	N	N	N	N	N
4.3.	Y	Y	Y	Y	UC
4.4.	UC	UC	UC	UC	Y
Score	**	**	**	**	**

MM	Chege et al. 2002, Kenya	Pardeshi et al. 2006, India	Rolon et al. 2013, Mexico-US

Items		border	
0.1.	Y	Y	Y
0.2.	Y	Y	Y
1.1.	N	N	N
1.2.	UC	UC	Y
1.3.	Y	Y	Y
1.4.	N	N	N
4.1.	Y	Y	Y
4.2.	N	N	N
4.3.	UC	UC	Y
4.4.	UC	Y	UC
5.1.	Y	Y	Y
5.2.	Y	Y	Y
5.3.	N	N	N
Score	*	*	**

Note: key: Y = Yes; N = No; UC = Unclear; QL = Qualitative study; DS: Quantitative descriptive study; MM: Mixed method study. For score, the higher number of * indicates the better of the research quality. The lowest score is *, while the highest score is ****.

Items: 0.1. Are there clear qualitative & quantitative research questions (or objectives), or a clear mixed methods question (or objectives)? **0.2.** Do the collected data allow address the research question (objective)? E.g., consider whether the follow-up period is long enough for the outcome to occur (for longitudinal studies or study components). **1.1.** Are the sources of qualitative data (archives, documents, informants, observations) relevant to address the research question (objective)? **1.2.** Is the process for analysing qualitative data relevant to address the research question (objective)? **1.3.** Is appropriate consideration given to how findings relate to the context, e.g., the setting, in which the data were collected? **1.4.** Is appropriate consideration given to how findings relate to researchers' influence, e.g., through their interactions with participants? **4.1**. Is the sampling strategy relevant to address the quantitative research question (quantitative aspect of the mixed methods question)? **4.2.** Is the sample representative of the population understudy? **4.3.** Are measurements appropriate (clear origin, or validity known, or st&ard instrument)? **4.4.** Is there an acceptable response rate (60% or above)? **5.1.** Is the mixed methods research design relevant to address the qualitative & quantitative research questions (or objectives), or the qualitative & quantitative aspects of the mixed methods question (or objective)? **5.2.** Is the integration of qualitative & quantitative data (or results) relevant to address the research question (objective)? **5.3.** Is appropriate consideration given to the limitations associated with this integration, e.g., the divergence of qualitative & quantitative data (or results) in a triangulation design?
These two items are not considered as double-barrelled items since in mixed methods research, (1) there may be research questions (quantitative research) or research objectives (qualitative research), & (2) data may be integrated, &/or qualitative findings & quantitative results can be integrated.

Table 3-1 Characteristics of the included studies

Stakeholders	Author, Year, Country	Study design	Participants	Interview guidelines/ Measurement	Main focus and significant findings
Law enforcement officers	Baker LM, 2005, U.S.	Qualitative in-depth interview	7 female vice police officers (Response rate: 87.5%)	Questions focused on attitude toward decoy sex work and experience as decoy prostitutes	- Officers saw prostitutes as doing their jobs for drugs. - The police showed of sadness, empathy, and sympathy for prostitutes. While they also found prostitutes to be public health problems or nuisances.
	Dodge M, et al., 2004, U.S.	Qualitative semi-structured interview	25 female police officers (age: N.A.) (Response rate: N.A.)	Officers' thoughts, feelings, and behaviours about decoy sex work	- Officers saw prostitutes as doing their jobs for money (pay drugs/rent). - Prostitutes had been viewed as a victim of society's larger social ills. -All women officers agreed that prostitution resulted in wide range of victimization, and caused problems for neighborhoods, businesses, and homeowners.
	Giacopassi DJ, et al., 1991, U.S.	Qualitative unstructured interview	13 Police officers (age: N.A.) (Response rate: N.A.)	Topics focused on officers' personal beliefs and their perceptions of their enforcement duties	- The vice officers showed sympathy towards prostitutes and saw these young women as pitiable. Elicit an offer from prostitutes was distasteful. - The typical vice officers had no illusion about eliminating prostitution, but believed that prostitution was harmful to the community and individuals.
	Guinto-Adviento MLM, 1988, Philippines	Mixed-method study (Cross-sectional survey with semi-structured intensive interview)	Survey: 187 policemen Intensive interview: 25 policemen (Response rate: N.A.)	23-item Attitude scale, developed by author	- The officers admitted that women engaged in prostitution were there by force of circumstances. - They showed sympathy and understanding. While the majority of them disapprove the act of prostitution.

	Maguire M, et al., 2011, U.S.	Qualitative Semi-structured interview	14 female police officers who were assigned to work decoy operations (age: 27-46) (Response rate: N.A.)	Officers' experience as a decoy and personal views on prostitution, and interactions with johns on the street	- Officers saw prostitutes as doing their jobs for drugs/money/by force. - Officers expressed negative feelings toward the mechanics of sex work, they presented empathy, sadness toward sex workers.
	Mentzer H, 2010, U.S.	Cross-sectional survey (self-administrated questionnaire)	158 Police officers (Response rate: 30.7%)	Police officers' perceptions of female prostitution and prostitutes: Prostitution Scale, developed by the authors	- Prostitutes were described as "lower class person," "crack whore," and "many women are addicted to drugs." - Disagree with decriminalizing and regulating prostitution: (62.1%), - Agree with legalizing prostitution would increase social problems: (61.6%), - Selective toleration when mediating between prostitutes and the community was the best policing strategy (88.5%).
	Smith M, et al., 2015, Bosnia and Herzegovina	Cross-sectional survey (self-administered)	201 Law enforcement officers, legal actors, future practitioners (Response rate: N.A.)	• Attitude scales regarding the sex trade • Misperceptions of human trafficking • Attitude toward criminal justice response • Attitudes toward women in the sex industry • Attitudes towards traffickers and attitudes toward buyers	- Support for the legalization of prostitution (current practitioner 37.3% vs. future practitioner 37.8%);
Professionals in health and social services	Chan YE, et al.,2007, Thailand	Mixed-method study (semi-structured one-to-one interview)	20 nurse students (age: 21-44y) (Response rate: N.A.)	• Q-sort task • Social distance	- Commercial sex was highly stigmatized, and increased social distance

Jayanna K, et al., 2010, India	Cross-sectional survey (face-to-face)	131 STI care providers (physicians) (Response rate: 70.4%)	• Attitudes of care providers toward FSWs, developed by authors	- 78.8% of care providers believed that sex workers were responsible for spreading HIV - 47.0% of them believed that one effective way to prevent HIV was to ban sex work and rehabilitate all sex workers - 75.8% of them agreed that all sex workers should compulsorily undergo HIV testing
Melby V et al., 1992, Northern Ireland	Cross-sectional mail survey	479 nurses (Response rate: 59.9%)	• Attitudes toward prostitutes, developed by authors	- 30.7% of the participants believed that prostitution should be legalized - 66.8% of them believed prostitution was immoral and 57.3% of them believed that prostitution was a sin - 79.2% of them agreed that prostitutes should have compulsory medical tests, and 77% believed that prostitutes should be routinely tested for HIV - 69.9% of them agreed that prostitutes should be given free condoms to reduce the spread of HIV
Nakagawa JT, et al., 2014, 56 Countries	Cross-sectional web-based survey	292 Medical students (median age: 23) (Response rate: 75.1%)	Attitude toward FSWs with STI symptoms	- 98.3% of the students either agreed or strongly agreed that it would be their job to provide treatment to patients regardless of occupations and 81.9% of them agreed or strongly agreed that FSWs comprised a vulnerable population that deserved particular attention.
Peled E, et al., 2013, Israel	Qualitative semi-structured interview	13 female CPOs (age: N.A.) (Response rate: N.A.)	Views held by CPOs toward mothers in prostitution	- Prostitution was like any other profession, while prostitution was dangerous and harmful. - Prostitution was considered as an acceptable and legitimate occupation.

	Peled E, et al., 2015, Israel	Qualitative in-depth interview	15 social workers (age:24-53) (Response rate: 75.0%)	Social workers perceptions and attitudes toward prostitution and teenage girl prostitution	- A wide range of views on the reasons women engaged in prostitution (out of choice/by force). - They had difficulty in associating the adolescent girls in their care with prostitution, and resisted to apply the term “prostitution” to describe the adolescent girls in their care.
	Phrasisombath K, 2012, Laos	Cross-sectional survey (face-to-face)	244 health care providers who provide STI services (Response rate: 97.0%)	Attitude toward FSWs with STI symptoms, developed by authors	- Negative attitudes towards prostitutes with STI symptoms: pharmacists/drug sellers (68%), medical doctors (59%), nurse/midwives (55%), herbalists (53%).
	Rogers SJ, et al., 2014, Jamaica and the Bahamas	Cross-sectional survey (face-to-face)	245 staff of health care and 87 staff of social service (Response rate: N.A.)	• Stigma measurement of blame and moral-driven judgment constructs • Series of eight vignettes	- Negative attitude toward prostitution: 72% participants agreed that sex work was immoral, and 33% of them believed that it was the women prostitutes who spread HIV.
Clients of sex workers	Farley M, 2011, Scotland	Mixed-method with both quantitative and qualitative measures (fact-to-face)	110 clients of prostitutes (age: 18-77) (Response rate: 100%, completion rate: 63.6%)	• Illinois rape myth acceptance scale • Hostile Masculinity Scale • Sexual experiences scale • 46-item Acceptance & justification of prostitution, developed by authors	- Reason for sex work: money (73%). - Conflict attitudes: 71% stated that prostitution should be treated like any other business, 42% believed that prostitution lowered the moral standards of the community. - Clients were lack of emotional connection and lack of empathy for prostitutes.
	Kennedy MA, 2004, Canada	Pre-program and post-program anonymous self-report questionnaire	377 men who attended the British Columbia diversion program (age:18-89) (Response rate: 84.5%)	• Attitudes toward prostitution scale • Marlowe-Crowne Social desirability • Additional items developed by authors	- The program appeared to significantly change attitudes towards prostitution, towards prostituted women, and towards purchasing sexual services in male clients of prostitutes.

Preston P, et al., 2005, U.S.	Cross-sectional survey (self-administered)	1343 clients of prostitutes (Response rate: > 80%)	• Positive attitudes toward prostitution, developed by authors • Belief that prostitution like their jobs, developed by authors	- Whites were most likely to hold liberal sexual attitudes, Native Americans were more likely to have positive attitudes towards prostitution and believed prostitution liked their jobs.
Potgieter C, 2012, South Africa	Cross-sectional survey	225 male taxi drivers (age: 26-45) (Response rate: N.A.)	22-item questionnaire Taxi drivers' attitudes and beliefs about taxi queens and their relationship with taxi drivers, developed by authors	- Majority (59.6%) of the respondents believed girls engaged in sex work for gifts. - 60.4% believed that girls who slept with taxi drivers were loose.
Sawyer S, 1998, U.S.	Cross-sectional survey (self-administered)	37 men who were arrested for patronizing prostitutes (age: 25-63) (Response rate: 100%)	• Prostitution Behaviour Questionnaire • Minnesota Multiphasic Personality Inventory (MMPI) • Minnesota Multiphasic Personality Inventory (MMPI-2)	- Participants showed contradictory attitudes towards prostitution. - Agree with the statement: "Women are prostitutes because they want to be. It is their choice" (34%) "Prostitutes are victims of pimps" (46%). - The participants expressed both support and opposition to legalized prostitution.
Sawyer S, et al., 2001, U.S.	Cross-sectional survey (self-administered)	140 men who were arrested for alleged prostitution use (age: 19-66) (Response rate: N.A.)	• 14-item Attitudes toward prostitution scale (ATPS) • Minnesota Multiphasic Personality Inventory (MMPI-2)	- Yong clients of sex workers had inaccurate and negative beliefs in prostitutes, and less supportive of legal support of prostitution than older clients.

	Wortley S, et al., 2002, Canada	Pre-program (face-to-face) and post-program survey (self-administered)	366 clients of prostitutes (Response rate: 88.6%)	• 14 statements to measure attitudes toward prostitution • Knowledge of Canadian prostitution law • Awareness of dangers of prostitution • Awareness of the victims of prostitution • Anticipated future use of prostitution , developed by the authors	- Agree with the statement: "Most prostitutes have a drug problem" (pre: 45%, post: 71%) "Prostitutes are forced by pimps" (pre: 37%, post: 44%). "Most prostitutes enjoy what they do for a living" (pre: 29%, post: 15%). - Clients demonstrated more negative attitudes towards prostitution at time two than at time one.
General public	Alikhadzhieva I, 2010, Russia	Cross-sectional survey	890 Russian citizen (age: 16-60) (Response rate: N.A.)	Questionnaire developed by authors. e.g. • Attitudes toward people who provide sexual service for a fee • Attitudes toward the customers of commercial sex • Legalization of prostitution • The criminalization of prostitution	-Majority of participants stated that women engaged in prostitution were saleable, inability to make their way in other areas of the life of society. - Participants were unwilling to accept legal regulation of prostitution, and wished to make the punishment tougher, e.g. 64.2% participants against legalization of prostitution, and 80% respondents were in favor of methods to impose stronger liability.
	Basow SA, et al., 1990, U.S.	Cross-sectional survey (self-administrated)	89 undergraduate students (age: not reported) (Response rate: 100%)	• 12- item Attitude Toward Prostitution Scale (ATP) • Attitude toward Feminist Scale	- Women and students with profeminist attitudes were less acceptant of decriminalization and legalization of prostitution, and viewed prostitution as subordination and exploitation of women.

Cao L, et al., 2010 China	Cross-sectional data were from the European Values Study Group and World Values Survey Association (2005), face-to-face interview)	1000 adult citizens (age: 18-65) (Response rate: N.A.)	Attitudes toward prostitution with a single item: “Please tell me whether you think prostitution can always be justified, never be justified, or something in between.”	- Prostitution should never be justified (92.6%).
Cao L, et al., 2013, U.S.	Study 1: Longitudinal data were from the World Values Surveys (WVS) and the European and World Values Surveys, 1981/1982, 1990, 1999/2000, face-to-face interviews Study 2: Cross-sectional data was from the World Values Surveys (WVS) (1999/2000)	1200 American (age: ≥18) (Response rate: N.A.)	Attitudes toward prostitution with a single item: “Please tell me whether you think prostitution can always be justified, never be justified, or something in between.”	- There was a trend toward greater tolerance of prostitution over a 20 year period in the U.S.

Chon DS, et al., 2015, 54 countries	Secondary data analysis (Data was from the fifth wave of World Values Survey (WVS), face-to-face interview)	48,630 public (age: 18-85) (Response rate: N.A.)	Attitudes toward prostitution with a single item: "Please tell me whether you think prostitution can always be justified, never be justified, or something in between." developed by WVS	- The majority of the world population still perceived that prostitution was never justifiable.
Cotton A, et al., 2002, U.S.	Cross-sectional anonymous survey (self-administered)	783 university undergraduate (age:17-46) (Response rate: N.A.)	• 6 items from Prostitution Behaviour Questionnaire • Rape myth acceptance scale - Short form of the Illinois Rape myth Acceptance scale	- Endorsement of six prostitution myths: 16-59%. - Prostitution myth endorsement was significantly correlated with overall rape myth endorsement
Jakobsson N, 2011, Norway and Sweden	Cross-sectional internet-based survey	1st wave survey: Total participants: 3531, including 1716 Norwegians and 1815 Swedes (age: 15-65) (Response rate: 68.6% among Norwegians, 60.5% among Swedes)	Attitudes toward buying/selling sex, attitudes toward the law on buying/selling sex, developed by authors	- Swedes were more negative towards buying sex than Norwegians.

Kotsadam A, et al., 2011, Norway and Sweden	Longitudinal Internet-based survey	2nd wave survey (2009): total participants: 2351, including 1034 Norwegians (Response rate: 41.4%), and 1317 Swedes (Response rate: 43.9%)	Moral attitudes toward prostitution and attitudes toward prostitution law, developed by the authors	- Swedes were significantly more negative toward prostitution than Norwegians.
Kotsadam A, et al., 2014, Norway and Sweden	Longitudinal internet-based survey	3rd wave survey (2010): total participants: 6164 (overall response rate: 50.3%), 2088 Danes (Response rate: 46.4%), 1705 Swedes (Response rate: 52.4%), 2371 Norwegians (Response rate: 52.7%)	Moral attitudes toward prostitution, developed by the authors	- Social attitudes toward prostitution were most negative in Sweden, less negative in Norway, and least negative in Denmark. - Stigma influenced the demand for sex, individual who thought buying sex was immoral bought less sex. - Law did not affect moral attitudes toward buying sex.
Kuosmanen J, 2011, Sweden	Cross-sectional mail survey	1134 Public (age: 18-74) (Response rate: 45.4%)	• Attitudes to the sex purchase legislation • Attitude to any eventual criminalization of the sale of sex • Personal experiences of the purchase or sale of sex, all questionnaires developed by authors	- 70.7% of the respondents wanted to retain the law of prohibiting the purchase of sex: (79% women, 60% men). 58.7% of the respondents wanted to prohibit the sale of sex. - The legislation has reduced the demand side of prostitution.

Long SL, et al., 2012, U.S.	Cross-sectional survey online survey	266 college students (age: 18-29) (Response rate: 86.1%)	• 3 items were selected from Attitude toward prostitution scale • Marlowe-Crowne Social Desirability scale • Hostility Toward Woman Scale	- General attitudes towards prostitution appeared to be negative.
May DC, 1998, U.S.	Cross-sectional telephone interview	1514 adults (age: ≧18) (Response rate: 74.2%)	• Attitude toward legalization of prostitution, • Tolerance index developed by the authors	- Prostitution should be legal (18.7%); Prostitution should be illegal (75.8%).
Moore S, 1999, Australia	Cross-sectional survey (self-administrated)	400 general public (age: 24-49) (Response rate: N.A.)	20-itme Attitude to Prostitution Scale (ATPS), developed by authors	- Less than half the respondents approved of prostitution, while accepted its place in society.
Morton H, et al., 2010, Canada	Cross-sectional survey (self-administrated)	239 Undergraduate students (age: ≧18) (Response rate: N.A.)	• 14 scenarios to assess Knowledge of prostitution laws, developed by authors • 15-items scale: Beliefs about prostitution, developed by authors	- Female and street prostitution were perceived more negatively than male and indoor prostitution. - Legalization of prostitution (42.5%); Criminalization of prostitution (35.8%); more social services for those in prostitution (16.7%); increase the safety for prostitutes (40%).
Otsuki N, et al., 2009, Japan	Cross-sectional national survey	1190 Japanese (age: 18-65) (Response rate: 23.8%)	Attitudes regarding the Buying and Selling of Sexual Services, developed by authors	- Tolerance of buying sex: 40.0% (male), 30.1% (female). - Tolerance of selling sex: 32.2% (male), 22.8% (female).

Peracca S, 1998, Thailand	Qualitative focus group discussion	88 general public (age: 25-40) (Response rate: N.A.)	Topics focus participants' views of female commercial sex worker, e.g. "Would most men object to marrying a woman who engaged in commercial sex work?"	- There was a relatively lack of severe or lasting social stigma towards FSWs. And many Thais were sympathetic towards FSWs. - The public held the belief that FSWs might find a husband.
Pudifin S, et al., 2012, South Africa	Cross-sectional survey with mix-mode (Internet-based survey and paper-based survey)	600 general public (age: 17-83), including 512 Internet-based survey, 88 paper-based survey (Response rate: N.A.)	Tolerance of prostitution, developed by authors	- The majority of South Africans remained strongly morally opposed to prostitution. - The participants would not support legal reforms aimed at decriminalizing or legalizing prostitution.
Räsänen P, et al., 2007, Finland	Cross-sectional internet survey (two Finish universities & three colleges)	1208 Finish students (age: 18-30) (Response rate: N.A.)	14-item subjective measures regarding attitudes towards commercial sex, developed by authors	- Acceptance of selling sex: 3.40 (1.33). - Acceptance of buying sex: 4.46 (1.34). 1= strongly agree; 5= strongly disagree
Roberts R, et al., 2010, UK	Cross-sectional survey (self-administrated questionnaire)	277 undergraduate students (Response rate: 87.9%)	Awareness, understanding, acceptability, knowledge of students participation in sex industry, and likelihood to participant in the sex industry, developed by the authors	- Reason for sex work: money (93%), sexuality (6.5%), desperation (6.1%), personal situation (8.1%). - Awareness of student sex work was widespread and considerable understandable by the majority.

Sagar T, et al., 2013, UK	Mixed-method study (Cross-sectional mail survey, and face-to-face)	205 community members most affected by street sex worker (age: ≥18y, Response rate: 33.5%)	Topics focused on community members perspectives of street sex work	- Attitude toward sex workers: Sex work was inevitable (73.2%), sex worker rarely or never impacted on their quality of life (60%), empathy toward sex workers (46.8%), concern about their safety (57.1%). - Sex worker should be provided with a safe space to work away from residential areas. - People should not allowed to buy/sell sex (29.8%). - People should allowed to buy/sell sex (41.5%).
Shdaimah CS, 2012, U.S.	Mixed-methods with both quantitative survey (face-to-face or self-administrated) and field observation	130 residents from three neighborhoods (Response rate: N.A.)	Perceptions of prostitution questionnaire, developed by research team	- Perception of sex workers as a problem: nuisance, fear of crime, negative impact on quality of life, and negative impact on property value. - Response to prostitution: Jail/fine/class/treatment program. - Punishment for pimps and johns.
Stack S, et al., 2010, 32 nations	Cross-sectional (Data were from the fourth wave of World values survey (2004))	45102 general public (Response rate: N.A.)	Attitudes toward prostitution with a single item: “Please tell me whether you think prostitution can always be justified, never be justified, or something in between.”	- There was strong norm against prostitution among the Muslims of the world.

	Valor-Segura I, 2011, Spain	Cross-sectional survey	620 Public (mean age:26.69) (Response rate: 94.1%)	• The scale of the Legal Stance towards Prostitution, developed by authors • Ambivalent sexism inventory • Beliefs concerning the motives and behaviours of men who pay for sex • Victim blaming, developed by authors	- The tendency to victim-blame prostitutes was greater among people who held a hostile ideology toward women, and favored the prohibition of prostitution.
	Wamoyi J, et al., 2011, Tanzania	Qualitative ethnographic research design, using participant observation, in-depth interview and focus group discussion	46 Young people (age: 14-24) and parents of the young people of this age group (age: N.A.) (Response rate: N.A.)	Topics related to parenting and young people's sexual behaviours	- The practice of transactional sex was widely accepted among parents and young people. - Most of the male participants believed that prohibition of prostitution would lead to rape.
	Zheng W, et al., 2011, China	Cross-sectional survey	212 Chinese (age: 18-39) (Response rate: 73.0%)	Topics focused on participants views about sex outside marriage	- 55% of the respondents hold negative attitudes towards sex workers and described them as immoral, having abnormal behaviours, low class, lazy, greedy, lacking self-respect and had simply found a quick way to earn money.
Various stakeholders	Bellis MA, et al., 2007, UK	Cross-sectional survey (on-line open community meetings, self-administrated)	1069 participants, including 50 sex worker (age: ≥18y), 51 business, 179 residents, 789 public (Response rate: N.A.)	Questions related to views of a managed zone's location, benefits, characteristics, and security measures, views of businesses in two areas considered to host a managed zone	- All groups agreed that a managed zone would improve sex workers' safety and reduce prostitution elsewhere. - Location preference: away from residential areas and pedestrian

	Lai Y-y, et al., 2015, Hong Kong	Qualitative individual interview	11 participants, including 3 residents, 2 social workers, 2 policemen, 2 lawyers, 1 NGO staff, 1 sex worker) (age: N.A.) (Response rate: N.A.)	Questions related to views toward sex work, current law relating to prostitution, and attitudes towards legalization of prostitution and red light districts	- Stakeholders held mixed perceptions toward sex worker and legalizations of prostitution - Risks in establishing red light districts: 1) deviance amplification, 2) unhealthy market forces in the red light districts, 3) not facilitating police work, 4) views towards land use, 5) displacement of crime.

Abbreviations: N.A.: Not applicable. FSWs: female sex workers

Table 3-2 Quality appraisal of selected studies

Qualitative studies/qualitative component of mixed methods studies	0.1	0.2	1.1	1.2	1.3	1.4								Score
Author, year, country														
Baker LM, 2005	Y	Y	Y	Y	Y	Y								****
Dodge M, et al., 2004	Y	Y	N	Y	Y	UC								**
Giacopassi DJ, et al., 1991	Y	Y	N	UC	Y	Y								**
Lai Y-y, et al., 2015	Y	Y	N	Y	Y	UC								**
Maguire M, et al., 2011	Y	Y	Y	Y	Y	UC								***
Peled E, et al., 2013	Y	Y	N	Y	Y	Y								***
Peled E, et al., 2015	Y	Y	Y	Y	Y	Y								****
Peracca S, 1998	Y	Y	N	Y	Y	UC								**
Wamoyi J, et al., 2011	Y	Y	N	Y	Y	UC								**
Quantitative studies/quantitative component of mixed-method studies	**0.1**	**0.2**					**4.1**	**4.2**	**4.3**	**4.4**				**Score**
Alikhadzhieva I, 2010	Y	Y					Y	N	UC	N				*
Basow SA, et al., 1990	Y	Y					Y	N	Y	Y				***
Bellis MA, et al., 2007	Y	Y					Y	N	UC	UC				*
Cao L, et al., 2010	Y	Y					Y	N	UC	N				*
Cao L, et al., 2013	Y	Y					Y	N	UC	N				*
Chon DS, ET AL., 2015	Y	Y					Y	N	UC	N				*
Cotton A, et al., 2002	Y	Y					Y	N	Y	N				**
Jakobsson N, 2011	Y	Y					Y	N	UC	Y				**
Jayanna K, et al., 2010	Y	Y					Y	Y	UC	Y				***
Kennedy MA, 2008	Y	Y					Y	Y	Y	Y				****
Kotsadam A, et al., 2011	Y	Y					Y	N	UC	Y				**
Kotsadam A, et al., 2014	Y	Y					Y	N	UC	Y				**
Kuosmanen J, 2010	Y	Y					Y	N	UC	N				*
Long SL, et al., 2012	Y	Y					Y	N	Y	Y				***
May DC, 1998	Y	Y					Y	N	Y	Y				***
Melby V et al., 1992	Y	Y					Y	Y	N	N				**
Mentzer H, 2010	Y	Y					Y	N	Y	N				**
Moore S, 1999	Y	Y					Y	N	Y	N				**
Morton H, et al., 2010	Y	Y					Y	N	UC	N				*

NakagawaJT, et al., 2014	Y	Y					Y	N	Y	Y				***
Otsuki N, et al., 2009	Y	Y					Y	N	UC	N				*
Preston P, et al., 2005	Y	Y					Y	N	Y	Y				***
Phrasisombath K, 2012	Y	Y					Y	Y	Y	Y				****
Potgieter C, 2012	Y	Y					Y	N	UC	N				*
Pudifin S, et al., 2012	Y	Y					Y	N	UC	N				*
Räsänen P, et al., 2007	Y	Y					Y	N	Y	N				**
Roberts R, et al., 2010	Y	Y					Y	N	UC	Y				**
Rogers SJ, et al., 2014	Y	Y					Y	N	Y	UC				**
Sawyer S, 1998	Y	Y					Y	N	Y	N				**
Sawyer S, et al., 2001	Y	Y					Y	N	Y	N				**
Smith M, et al., 2015	Y	Y					Y	N	Y	N				**
Stack S, et al., 2010	Y	Y					Y	N	UC	N				*
Valor-Segura I, 2011	Y	Y					Y	Y	UC	Y				***
Wortley S, et al., 2002	Y	Y					Y	Y	UC	Y				***
Zheng W, et al., 2011							Y	N	UC	Y				**
Mixed methods (quantitative component)	**0.1**	**0.2**	**1.1**	**1.2**	**1.3**	**1.4**	**4.1**	**4.2**	**4.3**	**4.4**	**5.1**	**5.2**	**5.3**	
Chan KY, et al, 2007	Y	Y	Y	Y	Y	N	Y	N	Y	UC	Y	Y	Y	**
Farley M, 2011	Y	Y	Y	UC	Y	N	Y	N	Y	Y	Y	Y	N	**
Guinto-Adviento MLM, 1988	Y	Y	Y	Y	Y	N	Y	N	Y	UC	Y	Y	N	**
Sagar T, et al., 2013	Y	Y	N	Y	Y	N	Y	N	UC	UC	Y	Y	Y	*
Shdaimah CS, 2012	Y	Y	N	Y	Y	Y	Y	N	Y	UC	Y	Y	Y	**

Note: key: Y = Yes; N = No; UC = Unclear; QL = Qualitative study; DS: Quantitative descriptive study; MM: Mixed method study. For score, the higher number of * indicates the better of the research quality. The lowest score is *, while the highest score is ****.

Items: 0.1. Are there clear qualitative & quantitative research questions (or objectives), or a clear mixed methods question (or objectives)? **0.2.** Do the collected data allow address the research question (objective)? E.g., consider whether the follow-up period is long enough for the outcome to occur (for longitudinal studies or study components). **1.1.** Are the sources of qualitative data (archives, documents, informants, observations) relevant to address the research question (objective)? **1.2.** Is the process for analysing qualitative data relevant to address the research question (objective)? **1.3.** Is appropriate consideration given to how findings relate to the context, e.g., the setting, in which the data were collected? **1.4.** Is appropriate consideration given to how findings relate to researchers' influence, e.g., through their interactions with participants? **4.1**. Is the sampling strategy relevant to address the quantitative research question (quantitative aspect of the mixed methods question)? **4.2.** Is the sample representative of the population understudy? **4.3.** Are measurements appropriate (clear origin, or validity known, or st&ard instrument)? **4.4.** Is there an acceptable response rate (60% or above)? **5.1.** Is the mixed methods research design relevant to address the qualitative & quantitative research questions (or objectives), or the qualitative & quantitative aspects of the mixed methods question (or objective)? **5.2.** Is the integration of qualitative & quantitative data (or results) relevant to address the research question (objective)? **5.3.** Is appropriate consideration given to the limitations associated with this integration, e.g., the divergence of qualitative & quantitative data (or results) in a triangulation design?

These two items are not considered as double-barrelled items since in mixed methods research, (1) there may be research questions (quantitative research) or research objectives (qualitative research), & (2) data may be integrated, &/or qualitative findings & quantitative results can be integrated.

Table 4-1 Methodology quality appraisal of the included studies

Part I: Qualitative studies: Quality assessment of the studies included according to the CASP tool for qualitative studies

Author, Year, Country	1	2	3	4	5	6	7	8	9	10	Total score
Basnyat I, Nepal, 2015	Y	Y	N	N	Y	Y	Y	Y	Y	Important	7
Beattie TS, et al., India, 2012	Y	Y	N	N	N	N	Y	N	Y	Important	4
Chakrapani V, et al., India, 2009	Y	Y	N	N	N	N	Y	Y	Y	Important	5
Folch C, et al., Spain, 2013	Y	Y	N	N	N	N	C	N	Y	Important	3
Ghimire L, et al., Nepal, 2011	Y	Y	N	C	N	N	Y	N	Y	Important	4
Kimani RN, Kenya, 2014	Y	Y	Y	N	N	N	Y	N	Y	Important	5
Kurtz SP, et al., U.S., 2005	Y	Y	N	N	N	N	Y	N	Y	Important	4
Lafort Y, et al., Mozambique, 2016	Y	Y	N	C	N	N	Y	N	Y	Important	4
Marlow HM, et al., Uganda, 2014	Y	Y	N	C	N	N	C	N	Y	Important	3
Mtetwa S, et al., Zimbabwe, 2013	Y	Y	N	C	N	N	Y	N	Y	Important	4
Ngo A, et al., Vietnam, 2007	Y	Y	N	N	N	N	Y	N	Y	Important	4
Nguyen M-N, et al., Canada, 2008	Y	Y	N	N	N	N	Y	N	Y	Important	4
Phillips R, et al., Canada, 2005	Y	Y	N	N	N	N	C	N	Y	Important	3
Porras C, et al., Guatemala, 2008	Y	Y	N	N	Y	N	Y	N	Y	Important	5
Rosenheck R, et al., Tanzania, 2010	Y	Y	Y	C	Y	N	Y	N	Y	Important	7
Scorgie F, et al., Four African countries, 2013	Y	Y	Y	Y	N	N	Y	Y	Y	Important	7
Smith FM, et al., UK	Y	Y	N	C	N	N	Y	N	Y	Important	4
Surratt HL, et al., U.S., 2014	Y	Y	N	C	Y	N	C	N	Y	Important	3
Underhill K, et al., U.S., 2014	Y	Y	N	N	Y	N	Y	N	Y	Important	5
Varga LM, U.S., 2012	Y	Y	Y	N	Y	N	Y	Y	Y	Important	7
Wong W-C, et al., China, 2003	Y	Y	N	N	N	N	C	N	Y	Important	3

Y: Yes; N: No; U: Unclear. Criteria 4 was reverse scored.

Checklist for measuring the qualitative study quality
Items: **1.** Was there a clear statement of the aims? **2.** Was there a clear statement of the aims of the research? **3.** Was the research design appropriate to address the aims of the research? **4.** Was the recruitment strategy appropriate to the aims of the research? **5.** Was the data collected in a way that addressed the research issue? **6.** Has the relationship between researcher and participants been adequately considered? **7.** Have ethical issues been taken into consideration? **8.** Was the data analysis sufficiently rigorous? **9.** Is there a clear statement of findings? **10.** How valuable is the research?

Part II. Quantitative studies: Quality assessment of the studies included according to the Pocket Guide to Critical Appraisal for cross-sectional studies Crombie (1996)

Author, Year, Country	1	2	3	4	5	6	7	8	9	10	11	Total score
Duff P, et al., Canada, 2016	Y	Y	Y	Y	U	N	U	U	Y	Y	Y	6
Folch C, et al., Spain, 2013	Y	Y	Y	Y	U	N	Y	U	Y	N	Y	6
Ghimire L, et al., Nepal, 2011	Y	Y	Y	Y	U	N	U	U	Y	Y	Y	6
Hong Y, et al., China, 2012	Y	Y	Y	Y	U	N	U	U	Y	Y	Y	6
Jeal N, et al., UK	Y	Y	Y	Y	U	N	Y	U	N	N	Y	5
Kimani RN, Kenya, 2014	Y	Y	Y	Y	U	Y	Y	Y	Y	N	Y	8
King EJ, et al., Russia, 2013	Y	Y	Y	Y	U	N	U	U	Y	Y	Y	6
Kurtz SP, et al., U.S., 2005	Y	Y	Y	Y	U	N	U	U	N	N	Y	4
Lafort Y et al., Mozambique, 2016	Y	Y	Y	Y	U	N	U	U	N	Y	Y	5
Lazarus L, et al., Canada, 2012	Y	Y	Y	Y	U	N	U	U	Y	Y	Y	6
Nguyen M-N, et al., Canada, 2008	Y	Y	Y	Y	U	N	Y	U	N	N	Y	4
Philips R, et al., Canada, 2005	Y	Y	Y	Y	U	N	U	U	N	N	Y	4
PhrasisombathK, et al., Laos, 2012	Y	Y	Y	N	Y	N	Y	U	Y	Y	Y	9
Rosenheck R, et al., Tanzania, 2010	Y	Y	Y	Y	U	N	U	U	Y	Y	Y	6
Savva H, South Africa, 2013	Y	Y	Y	Y	U	N	U	U	Y	Y	Y	6
Shannon K, et al., Canada, 2005	Y	Y	Y	Y	U	N	U	U	N	N	Y	4
Surratt HL, et al., U.S., 2014	Y	Y	Y	Y	U	N	U	Y	Y	N	Y	6
Varga LM, U.S., 2012	Y	Y	Y	Y	U	N	U	Y	Y	N	Y	6
Wang Y, et al., China, 2011	Y	Y	Y	Y	U	N	Y	U	Y	Y	Y	6

Y: Yes; N: No; U: Unclear. Criteria 4 was reverse scored.

Checklist for measuring the quantitative study quality

Items: 1. Did the study address a clearly focused question / issue? 2. Is the research method (study design) appropriate for answering the research question? 3. Is the method of selection of the subjects (employees, teams, divisions, organizations) clearly described? 4. Could the way the sample was obtained introduce (selection) bias? 5. Was the sample of subjects representative with regard to the population to which the findings will be referred? 6. Was the sample size based on pre-study considerations of statistical power? 7. Was a satisfactory response rate achieved (>70%)? 8. Are the measurements (questionnaires) likely to be valid and reliable? 9. Was the statistical significance assessed? 10. Are confidence intervals given for the main results? 11. Can the results be applied to your organization?

Table 4-2 Characteristics of the included study

Author, Year, Country	Aims	Study design	Sampling Method	Participants	Type of health care service	Main focus and significant findings	
						Barriers	**Facilitators**
Basnyat I, Nepal, 2015	To explore how structural violence was enacted and experienced in the context of health care in the lives of FSWs	Qualitative individual interviews	Not reported (Response rate: not reported)	35 FSWs (age range:32-45y)	Health care services	• Intrapersonal: limitation of health information, disclosure concerns (hided sex worker status), health care costs, other priorities (spending money on family) • Interpersonal: inaccurate health information given by their informal networks • Institutional: Anticipated/enacted stigma and discrimination from health care providers, e.g. negative attitudes, unequal treatment, fear of being judged, lack of confidentiality, long waiting time, lack of comprehensive services at VCT clinics	• Interpersonal networks: women's network served as a source of health information, e.g. other sex workers, health promoters, educators.

Beattie TS, et al., India, 2012	To understand the barriers to accessing HIV care services across different typologies of FSWs and men who have sex with men (MSM) and transgenders and to identify strategies to overcome them	Qualitative study: Focus group discussion	Purposive sampling method (Response rate: not reported)	302 participants (age range: 18-59y, mean age: 30.5y), including 125 FSWs, 56 MSM, 6 transgenders , 87 female peer educators, 28 male peer educators	HIV testing services	• Intrapersonal: lack of knowledge about HIV services, denial of HIV risk/fatalism, fear of mental health impact of positive test result • Institutional: discrimination and derogatory comments, denial of treatment, diagnosing without examination, ineffective treatment, poor facilities, location with hospitals, queuing for HIV services in hospital corridors, counseling facilities, long distances, charges for "free" services, bribe for "free" services, long waiting time, quotas at ART centers, lack of confidentiality • Community: discrimination by family, neighbours, schools and government officials	• Intrapersonal: clear understanding of the benefits of knowing one's status • Interpersonal: peer educators accompanying community members to services, • Institutional: empathetic and caring staff, with a good understanding of issues facing the FSW community, • Community: NGOs challenging discriminatory behaviours and bribes, service located in non-public settings (e.g. NGO STI services), FSW "exclusive" services • Policy: removal of charge for "free" services by NGO

Chakrapani V, et al., India, 2009	To understand barriers faced by FSWs living with HIV in accessing free antiretroviral treatment (ART) provided by government ART centers	Qualitative study: Focus group discussion and two ken informant interviews	Purposive sampling (Response rate: not reported)	19 FSWs (age range: 21-48y)	Free ART	• Intrapersonal: inadequate knowledge about ART, fatalism of ART, alcohol consumption, fear of exposure that they were "diseased" and lost clients and income, sex work had impact on ability to access and adherence of ART • Interpersonal: lack of family support, unmet basic needs, lack of confidentiality • Institutional: negative experience with health care providers, lack of adequate counseling service at government centers and by NGO outreach workers, lack of privacy, perceived biased treatment of FSWs who were not referred by NGOs, practical difficulties in being hospitalized for observation during ART treatment • Community: societal-level stigma and discrimination,	• Intrapersonal: clear understanding of the benefits of taking ART , receiving adequate information about ART and its benefits, commitment to family member • Interpersonal: Peer influence of taking care of themselves • Community: NGO supported them initiate ART
Duff P, et al., Canada, 2016	To explore the barriers to cervical screening among FSWs in Vancouver	Cohort study (2010-2013)	Time-location sampling (Response rate: not reported)	611FSWs (median age: 34.0y, Inter quartile range (IQR) =28-42y)	Pap testing	• Institutional: poor treatment by health care staff, limited hours of operation, and language barriers	

Folch C, et al., Spain, 2013	To describe the use of social and health service of FSWs in Catalonia and explore the barriers these women encountered when accessing these services	Mixed-method study (Cross-sectional survey with focus group discussion)	Convenience sampling method (Response rate: 88.3%)	Survey: 400 FSWs (mean age: 30.6y) Focus group: 23 FSWs	Health care services	• Intrapersonal: fear/avoid discrimination, lack of understanding of public health system functions • Institutional: lack of confidentiality, overload health care system, language barriers, medical malpractice	
Ghimire L, et al., Nepal, 2011	To explore FSWs' use of sexual health services and the factors associated with their use and non-use of services	Mixed-method study (Cross-sectional survey with in-depth interview)	Snowball sampling technique based on a convenience sampling method (Response rate: not reported)	Survey: 425 FSWs (age range: 15-46y) In-depth interview: 15 FSWs (age range: 19-42y)	Sexual health services	• Intrapersonal: lack of knowledge of sexual health services in NGO FSWs could not visit clinics/hospitals during day time, and they could not afford long waiting times. Disclosure concerns: fear of public exposure of sex worker, costs • Institutional: unfriendly/indifferent attitudes of health care providers, lack of confidence in private clinics' health care providers' knowledge and skills, sexual harassment by male doctors, lack of proper care from government hospitals, lack of privacy and confidentiality, lack of gender compatibility (FSWs were reluctant to reveal their problems to male doctors), long waiting time	• Institutional: FSWs preferred to visit different clinics/clinics that were far from their community

Hong Y, et al., China, 2012	To understand the HIV testing among FSWs in China	Cross-sectional survey	Ethnographic targeted sampling strategies (Response rate: not reported)	1022 FSWs (mean age: 24.9 $\pm$ 6.7y)	HIV testing services	• Intrapersonal: low perceived risks (70%), lack of information about where to do HIV testing (47%), lack of time for HIV testing (41%), stigma such as fear of others knowing their HIV status or the identity of FSWs • Community: social stigma associated with sex worker/HIV status	
Jeal N, et al., UK, 2004	To identify barriers reducing access to health services by street sex workers and to identity current patterns of use	Cross-sectional survey	Direct approach and snowball sampling method (Response rate: 98.6%)	71 FSWs (age: >16y)	Health care services	Barriers to primary care services: • Intrapersonal: disclosure concerns: not disclosing sex worker status (62%) • Institutional: unavailable appointment (52%), judgment by staff (45%), stigma from other patients (37%) Barriers to sexual health care services: • Intrapersonal: fear of being judged as a sex worker (22%) • Institutional: clinic location (45%), the appointment system (32%), long waiting time (25%), discrimination from other patients (25%)	• Institutional: clinic that being located close to FSWs' place (77%), doctors had appropriate knowledge of sex work (63%), evening opening (75%), a system without appointment (70%), self-obtained swabs (11%), facility specifically for sex worker (11%), doctors who could provide an integrated service (97%), with condom provision (89%)

Kimani EJ, Kenya, 2014	To investigate the factors influencing effective utilization of HIV/STI comprehensive health service by sex workers in Nairobi, Kenya	Mixed-method study (Cross-sectional survey with key informant interview and focus group discussion)	Purposive sampling (Response rate: 84.6%)	323 sex workers, including 109 MSWs, 214 FSWs (age: ≧15y)	HIV/STI, and other reproductive health services	• Intrapersonal: disclosure concerns (fear of public exposure of being a sex worker), lack of awareness of comprehensive HIV/STI services, self stigma of being a sex worker • Institutional: stigma from health care providers, long distance of health centers • Community: social stigma	• Confidentiality and privacy • Non-discrimination by staff • Institutional: distance, effective communication, affordable health care costs
King EJ, et al., Russia, 2013	To examine the extent of FSWs' perceived stigma and experienced discrimination in the health care setting	Cross-sectional survey	Not reported (Response rate: not reported)	139 FSWs (mean age: 28.9y, age range: 19-41y)	HIV testing services	• Intrapersonal: Disclosure concerns: discuss involvement in sex work with doctors (49%) • Institutional: doctor refused to treat them (31%), doctor refused to treat injection drug users (51%), personally had been refused medical care (30%), unwilling to see the doctor when necessary due to the fear of bad treatment (58%) • Community: stigma associated with sex worker/HIV status	

Kurtz SP, et al., U.S., 2005	To assess the health and social service needs and the associated barriers to access among FSWs	Mixed-method study (Cross-sectional survey with focus group discussion)	Snowball sampling method and chain referral strategies (Response rate: not reported)	586 FSWs (age: >18y, median age: 38y)	Health care services	• Intrapersonal: awareness of service, drug seeking and use, street life distraction/sense of time, mental/emotional stability, generalized fear, negative attitudes • Institutional: availability, information accessibility, transportation, legal status requirement, social stigma, program staff communication skills • Policy: fear of being arrested

Lafort Y, et al., Mozambique, 2016	To understand the barriers to HIV and sexual and reproductive health care for FSWs	Mixed-method study (Cross-sectional survey with focus group discussion)	Respondent driven sampling (Response rate: not reported)	333 FSWs (Cross-sectional survey: 311 FSWs, median age: 23.5y (Mozambican), 30 (Foreign FSWs); focus group discussion: 22 FSWs, median age: 36 (full-time Zimbabwean), 23 (Full-time Mozambican), 22 (occasional Mozambican))	HIV and sexual and reproductive health care services	Dissatisfaction with public services • Institutional: bribe by health providers, bad reception by staff, lack of privacy and confidentiality, long waiting time, common drugs shortage, lack of information and explanation by health providers, short consultation time	• Institutional: separate clinics, expand the Night clinic, improve access to the public services, comprehensive health services, e.g. termination of pregnancy, care for incomplete miscarriage/abortion
Lazarus L, et al., Canada, 2012	To measure the prevalence of occupational sex work stigma and model its association with barriers to health access	Cross-sectional data drawn from a cohort study (2006-2008)	Time-Space Sampling method (Response rate: not reported)	252 FSWs (Median age: 35y, Inter quartile range (IQR): 25-41y)	Health care services	• Community: Occupational sex work stigma was associated with increased likelihood of experiencing barriers to accessing health care services.	

Marlow HM, et al., Uganda, 2014	To understand FSWs experience with induced abortion services or post-abortion care at an urban clinic in Uganda	Qualitative study: in-depth interview	Not reported (Response rate: not reported)	9 FSWs (age: > 18y)	Abortion services	• Intrapersonal: lack of information of safe abortion and costs • Interpersonal: peer advice of using herbs for abortion • Institutional: experience of poorly treatment, denial of treatment because of they were sex workers or because they were seeking of abortion	• Intrapersonal: complications due to unsafe abortion • Interpersonal: receiving support/information from friends/community outreach educator, women's accompaniment to the health facility • Institutional: confidentiality, caring and high quality treatment by the clinic provider
Mtetwa S, et al., Zimbabwe, 2013	To explore HIV positive sex workers' experience with care	Qualitative study: focus group discussion	Systematic sampling (Response rate: not reported)	38 FSWs (age range:18-48y)	HIV treatment services	• Intrapersonal: internalized shame and anxiety about being known to be a sex worker, financial and logistical barriers, such as consultation fee, ART patients required more nutritious diets, travelling time, felt shame or embarrassment, loss of income due to travel to clinics • Institutional: negative attitudes from health care providers, public humiliation, fear of being mistreated, health care staff had no sense of urgency when doing their work • Community: social stigma	

Ngo A, et al., Vietnam, 2007	To explore health seeking behaviours for STIs and HIV testing among FSWs in Vietnam	Qualitative study: in-depth interview, focus group discussion, and participant observation	Snowball sampling method (Response rate: not reported)	124 FSWs (age: not reported)	STIs and HIV testing services	• Intrapersonal: misunderstanding of STIs, internalized stigma (felt embarrassment), unaware of VCT services, lack of money • Interpersonal: peer opinions • Institutional: anticipated/enacted stigma: afraid of being scolded by health staff, negative attitudes of health care providers, lack of trust of doctors: sex workers believed that doctors prescribed a high dose of medicines for profits, poor care, long waiting time, a lack of privacy and confidentiality • Community: stigma attached to STIs	• Interpersonal: peer opinion • Institutional: FSWs preferred visiting private clinics, because of friendly staff, less discrimination, good care, proper medicine, no waiting time, high change of cure, a quick recovery, privacy and confidentiality were secured, mobile health service and provide on-site service, HIV/STIs should be labeled as general clinic rather than a specific STI/HIV service • Policy: consultation and treatment should be free or partially subsidized

Nguyen M-N, et al., Canada, 2008	To explore the reasons for which FSWs have consulted health care professionals	Mixed-method study (Cross-sectional survey with Focus group discussion and individual interviews)	Not reported (Response rate: 93.1%)	Survey: 201FSWs (mean age: 31.7±7.8y) Focus group: 6 FSWs (age: not reported) In-depth interview: 12 FSWs (mean age: 34.3±9.3y)	Health care services	• Intrapersonal: lack of health care and health services information, disclosure concerns (feared of health care providers' judgment and hided sex worker status) • Institutional: the time of operation of most health services did not suit FSWs' work schedules mental health services were not readily accessible, or long waiting list to consult a psychologist.	• Institutional: non-judgmental approach of care givers from specialized clinics
Phrasiso mbathK , et al., Laos, 2012	To describe care seeking behaviour and barriers to accessing reproductive tract infection (RTI) and STI services among FSWs in Laos	Cross-sectional survey	Not reported (Response rate: 96.2%)	407 FSWs (age range: 15-31y)	Reproductive tract infection (RTI) and sexually transmitted infection (STI) services	• Intrapersonal: lack of health service information (25%), lack of money (22%) • Institutional: Long clinic waiting time (67%), inconvenient location of the clinic (31%), judgmental attitudes of health care providers (10%), very bureaucratic procedures to use the services (9%)	

Phillips R, et al., Canada, 2005	To explore the health care experience of female, male and transgender sex workers in Canada	Mixed-method study (Cross-sectional survey and qualitative individual interviews)	Purposive sampling method (Response rate: not reported)	Survey: 201 female, male and transgender sex workers (mean age: 32y, age range: 18-63y) Sub-group in-depth interview: 79 female, male and transgender sex workers (mean age: 34y)	Health care services	• Intrapersonal: Disclosure concerns: hiding sex worker status • Institutional: enacted stigmatized attitudes from health care providers, poor quality of care: lack of privacy, rushed service environment, health care workers were lack of education	• Institutional: caring, non-judgmental attitudes of health care providers, services specifically for sex workers, 24-h mobile services, comprehensive services, such as counseling services
Porras C, et al., Guatemala, 2008	To understand the reproductive health and health care among FSWs in Escuintla, Guatemala	Qualitative study: in-depth interview	Snowball sampling method (Response rate: not reported)	35 FSWs (mean age: 27y, age range: 18-47y)	Health care services	• Intrapersonal: disclosure concerns (fear of disclosing sex workers status) • Institutional: enacted stigma/discrimination from health care workers, lack of resources: lack of medicine, poor quality of care: poor treatment by health workers, absence of clean facilities, poor laboratory facilities, provision of scant information, lack of provision of holistic care, long waiting time, location of clinics made FSWs felt discriminated against	• Intrapersonal: self care intention, result of preceding signs and symptoms

Rosenheck R, et al., Tanzania, 2010	To explore treatment seeking behaviours among FSWs who experienced symptoms of vaginal discharge or genital ulcers in Tanzania	Mixed-method study (Quantitative baseline data adopted from a cohort study (2002-2005) and qualitative study with in-depth interviews)	Convenience sampling (Response rate: not reported)	459 FSWs self-reporting experiencing symptoms of both vaginal discharge and genital ulcers within the past year (mean age: 27.83$\pm$7.36y, age range: 14-62y)	STIs treatment services	Barriers • Intrapersonal: fear of being labeled as a prostitute by peers, society, medical personnel, husbands or partners • Institutional: discomfort with the gynecological exam procedures, and discomfort by having male a medical provider performed the exam • Community: social stigma associated with sex worker status	• Intrapersonal: perceived potential threats to fertility, FSWs did not want symptom presentation to impede their work
Savva H, South Africa, 2013	To examine the factors associated with the utilization and satisfaction of health service by FSWs in South Africa	Secondary analysis of data from a cross-sectional study	Non-probability sampling method (Response rate: not reported)	2220 sex workers, including 77 transgender sex worker, 98 MSWs, and 2023 FSWs (mean age: 30$\pm$6.65y)	Health care services	• Intrapersonal: internalized stigma, alcohol use/abuse • Institutional: discrimination and stigmatization, negative attitudes or refusal of services due to migrant status, bad service or refusal of service, poor quality of health service, long waiting time, negative attitudes from health care providers, abuse by health providers • Policy: illegal status, abuse by authorities-police, fear of being arrested	• Institutional: positive attitudes from health care providers, privacy and confidentiality • Community: support from advocacy groups

Scorgie F, et al., Four African countries (Kenya, Zimbabwe, Uganda, South Africa), 2013	To understand female, male and transgender sex workers' experiences of seeking public and private health care	Qualitative study: in-depth interview and focus group discussion	Not reported (Response rate: not reported)	136 sex workers, including 106 female (age range: 25-35y), 26 male (age range: 20-36y) and 4 transgender sex workers (age range: 25-34y)	Health care services	• Intrapersonal: lack of HIV service information, could not affort transport costs or user-fees, high users fees • Institutional: long waiting time, medicine shortage, inadequate transport to hospitals, negative attitudes of health care providers, such as abusive and hostile, denial treatment, referring sex workers unnecessarily, blaming sex workers for their illness, violation of privacy • Community: broader social discrimination and social isolation	• Institutional: clinics was specifically for sex workers, good attitudes of health care providers, especially those from private clinics, sensitize health providers to them to the needs of sex workers community
Shannon MK, et al., Canada, 2005	To evaluate the needs of women engaged in survival sex work and to assess utilization and acceptance of highly active antiretroviral therapy (HAART)	Cross-sectional survey	Random sampling method (Response rate: not reported)	159 FSWs (median age: 39y, age range: 21-61y)	HIV treatment services	• Intrapersonal: fear of side effects (72%), Institutional: insufficient knowledge about the treatment (68%), inability to adhere to daily medication regimes (48%) • Institutional: clinic for both men and women (42%), inability to make regular medical appointments (55%) • Community: Stigma associated with HIV status (46%)	• Institutional: daily home delivery (75%), extended daytime hours (74%), daily delivery at a discrete location on the street (52%)

Smith FM, et al., UK, 2007	To assess barriers to effective drug addiction treatment for FSWs	Qualitative study: in-depth interview	Opportunity sampling (Response rate: not reported)	9 FSWs (age range: 23-55y)	Drug addiction treatment	• Interpersonal: lack of support • Institutional: discriminatory practices across a range of the services that are designed to offer support in addressing their drug addiction, absence of a comprehensive treatment package	• Interpersonal: long-term relationship with one person, who could assist them during the drug treatment process
Surratt HL, et al., U.S.	To examine the factors associated with HIV testing and care among a population of substance using FSWs	Mixed-method study: quantitative part: Data were drawn from a randomized clinical trial, qualitative part: focus group discussion	Targeted sampling method (Response rate: not reported)	457 FSWs (mean age: (42.1±6.4), age range: 18-50y)	HIV testing and treatment services	• Intrapersonal: substance use • Institutional: denial of treatment • Community: social stigma associated with HIV status, social isolation	• Intrapersonal: higher sexual risk behaviours, housing stability • Interpersonal: higher levels of social support, • Institutional: having a regular health care provider/clinic, insurance coverage

Underhill K, et al., U.S., 2014	To explore health care access, HIV/STI testing among MSWs and men who have sex with men (MSM)	Qualitative study: in-depth interview and focus group discussion	Not reported (Response rate: not reported)	94 participants, including 47 MSWs (age range: 21-58y), and 47 MSM (age range: 21-70y)	Health care, STIs and HIV testing services	• Barriers to STI testing: Intrapersonal: misperception of all STIs are symptomatic, lack of concern about STIs besides HIV, lack of awareness that STIs could increase HIV risk, lack of STI testing information • Barriers to HIV testing: Intrapersonal: lack of concern for health during times of severe substance use, low prioritization of HIV testing compared to other needs, perceived low risk of HIV infection, having partners tested “negative” for HIV • Barriers to health care: Intrapersonal: lack of money, lack of interest in health care during times of heavy substance abuse, fear and anticipated shame of discovering physical damage due to long-term substance use Institutional: clinic location was far away, unmet health care (e.g. substance use treatment, mental health care, primary care, prescription drug coverage, STI testing, care for hepatitis C, other chronic diseases)	• Intrapersonal: self-care intentions linked to substance use treatment, perceived risk of HIV infection, reach health crisis • Interpersonal: the request of a partner aware of one’ sex worker behaviour • Institutional: HIV testing offered by providers or outreach workers

Varga LM, U.S., 2012	To examine the health and health care utilization among black FSWs in miami, florida	Mixed-method study (Cross-sectional survey with Focus group discussion)	Targeted and snowball sampling strategies (Response rate: not reported)	546 FSWs participated in the survey (age range: 18-53y), 13 FSWs participated in focus group discussion (age range: 20-53y)	Health care services	• Intrapersonal: lack of money/insurance, lack of free health services information, fear, felt ashamed to seeking health care without insurance, drug use • Institutional: negative experiences, with fear, discrimination, distrust, waiting times, and addiction are all linked to lack of links and resources, distrust of discriminatory health care system	• Intrapersonal: Pain, fear of illness in general from consequences of drug use, and particularly fear of HIV, receiving public benefits (e.g. receiving social security, disability welfare, public assistance for food stamps), having depression symptom • Institutional: good experience with a doctor, having a regular doctor she trusted, having transportation, having insurance
Wang Y, et al., China, 2011	To explore factors associated with utilization of a free HIV voluntary HIV counseling and testing (VCT) clinic by FSWs	Cohort study (January to December 2007)	Not reported (Response rate: 80%)	970 FSWs (age range: 14-41y)	HIV testing services	• Intrapersonal: perceived risk for HIV infection • Community: social stigma associated with sex worker and HIV status	• Intrapersonal: self care intention • Interpersonal: acquaintance and peer opinion, having another FSWs accompanied • Policy level factors: available free treatment

Wong W-C China, 2003	To understand FSWs medical-seeking behaviour and expectations Ruili, China	Qualitative study: focus group discussion	Chain sampling methods (Response rate: not reported)	89 FSWs (median age: Burmese: 19.4y; Chinese: 22.6y)	Health care services	Many FSWs tried self-medication or private physicians first as they were more user friendly and perceived to have more privacy • Institutional: no one want a clinic to serve them alone, language	• Institutional: accessibility: close to their work place, open late and until early hours in the morning, clinics to st- gy ng terminations of pregnancy, insertion of intrauterine devices and clinical psychology, condoms, interpretation services, confidential access to HIV testing, affordable health care cost • Policy: affordable care

FSWs: female sex workers; MSWs: male sex workers; VCT: voluntary testing and counseling; STIs: sexually transmitted infections; NGO: Non-governmental organization; ART: antiretroviral therapy

Table 4-3 Barriers to health services among sex workers

Intrapersonal level barriers	Interpersonal level barriers	Institutional level barriers	Community level barriers	Policy level barriers
Lack of information or knowledge of diseases/services	Lack of support	Poor quality of care	Stigma	Illegal status
Lack of health information/misunderstanding of diseases	Lack of family support	Negative attitudes from health care providers	Sex work-related stigma from society	Illegal status
Perceived low risk of HIV infection	Domestic violence	Poor/unequal treatment	HIV/STIs-related stigma	Fear of being arrest
Lack of information or knowledge of service/treatment	Lack of referral clients from peers	Denial of treatment	Drug use-related stigma:	
Fear	Influence of social networks	Inadequate counseling		
Fear of sex work related stigma	Health information from peers	Sexual harassment by male doctors		
Fear of being infected with HIV/STIs		Bribe by health care workers		
Fear of side effects of treatment		Lack of privacy and confidentiality		
Costs		Lack of adequate and convenient services		
Cost of health care service		Lack of comprehensive services/treatment		
Other priority		Inconvenient opening hours		
Loss of income (27, 34)		Long waiting times		
Lack of capacity		Inconvenient locations		
Substance abuse		Lack of transportation		
Street life		Lack of user-friendly appointment systems		
Mental/emotional stability		Insufficient facilities and resources		
Sex work		Lack of gender compatibility/discomfort by having male doctor performed the exam		
Hard to adherence of daily regimes		Types of clinics		
		Clinics served for both gender		
		Clinics served sex workers alone		
		Fear of being as sex workers at STI clinics		

Table 4-4 Facilitators to health services among sex workers

Intrapersonal level facilitators	Interpersonal level facilitators	Institutional level facilitators	Community level facilitators	Political facilitators
Health information	Social support	High quality service	NGO support	Health care policy incentives
Understand benefit	Own network information	Health care providers' non-judgmental/ positive attitude	Health information	Free service/cost subsidize
Adequate information	Emotional and practical support from peers	Health care providers' appropriate knowledge of sex worker or sex industry	Emotional support	
Health concerns	Family support	Confidentiality	Financial support	
Threats to fertility	Broader social support	High quality of treatment	Knowledge of legal and human rights	
Self care intention		Available, accessible, and affordable services	Advocating government support for HIV treatment	
Perceived high risk of HIV infection		Comprehensive and integrated services	Working for corruption-free health services	
Preceding signs and symptoms		Convenient opening hours		
Commitment to family		No waiting time		
Others		Close to workplace		
Don't want symptom affect work		Far from community		
Substance use treatment		Having transportation		
		Mobile services/home delivery		
		User-friendly appointment system)		
		Interpretation service		
		Insurance		
		Affordable price		
		Less stigmatized clinics		
		Be labeled as general clinic		
		FSW exclusive service		
		Others		
		Self-obtained swabs		
		Regular health care provider		

Table 6-1 Quality appraisal with Downs and Black scale

Author, year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	Total score	Quality level
All A.C., 1997	1	1	0	1	0	1	1	0	1	0	0	0	1	0	0	0	1	1	1	1	1	0	0	0	0	1	0	13	Poor
Aeora S., 2014	1	1	0	1	0	1	1	0	1	1	0	0	1	0	0	0	1	1	0	1	1	0	1	0	0	1	0	14	Fair
Balogun J, et al., 1998	1	1	0	1	2	1	1	0	1	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	1	1	0	13	Poor
Bluespruce J., et al., 2001	1	1	1	1	2	1	0	0	1	1	1	1	1	0	0	0	1	1	1	0	0	1	0	0	1	1	0	18	Fair
Britton P, et al., 1999	1	1	0	1	0	1	1	0	0	1	1	0	1	0	0	0	1	1	1	1	1	0	0	0	0	0	0	13	Poor
Buskin, S.E., et al., 2002	1	1	0	1	0	1	0	0	1	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0	0	1	0	10	Poor
Carney J.S., et al., 1999	1	1	0	1	0	1	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	0	0	0	0	0	0	10	Poor
Charuluxananan S. et al., 2000	1	1	1	1	0	1	1	0	0	0	0	0	1	0	0	0	1	1	1	0	1	1	0	0	0	1	0	13	Poor
Chisholm M, et al., 1999	1	1	1	1	1	1	1	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	0	16	Fair
Collins P.Y., et al., 2006	1	1	0	1	0	1	1	0	1	0	0	0	1	0	0	0	1	1	1	1	0	0	0	0	0	1	0	12	Poor
Diesel Holly, et al., 2013	1	1	1	1	2	1	1	0	0	1	1	1	1	0	0	0	1	1	0	1	1	1	0	0	0	0	0	17	Fair
Ezedinachi E., et al., 2002	1	1	1	1	2	1	1	0	0	1	1	0	1	0	0	0	1	1	1	1	0	0	1	0	1	0	0	17	Fair
Geibel S. et al., 2017	1	1	1	1	2	1	1	0	0	1	0	0	1	0	0	0	1	1	1	0	1	1	0	0	1	0	0	16	Fair
Gross E. J., et al., 1993	1	1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	1	1	0	1	1	0	0	0	1	0	12	Poor
Gutierrez J.M.M., 2014	1	1	1	1	0	1	1	0	1	1	1	0	1	0	0	0	1	1	1	1	1	1	0	0	0	1	0	17	Fair
Held SL, et al., 1992	1	1	1	1	0	1	1	0	1	0	1	1	0	0	0	0	1	1	0	1	1	0	1	0	0	1	0	15	Fair
Kamiru HN, et al., 2009	1	1	1	1	2	1	1	0	1	1	0	0	1	0	0	0	1	1	1	1	1	0	0	0	0	1	0	17	Fair
Kaponda C.P.N., et al, 2009	1	1	1	1	2	1	1	0	0	1	1	0	1	0	0	0	1	1	1	0	1	0	0	0	0	0	0	15	Fair
Kemppamen J.K., et al., 1996	1	1	0	1	0	1	0	0	1	1	0	0	1	0	0	0	1	1	1	0	1	0	1	0	0	1	0	13	Poor
Lewis D.A., et al., 1996	1	1	0	1	0	1	0	0	0	0	0	0	1	0	0	0	1	1	1	0	1	0	0	0	0	0	0	9	Poor
Li L, et al., 2013	1	1	1	1	2	1	1	0	0	1	1	1	1	0	0	0	1	1	1	1	0	0	0	0	1	0	0	17	Fair
Lohiniva A.L, et al., 2015	1	1	1	1	2	1	1	0	0	1	0	0	1	0	0	0	1	1	1	1	0	0	0	0	0	0	0	14	Fair
Lueveswanij S., et al., 2000	1	1	1	1	2	1	1	0	0	1	0	0	1	0	0	0	1	1	1	0	0	0	0	0	1	1	0	15	Fair
Mak W.W.S, et al., 2015	1	1	1	1	0	1	1	0	0	0	0	0	1	1	0	0	1	1	0	1	1	0	1	0	0	0	0	13	Poor
Mahendra V.S., et al., 2006	1	1	0	1	0	1	0	0	0	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0	8	Poor
McCann T.V., et al., 1998	1	0	1	1	2	1	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	0	0	0	0	1	0	13	Poor
Mockiene V., et al., 2011	1	1	1	1	2	1	1	0	1	1	1	0	1	0	0	0	1	1	0	1	0	1	1	0	0	1	1	19	Good
Nanayakkara G et al., 2017	1	1	0	1	2	1	1	0	1	1	0	0	1	0	0	0	1	1	1	1	1	1	1	0	0	1	0	16	Fair
Operario D., et al., 2016	1	1	0	1	0	1	1	0	1	1	0	0	1	0	0	0	1	1	1	1	0	1	1	0	0	1	0	15	Fair
Orlander Jay, et al., 1994	1	1	0	1	0	1	1	0	0	1	0	0	1	0	0	0	1	1	1	1	0	1	0	0	0	0	0	12	Poor
Pisal H., et al., 2007	1	1	0	1	0	1	1	0	0	1	0	0	1	0	0	0	1	1	1	0	1	0	0	0	0	0	0	11	Poor
Pulerwitz J., et al., 2015	1	1	1	1	0	1	1	0	1	1	1	1	1	0	0	0	1	1	1	0	0	1	0	0	0	1	0	16	Fair

Author, year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	Total score	Quality level
Shah S.M., et al., 2014	1	1	0	1	0	1	1	0	1	1	1	1	1	0	0	0	1	1	1	1	1	1	0	0	0	1	0	17	Fair
Stewart K.E., et al., 1999	1	1	0	1	0	1	0	0	1	1	0	0	1	0	0	0	1	1	0	1	1	0	1	0	0	1	0	13	Poor
Stiernborg, M., et al., , 1996	1	1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	1	0	1	1	0	0	0	0	1	0	11	Poor
Uwakwe C.B.U, et al., 2000	1	1	0	1	0	1	0	0	0	1	0	0	1	0	0	0	1	1	0	1	1	0	0	0	0	0	0	10	Poor
Uys L., et al., 2009	1	1	0	1	0	1	1	0	0	1	0	0	1	0	0	0	1	1	1	1	0	0	0	0	0	0	0	11	Poor
Valois P., et al., 2001	1	1	0	1	0	1	0	0	0	0	0	0	1	0	0	0	1	1	1	1	0	0	0	0	0	0	0	9	Poor
Varas-Diaz N., et al., 2013	1	1	1	1	2	1	1	0	0	1	0	0	1	0	0	0	1	1	0	1	1	1	1	0	0	0	0	16	Fair
Wang Debin, et al., 2009	1	1	1	1	0	1	0	0	0	0	0	0	1	0	0	0	1	1	1	0	1	0	0	0	0	1	0	11	Poor
Williams A.B., et al., 2006	1	1	1	1	0	1	1	0	0	0	0	0	1	0	0	0	1	1	1	1	0	0	0	0	0	0	0	11	Poor
Wu S, et al., 2008	1	1	1	1	2	1	1	0	1	1	0	0	1	0	0	0	1	1	0	0	0	1	1	0	0	1	0	16	Fair
Wu Z.Y, et al., 2002	1	1	0	1	0	1	0	0	0	0	1	1	1	0	0	0	1	1	1	0	0	0	1	0	0	0	0	11	Poor
Yiu J.W., et al., 2010	1	1	1	1	0	1	1	0	0	0	0	0	1	0	0	0	1	1	0	1	0	1	1	0	0	1	0	13	Poor
Young , et al., 1989	1	1	0	1	0	1	1	0	0	1	0	0	1	0	0	0	1	1	1	0	1	0	0	0	0	0	0	11	Poor

Quality levels: excellent (24 to 28), good (19 to 23), fair (14 to 18), and poor (less than 14)

Checklist for measuring the study quality

Reporting

1) Is the hypothesis/aim/objective of the study clearly described?
2) Are the main outcomes to be measured clearly described in the Introduction or Methods section?
3) Are the characteristics of the patients included in the study clearly described?
4) Are the interventions of interest clearly described?
*5) Are the distributions of principal confounders in each group of subjects to be compared clearly described?
6) Are the main findings of the study clearly described?
7) Does the study provide estimates of the random variability in the data for the main outcomes?
8) Have all important adverse events that may be a consequence of the intervention been reported?
9) Have the characteristics of patients lost to follow-up been described?
10) Have actual probability values been reported?

External validity

11) Were the subjects asked to participate in the study representative of the entire population from which they were recruited?
12) Were those subjects who were prepared to participate representative of the entire population from which they were recruited?
13) Were the staff, places, and facilities where the patients were treated, representative of the treatment the majority of patients receive?

Internal validity - Bias

14) Was an attempt made to blind study subjects to the
15) Was an attempt made to blind those measuring the main outcomes of the intervention?
16) If any of the results of the study were based on “data dredging”, was this made clear?
17) In trials and cohort studies, do the analyses adjust for different lengths of follow-up of patients?
18) Were the statistical tests used to assess the main outcomes appropriate?
19) Was compliance with the interventions reliable?
20) Were the main outcome measures used accurate (valid and reliable)?

Internal validity – Confounding (selection bias)

21) Were the patients in different intervention groups (trials and cohort studies) recruited from the same population?
22) Were study subjects in different intervention groups (trials and cohort studies) recruited over the same period of time?
23) Were study subjects randomised to intervention groups?
24) Was the randomised intervention assignment concealed from both patients and health care staff until recruitment was complete and irrevocable?
25) Was there adequate adjustment for confounding in the analyses from which the main findings were drawn?
26) Were losses of patients to follow-up taken into account?
27) Did the study have sufficient power to detect a clinically important effect?

Yes: 1, no: 0, unable to determine: 0
***Item 5: Yes: 2, partially: 1, no:0**

Table 6-2 Characteristics of the included study

	Study				Participants			
Author, year, country	**Aims of the study**	**Settings**	**Study design**	**Participants**	**Age (years) Mean (SD)**	**Sample size**	**Loss to follow-up %**	**Inclusion criteria**
All A.C., et al., 1997, U.S.	To assess the effectiveness of HIV/AIDS education on the anxiety of nursing students.	University	QE/NC	Nursing students	NS	39	0.0%	Junior and senior nursing students
Arora S., et al., 2014, India	To assess the effectiveness of an empowering programme on student nurses' understanding and beliefs related to HIV/AIDS.	College of nursing	RCT	Female nursing students	17.5	65	0.0%	Nursing student pursuing third year BSC and third year general nursing
Balogun J, et al., 1998, U.S.	To assess the effectiveness of professional education on the knowledge and attitudes of physical therapist and occupational therapist students towards AIDS.	University	QE/C	Physical therapist (PT) and occupational therapist (OT)	19-41	49	NS	Physical therapist and occupational therapist students admitted during the 1994-1995 academic year.
Bluespruce J., et al., 2001, U.S.	To examine the effectiveness of an intervention in changing factors that influence providers' HIV risk assessment and counseling behaviours.	Primary care clinics	QE/NC	Primary care clinics providers	47	49	4.0%	All providers in the two clinics who have opportunities for HIV risk assessment and counseling as part of their clinical roles.

Britton P, et al., 1999, U.S	To assess the effectiveness of HIV/AIDS educational campaign on health professionals' knowledge and attitudes toward HIV/AIDS.	University; department of public health	QE/NC	Medical professionals and medical students	≧20	122	51.6%	NS
Buskin, SE, et al., 2002, China.	To examine the effectiveness of an intensive model of training in HIV counseling for counselor education students.	University	QE/NC	Counselor education students	NS	122	51.6%	NS
Carney JS, et al., 1999, U.S.	To evaluate the impact of a specialized course to train baccalaureate nursing students to work with individuals with HIV disease.	Tertiary education institutes	QE/C	Nursing students	>18	60	3.33%	NS
Charuluxananan S. et al., 2000, Thailand	To assess the effectiveness of short course educational program on knowledge, attitudes and behaviour among anesthesia personnel.	Hospital	QE/NC with repeated measures	Anesthesiologists and nurse anesthetists	NS	177	9.2% (post test): 34.5% (4-month follow up)	NS

Chisholm M, et al., 1999, U.S.	To assess the effectiveness of an HIV/AIDS intervention program in improving first-year pharmacy students' attitudes toward providing care to HIV positive and/or AIDS patients.	University	QE/NC	First year pharmacy students	NS	295	1.7%	First year pharmacy students
Collins P.Y., et al., 2006, South Africa	To assess the effectiveness of workshop on mental health providers' knowledge and anxiety about AIDS.	Three public mental health facilities	QE/NC	Mental health providers	39 (8.68)	44	4.5%	NS
Diesel H, et al., 2013, U.S.	To evaluate the effectiveness of an educational intervention on student nurses' knowledge, attitudes, and beliefs of HIV/AIDS among senior-level nursing students.	College of nursing	QE/C	Nursing students in a bachelors' degree program	20-36	33	21.2%	Senior level nursing students
Ezedinachi E, et al., 2002, Nigeria	To assess the effectiveness of intervention on health workers' HIV/AIDS attitudes and knowledge.	Hospitals	QE/C	Health care workers	Intervention group: 36.12 (8.34) Control group: 34.11 (7.48)	1552	Interventi on group: 1072, control group: 480) drop out: NS)	NS

Geibel S. et al., 2017, Bangladesh	To assess the effectiveness of a stigma reduction training program for service providers attitudes toward young marginalized people and young client satisfaction with services	Health service facilities	QE/NC	Health care providers	26-39		300, 75.0%	NS
Gross E.J., et al., 1993, U.S.	To evaluate the effectiveness of a day-long educational program on knowledge, attitudes, and practice of school nurses.	Schools	QE/NC	School nurses	NS	218	6.0%	NS
Gutierrez J.M.M., 2014, Saudi Arabia	To assess the effectiveness of HIV/AIDS educational intervention on stigma reduction among nurses.	Hospital	QE/NC	Nurses	NS	58	0.0%	Nurses who encountered patients with HIV/AIDS, had no formal HIV/AIDS training, were employed for 6 months or above, and currently working at the time of survey.

Held SL, et al., 1992, U.S.	To determine the effectiveness of an education unit on physical therapy students' knowledge, attitudes, and willingness to treat patient with AIDS.	University	RCT	Undergraduate junior physical therapy students	20-35	103	3.9%	Entry level undergraduate junior physical therapy students.
Kamiru HN, et al., 2009, Swaziland	To assess the effectiveness of a training program to increase the capacity of health care providers to provide HIV/AIDS care and treatment	Hotel	QE/NC	Health care providers	NS	101,	0.0%	NS
Kaponda CPN, et al, 2009, Malawi	To assess the effectiveness of peer-group intervention on the HIV-related knowledge, attitudes, and personal behaviours of the hospital workers.	Hospitals	QE/NC, cross-sectional survey	Intervention: hospital workers Evaluation hospital workers:	% over 35y (Baseline: 57.5%; post-intervention: 58.9%)	Participation: 855 Evaluation: Baseline (n = 366); Post-intervention (n = 561)	NS	All hospital workers, including both clinical and non-clinical staff.
Kemppamen J.K., et al., 1996, U.S.	To assess the effectiveness of different approaches to increase nurses' willingness to provide care for people living with HIV/AIDS.	Hospital	RCT with repeated measures	Nurses	≧30	42	14.3%	Licensed professional nurses

Lewis DA, et al., 1996, UK	To assess the effectiveness of the workshop on dental team's knowledge, attitudes and behaviours toward caring for people living with HIV/AIDS	Family health services authority	QE/NC with repeated measures	Dentists, dental nurses, and hygienists	≧18	29	65.5%	NS
Li L, et al., 2013, China	To assess the effectiveness of the intervention on service providers' stigmatizing attitudes and behaviours toward people living with HIV/AIDS.	Hospitals	RCT with repeated measures	Health service providers	Intervention group: 37.44 control group: 38.74	1760 (Intervention group: 880, control group: 880)	0.3%	1) Staff who had regular contact with patients, including doctors, nurses, and lab technicians. 2) Aged 18 years or above.
Lohiniva A.L., et al., 2015, Egypt	To evaluate the effectiveness of stigma-reduction intervention in a health care setting.	Hospitals	QE/C	Physicians and nurses	≧20	347 (Intervention group: 203, control group: 144)	NS	Physicians and nurses in the surgical units.
Lueveswanij S., et al., 2000, Thailand	To evaluate the effectiveness of an educational intervention in improving Thai oral health personnel's knowledge, attitudes and practices regarding HIV/AIDS.	Dental clinics	QE/C	Oral health professionals	Intervention group: < 30 (55.7%), control group <30 (61.9%)	149,	6.7%	NS

Mak WWS, et al., 2015, Hong Kong	To evaluate the effectiveness of a game-based experiential approach in reducing HIV-related stigma among health-care professionals	Tertiary institutions	RCT	Students of health-related program	NS	88	NS	Participants who were undertaking health-care professional programs.
Mahendra V.S., et al., 2006, India	To evaluate the effectiveness of intervention on stigma and discrimination in participating hospitals.	Hospitals	QE/NC, cross-sectional study	Health care workers	NS	n=1769, baseline: n=884, after intervention: n=885	NS	NS
McCann TV, et al., 1998, Australia	To evaluate the effectiveness of educational intervention among registered nurses on caring of patients who have HIV/AIDS.	University	QE/NC	Nurses	≦24 (23.0%) 25-44 (77.0%)	74	12.2%	Registered nurses who enrolled in the Bachelor of Nursing course.
Mockiene V, et al., 2011, Lithuania	To evaluate the effectiveness of an educational intervention on nurses' HIV-related knowledge and attitudes.	Hospitals	RCT	Nurses	43.1 (8.8)	206	10.0%	NS
Nanayakkara G et al., 2017, SriLanka	To evaluate the effectiveness of AIDS education program on nursing students' AIDS knowledge and attitudes.	National school of nursing	RCT	Second year nursing students	20-26	129, (intervention group: 65, control group: 64)	0.0%	Second year nursing students

Operario D, et al., 2016, China	To assess the effectiveness of a knowledge-based and skills –based program for physicians in china to reduce patients' STI risk.	Hospitals	Cluster RCT with repeated measures	Physicians and patients	NS	249	11.2%	NS
Orlander J, et al., 1994, U.S.	To assess the effectiveness of a weekly outpatient clinic on medical residents' attitudes toward PLWHA.	Hospital	QE/C	Second and third year medical residents	NS	41 (intervention group:21, control group: 20)	24.0%	Second and third year medical residents
Pisal H, et al., 2007, India	To assess the effectiveness of a short HIV/AIDS health education program on knowledge and attitudes of nurses in a governmental hospital.	Hospital	QE/NC	Nurses	>40 (71%)	n=552	32.8%	NS
Pulerwitz J, et al., 2015, Vietnam	To evaluate the effect of two interventions on HIV stigma among hospital workers.	Hospital	QE/C, Cross-sectional survey	Hospital workers, including doctors, nurses, ward staff, administration and support staff	38.7 (0.34)	1592, Baseline: n=795, post-intervention: n=797	NS	NS
Shah SM, et al., 2014, India	To assess the acceptability and feasibility of a brief HIV stigma reduction curriculum among nursing students.	College	QE/C	Nursing students	18-29	88	0%	Second year undergraduate nursing students

Stewart KE, et al., 1999, UK	To compare the effectiveness of a didactic programme with an SCT-based program on practicing nurses' knowledge, attitudes and comfort in provi ding care for people living with HIV.	University medical centre and surrounding hospitals	RCT with repeated measures	Nurses	40.8 (9.81)	88	18.2%	NS
Stiernborg, M, et al., , 1996, Philippines	To compare the effectiveness of a didactic programme with experiential learning on nursing student's AIDS-related knowledge and attitudes.	Colleges	QE/C	Nursing students	17-41	643 (didactic group: 182, experiential group: 185, control group: 195)	12.6%	NS
Uwakwe C.B.U, et al., 2000, Nigeria	To examine the changes in nurses' attitudes and perceptions of AIDS accruing from a systematized HIV/AIDS education programme.	University	QE/C	Nurses	27-52	141 (Intervention group: 68, control group: 73)	NS	Registered nurses pursuing the BSc Nursing programme.
Uys L, et al., 2009, Lesotho, Malawi, South Africa, Swaziland, Tanzania	To explore the effectiveness of an HIV stigma intervention in five African health care settings.	Health care settings	QE/C	Setting nurses Team nurses People living with HIV	37.9 (8.8)	Setting nurses (n=134) Team nurses (n=43) People living with HIV (n=41),	NS	NS

Valois P, et al., 2001, Canada	To assess the effectiveness of a persuasive strategy on nurses' beliefs and attitudes toward providing care to people living with HIV/AIDS	Colleges	QE/C	Nursing students	Intervention group: 25 Control group: 23	74 (Intervention group: 27, control group: 47)	NS	All nursing students from two colleges
Varas-Diaz N, et al., 2013, Puerto Rico	To test the efficacy of an HIV stigma reduction intervention with medical students.	Medical schools	RCT	Medical students	NS	507	24.0%	NS
Wang Debin, et al., 2009, China	To assess the feasibility of the program in changing physician's HIV/STI knowledge and skills.	Hospital	QE/NC Cross-sectional survey	Physicians and patients	NS	Physician: 69 Patients: baseline n=242, post intervention: n=287	1.4%	Physician: Three years clinical experience and previous work with HIV/STI patients. Patients: 18-45 years old, residing in the local county, and receiving care from a participating physician.
Williams A.B, et al., 2006, China	To examine the effect of a multifaceted HIV/AIDS educational intervention on the knowledge, attitudes and willingness of Chinese nurses in caring for patients with HIV.	Hospitals	QE/NC	Nurses	23-63	208		NS

Wu S, et al., 2008, China	To assess the effectiveness of a brief intervention on reducing HIV-related stigma among service providers in China.	Hospitals	Cluster RCT	Service providers (i.e. doctors, nurses, and lab technicians)	35.4 (7. 97) Intervention group: 35.9 (8.41) Control group: 35.0 (7.53)	138	3.0%	NS
Wu Z.Y, et al., 2002, China	To evaluate a training-of trainers strategy to update HIV/AIDS knowledge and attitudes and behaviour among health professionals and the public.	Hospitals	QE/C, Cross-sectional survey	Workshop training: Health professionals		1129		
Yiu J.W., et al., 2010, Hong Kong	To compare the effectiveness of an AIDS knowledge-only program with a combined program of AIDS knowledge and contact with people having HIV/AIDS in reducing nursing students stigma and in enhancing their emotional competence to search these patients.	University	RCT	Nursing students	20.8 (1.43)	89	0.0%	NS
Young E, et al., 1989, U.S.	To assess the effectiveness of an all-day AIDS workshop on nurses' knowledge and attitudes toward AIDS and homosexuality.	NS	QE/NC	Nurses	NS	200	71.5%	Nurses from rural areas

[a] Study design abbreviation: QE/NC: Quasi-experimental with no control group; QE/C: Quasi-experimental with control group; RCT: Randomized controlled trial

[b] Interventions type abbreviation: I: Information based; SB: Skills building; CS: Counseling/support; C: Contact with affected groups; B: Biomedical strategies; S: Structural strategies.
HIV: human immunodeficiency virus; AIDS: Acquired Immune Deficiency Syndrome; PLWHA: People living with HIV/AIDS; STIs: sexually transmitted infections; PLHIV: People living with HIV; NS: Not specified

Table 6-3 Characteristics of interventions

Author, publication year, country	Intervention type[b] Contents of intervention Theoretical framework	Dosage of Intervention (No. of sessions, time of each session, the duration of intervention, and the length of follow up)	Facilitators of the intervention, approaches of the intervention, facilitator	Measurement	Main findings
All A.C., et al., 1997, U.S.	I - Intervention focused on information related to HIV/AIDS, nursing process in caring for these clients and case management	An educational presentation; assessed at pre- and post-intervention.	Didactic lectures Facilitator: NS	**Attitudes** (Validated) - Affective component The State-Trait Anxiety Inventory (STAI) (20 items)	- Participants anxiety levels about HIV/AIDS was reduced (p<.05).
Arora S., et al., 2014, India	I - Experimental group vs. control group - Intervention focused on knowledge of HIV/AIDS, beliefs of students about HIV/AIDS, correct information about AIDS.	5 days; assessed at the baseline and 1-month follow up.	Didactic lecture, group discussion, role-play, case based scenarios. Facilitator: Eight experts from community medicine and nursing field	**Knowledge** (Validated) - HIV/AIDS-related knowledge (52 items) **Attitudes** (Validated) - Beliefs towards HIV/AIDS (33 items)	- The empowerment program significantly improved students nurses' understanding (t=3.5, p<.001) and belief about HIV/AIDs (t=2.7, p<.01).

Balogun J, et al., 1998, U.S.	I Physical therapist vs. occupational therapist - The intervention included 5 hours AIDS education seminar, 5 hours lectures on medical sciences, and 10 hours lectures on HIV/AIDS related topics for two disciplines, respectively. - OT received additional information about psychological aspects, patients' confidentiality, and hospice care; - PT received additional information about ethical and legal issues, psychosocial aspects of the disease.	5 hours seminar + 5 hours lectures on medical sciences + 10 hours lectures; Seminar for PT students (junior year), and for OT (senior year). Assessed at baseline, after AIDS education seminar, end of professional education program.	Lecture, case study, group discussion, audiovisual tapes. Delivery: physicians	**Knowledge** (Invalidated) - Knowledge of HIV/AIDS (34 items) **Attitudes** (Invalidated) - Attitudes toward AIDS (35 items) **Behaviour** (Invalidated) - Willingness to provide care (5 items)	- Students in both disciplines showed improvement in knowledge about AIDS (14.3% for PT students and 13.8% for OT students) - Students in both disciplines showed improvement in attitudes toward AIDS (7.4% for PT students and 5% for OT students) - There is no change in students' willingness to provide service for PLHIV.
Bluespruce J., et al., 2001, U.S.	I, CS - The content of the intervention included HIV related knowledge and prevention, counseling skills building - Train the HIV prevention opinion leaders (Team resource representatives) - **Conceptual framework:** Green and Kreuter's PRECEDE/PROCEED model	10-hour training and four hours reinforcement. Assessed at baseline, 7 months after the intervention	Role plays, case stories, meetings, written materials Delivery: NS	**Knowledge** (Invalidated) - Knowledge of HIV/AIDS (6 items) **Attitudes** (Invalidated) - Attitudes/beliefs (6 items) Self-efficacy - Confidence in and comfort with HIV risk assessment and counseling (self-efficacy) (12 items)	- The intervention significantly improved participants' HIV/AIDS-related knowledge, attitudes, confidence and comfort with HIV risk assessment and counseling at 7-month follow up (all p<.05).

Britton P, et al., 1999, U.S.	I, CS, C - The content of the intervention focused on ethical, legal and professional issues: medical aspects of HIV, counseling diverse population, contact with people living with HIV/AIDS, individual/group counseling simulations	Two consecutive weekends for 2 quarter hours during the winter quarter or a daily weeklong course (3 semester hours) Assessed at the baseline, post intervention, and 10-46 months follow-up	Lectures, family sculpting, individual/group counseling simulations Delivery: NS	**Knowledge** (Validated) - Knowledge regarding HIV/AIDS (4 items) **Attitudes** (Validated) Affective component - Comfort with HIV patients (2 items) Skills - Skills to counsel (3 items) **Behaviour** (Validated) - Willingness to work with HIV patients (3 items)	- The intervention significantly improved participants' knowledge, comfort, willingness, and skills level with people affected by HIV/AIDS at post training, and follow up (all $p<.05$).
Buskin, SE, et al., 2002, China	I - Intervention focused on HIV/AIDS-related information, HIV prevention.	Two HIV/AIDS lectures; assess at pre- and post-intervention.	Didactic lecture Facilitator: Public health officer	**Knowledge** (Invalidated) - Knowledge of HIV (11 items) **Behaviour** (Invalidated) - Attitudes about willingness to provide service for person infected with HIV	- The lecture significantly improved HIV related knowledge ($p<.001$) and attitudes toward providing services to HIV patients ($p<0.001$).
Carney JS, et al., 1999, U.S.	I - Intervention group vs. control group - The intervention focused on HIV/AIDS related knowledge, medical treatment, consideration of psychosocial issues, legal and ethical concerns, and societal stigma.	10 weeks HIV/AIDS specialized course; assessed at the baseline and 1 week after the intervention.	Didactic lecture, discussion, case presentation Delivery: NS	**Knowledge** (Validated) - HIV/AIDS knowledge Inventory (25 items) (Carney et al., 1994) **Attitudes** (Validated) - AIDS Attitude Scale (54 items) (Shrum et al., 1989)	- The intervention significantly improved participants' knowledge ($p<.001$) and attitudes ($p<.001$) toward HIV/AIDS.

Charuluxananan S. et al., 2000, Thailand	I - Intervention focused on HIV-related knowledge and treatment.	2 days; Knowledge and attitudes were assessed at baseline, post intervention, and the behaviour was assessed at 4 months follow up.	Didactic lectures, panel discussion, symposium and small group discussion Facilitator: University, Ministry of Public Health, Thai Red Cross Society	**Knowledge** (Invalidated) - HIV related knowledge; - attitudes (12 items) **Attitudes** (Invalidated) - Attitudes toward AIDS (5 items) **Behaviour** (Invalidated) - Translated behaviour during anesthesia practice (8 items) - Disinfection or sterilization of laryngoscope blades (5 items)	- The short course significantly improved some knowledge about HIV (p<.001), partially change attitude (p<.05), but cannot change behaviour.
Chisholm M, et al., 1999, U.S.	C - The intervention focused on the experience of being a HIV positive	3-hour; Assessed at the baseline, post intervention.	Presentation Delivery: people living with HIV	**Attitudes** (Validated) - HIV/AIDS Attitude Scale for Pharmacy Students (HAS-PS) (18 items)	- The interventions significantly improved students attitudes toward caring for people living with HIV/AIDS (p=.001)
Collins P.Y., et al., 2006, South Africa	I, SB - The intervention focused on HIV-related knowledge, HIV prevention, skills for communicating with patients, human rights, discussion of stigmatization and discrimination, and staff support **Theoretical framework:** social cognitive theory	Nine-session intervention, 1.5 days; assessed at pre- and post-intervention.	Risk assessment, role-play, modeling, problem-solving techniques Delivery: The research team members and local medical and legal experts	**Knowledge** (Validated) - HIV-related knowledge (17 items) **Attitudes** Affective component - Comfort with AIDS patients (6 items)	- There was a significant increase in reported levels of comfort with HIV care (p<.05) (effect size d=.54), - There was a significant increase in perceived knowledge of HIV (p<.001) (effect size d=1.17), - There was a significant increase in reported factual knowledge (p<.001) (effect size d=.74)

Diesel H, et al., 2013, U.S.	I, C Traditional group vs immersion group - Traditional group received course training: focused on providing an overview of HIV/AIDS, including medical aspects and ethics. - Students participated in the immersion experience also received training in counseling, legal dimensions, women and infants infected with HIV. **Theoretical framework:** Watson's theory of human caring	3-hour/week, 7-week elective course Assessed at the pre-, post-, and 2 months follow up.	Discussion, lecture, media, student projects, presentations, short papers. Delivery: faculty memebers	**Knowledge** (Validated) - The AIDS Knowledge Scale (AKS) (24 items) - The Obstetrical Knowledge Scale (OKS) (Un-validated) **Attitudes** (Validated) - HIV/AIDS stigma Instrument – Nursing Student (HASI-NS) (19 items) - The AIDS Attitude Scale (AAS) (21 items) **Behaviour** (Validated) - The Nurse Willingness questionnaire (NWQ) (13 items) (Dubbert, et al, 1994)	- There was no statistically significant difference between groups in any of the outcomes (p>.05). - The intervention significantly improved participants' willingness to provide care (p=.036) and knowledge of HIV over time (p<.001).
Ezedinachi E, et al., 2002, Nigeria	I - Intervention group vs. control group - The intervention focused on HIV-related knowledge, HIV prevention, discussion of stigmatization and discrimination, human rights - The intervention was developed using a training of trainers (TOT) model	2 days; assessed at baseline and one year follow up	Group discussion, video-tape presentations Delivery: Trainers (medical superintendents, matrons, chief laboratory technologists)	**Attitudes & beliefs (**Validated) - Attitudes toward AIDS (12 items)	- There was a significant improvement on perceptions of population risk assessment, fear and discrimination, and sympathy toward treating people with HIV at one-year follow up (p<.05).

Geibel S. et al., 2017, Bangladesh	I , SB - The content of the intervention included HIV and sexual and reproductive health and rights, and issues on stigma and gender. - The intervention was developed using a training of trainers (TOT) model	Cards, role plays, discussion Delivery: Experts experienced in implementing stigma-focused trainings. Assessed at baseline, 6 month and 12 month follow up	2-day HIV training and 90-minute session on issues related to stigma and gender, 1-day supplemental training on stigma. Assessed at baseline, midterm training, and 5-6 months after the second training.	**Attitudes** (Invalidated) - Attitudes toward PLHIV and other link up outreach populations (27 items)	- Both the fear-based and value-based stigma were significantly reduced after both training interventions (p<.001).
Gross E J., et al., 1993, U.S.	I - The intervention focused on providing information on medical aspects of HIV, psychosocial issues,legal issues, universal precautions, community resources.	One day workshop; Assessed at pre-, post-, and three months follow up.	Lecture Delivery: nurse with experience in pediatric nursing education	**Knowledge** (Validated) - Knowledge (25 items) **Attitudes** (Validated) - Attitudes (20 items)	- The intervention significantly improved participants' knowledge and attitudes about HIV in children post-intervention (p<.001). The knowledge score had fallen not to pre-test level at three-month follow up, while the attitudes scores maintained at three-month follow up.
Gutierrez J.M.M., 2014, Saudi Arabia	I - The intervention focused on HIV/AIDS related knowledge, universal precaution and prevention, ethical issues, patient rights, and stigma reduction strategies.	90 minutes; assessed at pre- and post-intervention	Didactic lectures Delivery: The researcher	**Knowledge** (Validated) - Nurses' HIV/AIDS knowledge (40 items) **Attitudes** (Validated) - Nurses' Attitudes towards Patients with HIV/AIDS (9 items) **Behaviour** (Validated) - Acts of discrimination by nurses (5 items)	- The intervention significantly improved nurses' theoretical knowledge about HIV/AIDS (p<.001); - There was no statistically significant change in nurses' attitudes and comfortableness dealing with HIV/AIDS patients.

Held SL, et al., 1992, U.S.	I, C - Intervention group vs. control group - The content of the intervention included HIV related knowledge and management of HIV infection,, universal precautions, addressed feelings associated with being a patient with AIDS.	One 4-hour educational unit Assessed at the baseline, one week after the intervention.	Didactic lecture, discussion Delivery: NS	**Knowledge** (Validated) - Knowledge about AIDS (34 items) **Attitudes** (Validated) - Attitudes towards caring for patients with AIDS (30 items) **Behaviour** (Validated) - Willingness to treat the patients (5 items)	- The intervention significantly improved participants' HIV/AIDS-related knowledge, attitudes, and willingness to treat the patients (all p<.001).
Kamiru HN, et al., 2009, Swaziland	I - Medical aspects of HIV/AIDS, such as epidemiology, pathophysiology, clinical manifestation, diagnosis, prevention of mother to child transmission, primary care of HIV-infected child, values clarification, ART adherence, nutrition, train the trainer model.	Five days didactic in-house training. Assessed at pre- and post- intervention.	PowerPoint presentations Delivery: clinicians, pediatricians, social workers, program coordinators.	**Knowledge** (Validated) - Knowledge of HIV/AIDS (11 items) **Attitudes** (Validated) - Self-efficacy (10 items) - Attitudes toward AIDS (12 items) (Trochim 2004) (subscale: affect, belief, and behaviour)	- The intervention significantly increased the participants' knowledge, attitudes and self-efficacy to provide care toward PLHIV (all p<.05).
Kaponda CPN, et al, 2009, Malawi	I, SB - Focus on knowledge related to HIV/AID, universal precautions, help individual and families addressing HIV prevention, and ethical issues for health workers related to HIV. **Theoretical framework:** The world health organization primary health-care model, social cognitive learning model	Ten sessions intervention 90-120 minutes/session; assessed at baseline and after the intervention.	Guided discussions, role-plays, return demonstration with corrective feedback, assignment to practice a special skills Delivery: Trained peer-group facilitators	**Knowledge** (Validated) - HIV-related knowledge (7 items) **Attitudes** (Invalidated) - Attitudes about HIV/AIDS (25 items)	- The intervention significantly improved the hospital workers' knowledge about HIV/AIDS (p<.001), improved attitudes toward PLWHA (p<.001) and higher self-efficacy for HIV prevention (p<.001).

Kemppamen J.K., et al., 1996, U.S.	I, SB, C - Three arms: group discussion group vs. patient contact group vs. knowledge control group - Group discussion group focused attitudes and beliefs about AIDS patients; Patient contact group focused on observing and practicing infection control techniques while caring for patients with AIDS; Knowledge control group only provided training on universal precautions.	Three 1-hour sessions; assessed at baseline, after the intervention, and 3 moths, 6 month follow up.	Group discussion, simulation games, open-ended questionnaire, video programme in which AIDS patients described their feelings, clinical practice, and caring for patients with AIDS Delivery: Master's-level nurse who had experience in care of acutely ill patients including PLWHA.	**Knowledge** (Invalidated) - Infectious disease knowledge (single item) **Attitudes** (validated) - The prejudicial evaluation scale (12 items) (Kelly et al., 1988); - The Social inventory scale (7 items) (Kelly et al., 1988); Affective component - AIDS patient care comfort and confidence (two items) (invalidated) **Behaviour** (Invalidated) - Nursing willingness questionnaire (4 items) (Kemppainen et al, 1992, Dubbert et al, 1994);	- None of the intervention had a significant impact on the nurses' attitudes either at post-intervention or during 6 months follow up.

Lewis DA, et al., 1996, UK	I - The intervention focused on oral manifestation of HIV/AIDS and infection control, case studies, local resources and referral services	One-day workshop; assessed at baseline, after the intervention, and 12-month follow up.	Didactic presentation, case studies, role-play Delivery: Presentation was given by a dentist involved in providing a service for PLHIV	**Knowledge** (Invalidated) - HIV/AIDS-related Knowledge (4 items) **Attitudes** (Invalidated) - Attitudes towards HIV patients	Post intervíention: - 38% of participants felt their attitude had changed towards treating people with HIV; - 59% were most likely to provide care; - 72% would change working practice. One year follow up: - Eight of ten (80%) participants had changed their working practice.
Li L, et al., 2013, China	I, SB - Intervention group vs. control group - The intervention focused on universal precautions, stigma, care for patients and building up a better medical environment. - **Theoretical framework:** Diffusion of innovation theory. - The study used the Popular opinion leaders (POLs) model	Four group sessions, and 3 reunion sessions (1.5 hours/session); assessed at baseline, 6- and12-month follow up.	Interactive techniques, such as facilitators demonstration, group discussion, pair sharing and role-play, discussion, games Delivery: Trained popular opinion leaders	**Attitudes** (Validated) - HIV/AIDS-related stigma and discrimination (8 items) **Behaviour** (Validated) - Avoidance intent (8 items)	- Compared to control group, the intervention significantly reduced prejudicial attitudes at 6 months ($p< .001$) and 12 month follow-up ($p< .001$) - The intervention significantly reduced avoidance intent ($p< .001$) at 6 months. - The intervention effects on avoidance intent was sustained and strengthened at 12 months.

Lohiniva A.L., et al., 2015, Egypt	I, SB, C - Intervention group vs. control group - The intervention focused on HIV-related knowledge, stigma, medical ethics, childbirth, infection prevention, standard precautions, techniques for invasive procedures, and interaction with PLHIV.	Five interactive training modules; 5 hours/module; assessed at baseline and after the intervention.	Didactic lectures, sharing sessions with PLHIV, risk assessment exercises, case studies, discussions Delivery: Taskforce – National AIDS Program (NAP) officials, global disease detection and response program project staff, PLHIV, directors of various surgical departments, head of quality assurance team, head of the inflectional control unit, and director of the intervention hospital	**Attitudes** (Validated) - Attitudes toward AIDS (21 items)	- The overall value-based and fear-based stigma scores were significantly lower in the intervention group compared to the control group (p<.001). - Significant reduction in overall stigma scores were observed in the intervention group compared to the control group (48% vs. 14%).
Lueveswanij S., et al., 2000, Thailand	I, SB, C - Intervention group vs. control group - The intervention focused on HIV-related knowledge, oral manifestations, infection control, role of oral health personnel in providing treatment, counseling and referral for HIV/AIDS patients, and interaction with PLHIV.	Three day training program; assessed at baseline and three months after the intervention.	Didactic lectures, role-play, sharing sessions with PLHIV, videotape for infection control Delivery: Lectures from Faculty of medical and Faculty of dentistry	**Knowledge** (Invalidated) - Knowledge of HIV/AIDS (4 items); **Attitudes** (Invalidated) - Attitudes, beliefs and behaviours related to HIV/AIDS (4 items); **Behaviour** (Invalidated) - Infection control practice (5 items).	- The intervention significantly increased participants' knowledge (p<.001), attitudes (p<.05), and infection control practice (p<.001).

Mahendra V.S., et al., 2006, India	I, SB, CS, C, B, S - The intervention included development of hospital guidelines for HIV/AIDS care and management, sensitization of health care workers through training, expansion and strengthening HIV testing and counseling services, educational and development of material on infection control. - Staff training focused on HIV related knowledge, testing and counseling, confidentiality and legal issues, stigma and discrimination, continuum of care, site visits to care home.	14 hours (Two-hour session, organized every alternate day over two weeks). Assessed at baseline and six to eight months after the intervention	Didactic lectures, sharing sessions with PLWHA, site visits, feedback Delivery: representatives of AIDS service (e.g. lawyer, human rights activist) organizations and PLHIV .	**Knowledge** (Invalidated) - Knowledge of HIV/AIDS (10 items) **Attitudes** (Invalidated) - The stigma index 1) Attitude toward PLHA (12 items) 2) Attitude toward health care related practice (9 items)	- The intervention significantly improved health care workers' knowledge and attitudes toward people living with HIV/AIDS ($p<.05$). - The intervention significantly improved doctors' HIV testing and counseling attitudes and practices ($p<.05$).

Mak WWS, et al., 2015, Hong Kong	I, C - Knowledge + experiential games (K+EXG) group vs Knowledge + in vivo contact (K+IVC) group - K+EXG group focused on HIV/AIDS-related knowledge, and two different experiential games; - K+IVC group focused on HIV/AIDS-related knowledge, and sharing sessions hosted by two PLHIV	K+EXG: 30-miute didactic session + two experiential games; K+IVC: 30-miute didactic session + 90-minute sharing sessions. Assessed at baseline, after the intervention, and one month post-program.	Didactic lectures, sharing sessions with PLHIV Delivery: Research assistant, PLHIV	**Knowledge** (Validated) - HIV/AIDS-related Knowledge (23 items) (Lau et al., 2007); **Attitudes** (Validated) - Stigmatizing attitudes toward PLHIV (14 items) (Andrewin et al., 2008); - Discrimination (7 items) (Abell et al., 2007); - Support for coercive policies (6 items) (Herek et al., 1993); Affective component - Fear of infection (5 items) (Carter, et al., 1996) **Behaviour** - Willingness to treat (10 items) (Andrewin et al., 2008)	- Pre-program to post-program improvements achieved large effect sizes on all six variables in both groups. - The changes were similar between the K+EXG group and the K+IVC group ($F_{(6,81)}$=.58, p>.05). - Across both groups, improvements in HIV/AIDS-related knowledge and support for coercive policies were maintained from post-program to one month follow up.

McCann TV, et al., 1998, Australia	I, C - The intervention focused on HIV/AIDS-related knowledge, infection control issues, care and treatment of patients with HIV/AIDS, attitudes, and contacted with people with HIV/AIDS	6-week unit of study; assessed before and after the intervention.	Didactic lectures, group discussions, multimedia presentations, and seminars with PLWHA, nurses, social workers and community AIDS organization workers. Delivery: NS	**Knowledge** (Validated) - Knowledge about HIV/AIDS (18 items); **Attitudes** (Validated) Affective component - Fear of contagion (8 items) - Attitudes towards PLWHA (4 items); **Behaviour** - Willingness to work with PLWHA (4 items).	- The intervention significantly improved participants' knowledge ($p<.05$), attitudes ($p< .005$), willingness to work with colleagues and patient with HIV/AIDS ($p<.05$) - Fear of contagion was evident. There was stronger agreement that they would take additional precautions on finding out that one of their patients was HIV-positive.
Mockiene V, et al., 2011, Lithuania	I, C - Three arms - Experimental group 1 (EG1): the intervention included workshop and written materials, the content focused on HIV-related knowledge, counseling, and ethical considerations; Experimental group 2 (EG2): intervention included written materials, the content focused on HIV-related knowledge, counseling, and ethical considerations; Control group: no intervention.	2-day (13 hours); assessed at baseline and 3 months after the intervention.	Didactic lectures, group discussions, sharing sessions with PLHIV, film about HIV, lecture handouts, distribution of written materials Delivery: Research team collaborated with the Lithuanian AIDS centre.	**Knowledge** (Validated) - Knowledge about HIV (33 items); **Attitudes** (Validated) - Attitudes toward HIV-infected patients and HIV/AIDS scale (35 items) (Suominen et al., 2008)	- There was significant improvement in HIV knowledge in EG1 group ($p<.001$, paired t-test). EG1 group participants' attitudes had improved positively, but not statistically significant; - There was no significant improvement in HIV knowledge and attitudes in the EG2 group and control group.

Nanayakkara G et al., 2017, SriLanka	I, SB, C Intervention group vs control group - The intervention focused on HIV epidemiology, diagnosis and treatment, transission, standard precautions, management of HIV patients in the hospitals and communities, HIV related stigma, and testimonials of PLHIV.	2h/session, Six sessions. Assessed at pre- and post- intervention.	Lectures, small group discussion, group activities, case scenarios, testimony of PLHIV Delivery: HIV care specialist, PLHIV	**Knowledge** (Validated) - HIV/AIDS knowledge scale (not specified) **Attitudes** (Validated) - Generic AIDS attitudes scale (GAAS) (21 items) (Fronman et al., 1992)	- The knowledge and attitudes toward HIV of the intervention group improved significantly after the intervention when compared to the control group (all p< 0.01).
Operario D, et al., 2016, China	I, SB, C - Intervention group vs. control group - The intervention focused on HIV/AIDS-related knowledge and treatment, behavioural risk reduction counseling, stigma reduction, preventions given by people with HIV/AIDS **Theoretical framework:** Social learning theory	One week group training, 2 months clinical practice, two additional 2-day group "booster" training sessions; assessed at baseline, 3 months,6 months and 9 months after the intervention.	Didactic lectures, clinical practice, case studies, small group discussions, problem-solving exercises, role-plays, sharing sessions with PLWHA Delivery: NS	**Knowledge** (Validated) - HIV/STI knowledge (198 items)	- The educational program significantly improved physicians' knowledge, treatment, and risk reduction counseling (p<.05).

Orlander Jay, et al., 1994, U.S.	I, C Intervention group vs. control group - The intervention was training in a diagnostic evaluation unit (DEU) of a HIV staging and triage clinic	Weekly, Six months, Assessed at pre-, post- and three months follow up.	Weekly review of previous weeks' cases, brief didactic discussion Delivery: NS	**Knowledge** (Validated) - HIV-related knowledge **Attitudes** (Validated) - HIV-related attitudes (Cook, et al., 1990) Self-efficacy - Confidence to care for patients (single item) **Behaviour** (Unvalidated) - Willingness to treat (single item)	- The intervention improved residents' attitudes toward PLHIV (p=.08) - Knowledge scores increased for both groups, and there was no statistically significant difference between the two groups. - There was no statistically significant difference between the groups in their willingness to treat (p>.05), but there was significant improvement in the confidence to care patients in the intervention group (p<.001) at 3 moths follow up.

Pisal Hemlate, et al., 2007, India	I, SB, CS, C - The intervention focused on knowledge of HIV/AIDS, care and treatment, HIV/AIDS stigma, discrimination, confidentiality, counseling, and ethical considerations. - The educations program was developed using a training of trainers (TOT) model	4-day; assessed at the baseline and after the intervention.	Lectures by PLHIV, preparation to deliver future training workshop Delivery: Trained nurses, social scientist with expertise in HIV/AIDS, PLHIV, peer educators with a local sex workers' organization	**Knowledge** (Invalidated) - HIV knowledge (71 items) **Attitudes** (Invalidated) - Attitudinal questions (17 items) Affective component - Fear associated with managing HIV/AIDS patients (6 items)	- The education intervention significantly improved nurses' HIV/AIDS knowledge (p< .001), reduced their fear of interaction with people living with HIV/AIDS (p< .001); - The education intervention significantly improved nurses' attitudes associated with consent and confidentiality, and stigma and discrimination (p<.001). However, there was no change in nurses' attitudes related to cleaning stool or urine of HIV/AIDS patients.

Pulerwitz J, et al., 2015, Vietnam	I, SB, CS, C,B, S - Two arms intervention - The intervention included six components: establishment of a hospital steering committee, staff training, hospital policy development, provision of material supplies, provision of educational materials, and monthly monitoring. - Group 1: HIV knowledge, focused on knowledge of HIV, infection control measures, Group 2: half-day training of HIV knowledge + extra half day training on social stigma, focused on knowledge of HIV, infection control measures, and social stigma, legal rights of HIV positive patients. **Conceptual frame work for HIV stigma.**	Group 1: 1.5 days training; Group 2: 2 days training; assessed at the baseline and after the intervention.	Didactic lecture, sharing sessions with PLWHA Delivery: Trainers with expertise in HIV, universal precautions, or stigma and discrimination, and familiarity with participatory methods, trainers from local AIDS center, PLHIV	**Attitudes** (Validated) Affective component - Fear-based stigma (4 items) - Social stigma (5 items) **Behaviour** (Invalidated) - Enacted stigma (3 items)	- Both Group 1 and Group 2 interventions were successful in reducing all three types of stigma ($p<.001$) - The Group 2 intervention had a greater impact on stigma than Group 1 ($p<.05$).

Shah SM, et al., 2014, India	I, C - Intervention group vs. control group - The intervention focused on HIV-related knowledge, HIV prevention, health care associated stigma, instrumental and symbolic stigma, preventions given by a PLHIV.	Two 1-hour sessions (these sessions were administrated 1 week apart); assessed at the baseline and 1 week after the intervention.	Powerpoint presentation, question and answer session, sharing sessions with PLHIV Delivery: PLHIV	**Knowledge** (Validated) - HIV-related knowledge and transmission misconceptions (14 items) **Attitudes** (Validated) Affective component - Worry about HIV infection (2 items) - Blame (single item) **Behaviour** (Validated) - Intent to discriminate against PLHIV -	- The intervention significantly improved HIV-related knowledge (p=.001), reduced HIV transmission misconceptions (p=.04), blame (p=.04) and reduced discrimination intent when dispensing medications (p=.01). - Compared to control group, there was no difference in worry expressed about becoming HIV infected (p=.09), and number of coercive policies endorsed (p=.08).
Stewart KE, et al., 1999, UK	I, SB, CS - Didactic group vs. Social cognitive theory (SCT)-based group. - Didactic group focused on lectures about HIV/AIDS information without demonstration of techniques; - SCT-based group focused on brief lectures (30 minutes) and modeling and role-playing exercises (60 minutes), and demonstrations of risk assessment and HIV counseling. **Theoretical framework:** Social cognitive theory (SCT)	90 minutes Assess at the baseline, after the intervention, and 8 weeks follow-up evaluation.	Didactic lectures, role-play exercises, question and answer session Delivery: The researcher Setting: University medical center and hospitals	**Knowledge** (Validated) - Knowledge of HIV/AIDS (28 items); **Attitudes** (Validated) - Attitudes towards HIV and PLHIV (10 items); Behaviour (Validated) - Comfort with and intent to utilize preventive behaviours	- The education-only and SCT-based workshops were effective in increasing HIV-related knowledge, positive attitudes, comfort and intent at post-test. - The SCT-based workshop yielded more positive results for all four outcome variables at 8-week follow up ($F_{2,71}$ =4.27, p<.02)

Stiernborg, M, et al., , 1996, Philippines	I, C - Three arms intervention: didactic teaching group vs. experiential learning group vs. control group - Didactic teaching group focused on information about HIV/AIDS, participation by a PLWHA; Experiential learning group focused on training with an experiential participation by a PLWHA.	3-hours session; assessed at the baseline and after the intervention.	Didactic lectures, role-play exercises, question and answer session, case studies, sharing sessions with PLWHA Delivery: Teachers, doctor and nurse	**Knowledge** (Validated) - HIV/AIDS related knowledge (28 items); **Attitudes** (Validated) - Attitudes to caring for HIV/AIDS patients (18 items)	- The experimental group had significantly higher mean knowledge scores ($p<.05$) and attitudes scores than both the didactic and control groups ($p<.05$); - The didactic group had significantly higher mean knowledge scores than the control group ($p<.05$), and the didactic teaching group significantly reduced the fear of attracting HIV ($p<.05$).
Uwakwe C.B.U, et al., 2000, Nigeria	I - Intervention group vs. control group - The intervention focused on prevention measures in their personal and professional lives, sensitization problem-based participatory approach to learning was adopted.	7-week training sessions; assessed at the baseline and after the intervention.	Lecture, seminar, multimedia presentation, discussion sessions, small media communication (e.g. print and electronic media, audio-visual materials) Delivery: NS	**Knowledge** (Validated) - HIV/AIDS knowledge **Attitudes** (Validated) - Attitudes towards HIV/AIDS disease and diagnosed patients **Behaviour** (Validated) - Prevention behaviours in professional practice	- Compared to control group, the intervention significantly improved nurses' HIV/AIDS related knowledge, attitudes and disposition to comply with universal precautions (all $p<.05$).

Uys L, et al., 2009, Lesotho, Malawi, South Africa, Swaziland, Tanzania	I, C - The intervention focused on HIV/AIDS stigma, outcomes of stigma, coping with stigma, identifying stigma interventions and local examples	3-day workshop; assessed at baseline and after the intervention.	Didactic presentation, contact with PLWHA, participatory activities Delivery: Nurses who were interested in or involved with HIV/AIDS care, PLHIV	**Attitudes** (Validated) - HIV/AIDS stigma Instrument-Nurses (HISI-N) (19 items) - Generalized Self-Efficacy Scale (11 items) - Self-Esteem Scale (10 items)	- Nurses in the intervention teams demonstrated no change in stigma but a significantly higher percentage of the nurses were tested for HIV by the end of the project (p≤.001), there was no significant difference in self-esteem (p=.08) and self-efficacy (p=.21)
Valois P, et al., 2001, Canada	I - Intervention group vs. control group - The persuasive message intervention focused on increasing nurse's role in providing care for people living with HIV/AIDS, universal precautions. **Theoretical framework:** Theory of planned behaviour	3-session 30-minute/session One session/month assessed at the baseline and after the intervention.	Presentation, short discussion, question and answer session, case studies Delivery: NS	**Knowledge (**Validated) - Knowledge of HIV/AIDS (15 items); **Attitudes** (Validated) - Global attitudes (6 items); - Global social norm (2 items) **Behaviour** (Validated) - Intention of providing care to people living with HIV/AIDS (2 items).	The intervention significantly improved - HIV/AIDS related knowledge (p<.001); - Intention of providing care to people living with HIV/AIDS (p<.01); - Belief-based attitude (p<.01);

Varas-Diaz N, et al., 2013, Puerto Rico	I, SB - Intervention group vs. control group - The intervention focused on information on HIV stigma, its consequences on service delivery, the role of negative emotions in HIV stigma and skills for stigma-free interactions with PLHIV. **Theoretical framework:** Social cognitive theory	9-hours workshop divided into three sessions (3-hour/session); assessed at the baseline, immediately after the intervention, 6 months and 12 months follow up.	Didactic lecture, case studies, small group discussions, media outlets Delivery: NS	**Knowledge** (Validated) - HIV knowledge (10 items); **Attitudes** (Validated) - HIV stigma- The Spanish HIV Stigma Scale (SHASS) (44 items) - Self-efficacy for providing services (9 items)	The intervention improved knowledge, self-efficacy, and positive emotions. significantly reduced HIV stigma (p=.0001), and difference in HIV stigma levels between the two groups sustained for 6 months (p=.03) and 12 months follow up (p=.004).
Wang Debin, et al., 2009, China	I, SB, CS - The intervention focused on HIV epidemiology, treatment, syndrome management, behaviours risk reduction counseling and stigma reduction. **Model: Workshop-practice model**	10 days workshop + one month practice + one week booster group training + one month practice again + one week group workshop Assessed at baseline and six-months follow up	Lecture Delivery: researchers with expertise in HIV/STI prevention and treatment	**Knowledge** (Invalidated) - HIV/AIDS related knowledge **Attitudes** (Invalidated) - HIV-related stigma and discrimination Skills - Risk reduction counseling	- The intervention significantly increased health care providers' knowledge, attitudes, and risk reduction counseling skills toward HIV/AIDS (all p< 0.01).

Williams A.B, et al., 2006, China	I - The intervention focused on HIV/AIDS related knowledge, human sexuality, addictive disease and bereavement, prepared and delivered sample lessons as workshop activities. - The intervention was developed using a training of trainers (TOT) model. **Theoretical framework:** Bloom's Taxonomy	5-day workshop comprising didactic lectures; assessed at the baseline and after the intervention.	Didactic lecture, question and answer session, (small) group discussions, video of PLWHA, powerpoint slides, transparencies, learning activities Delivery: expert, AIDS-experienced Chinese nurse, counselor, staff of drug treatment center	**Knowledge** (Invalidated) - HIV/AIDS knowledge (24 items); **Attitudes** (Validated) - The AIDS attitude scale-G (AAS-G) (21 items) (Froman et al., 2001); **Behaviour** (Validated) - The Nursing Willingness Questionnaire (13 items)	- The intervention significantly improved participants HIV/AID knowledge (p<.001), attitude toward patient with HIV/AID (p<.001), and willingness to providing nursing care to these patients (p< .001).
Wu S, et al., 2008, China	I, SB , C - intervention group vs. control group - Intervention focused on HIV related information and policies, universal precautions, equal medical treatment to everyone, testimony by two HIV advocates, role-play sessions of discrimination in society.	One 4-hour session, assess at the baseline, 3- and 6-moths follow up	Games, small group discussion, role-play session, sharing sessions with PLWHA Delivery: Physician specializing in AIDS care, HIV advocates	**Knowledge** (Validated) - Knowledge about universal precautions; **Attitudes** (Invalidated) - Attitudes toward PLWHA **Behaviour (Unvalided)** - Practice of universal precautions (single item)	- Compared to control group, the brief intervention significantly improved participants' protection of patients' confidentiality, rights to HIV testing, practice of universal precautions, and reduced negative feelings toward people living with HIV/AIDS at 3 months and 6 months (all p<.05).

Wu Z.Y, et al., 2002, China	I, CS - Intervention group vs. control group - The content of the intervention included HIV related knowledge and prevention, role-playing in counseling, work plans for secondary and tertiary workshops, development of educational materials, work plans for universal precautions. - The intervention was developed using a training of trainers (TOT) model	Dosage of the workshop: NS. Evaluation of the workshops were conducted at the baseline, 7- and 12-moths follow ups.	Didactic lecture, case studies, role-play, video presentations discussion, preparation to deliver future training workshop, disseminating AIDS educational message through filers, posters, bill-boards, blackboards, radios, TVs and loudspeakers Delivery: Trained health workers	**Knowledge** (Invalidated) - Knowledge of universal precautions; **Attitudes** (Invalidated) - Attitudes	- Compared with control group, the knowledge, attitudes, and condom use were significantly higher in the intervention group at 7 months and 12 months follow up (all p<.01).
Yiu J.W., et al., 2010, Hong Kong	I, C - Knowledge only group vs. Knowledge + contact group. - Knowledge only group consisted of standard lecture, focused on HIV/AIDS related knowledge; - Knowledge and contact group focused on HIV/AIDS related knowledge, and contact with PLWHA.	Knowledge only group: 50-minutes lecture Knowledge contact group: 50-minutes lecture + 50-minutes contacted with HIV patients assessed at the baseline, after the intervention, and 6 weeks follow up.	Didactic lecture, question and answer session, sharing sessions with PLWHA Delivery: Retired nurse, PLHIV, AIDS care workers	**Knowledge** (Validated) - AIDS knowledge (20 items); **Attitudes** (Validated) - Stigmatizing attitudes (15 items); Affective component - Fear of contagion (4 items); - Emotional well-being (20 items). **Behaviour** (Validated) - Willingness to treat (3 items)	- In both groups, significant improvement in AIDS knowledge, stigmatizing attitudes, fear of contagion, willingness to treat, and negative affect were found at post test and sustained at follow-up (all p<.001). - Inter- group comparisons at post test showed that the effectiveness of knowledge-contact program was significantly greater than knowledge program in improving stigmatizing attitudes.

Young E, et al., 1989, U.S.	I	- The intervention focused on HIV-related information, such as risk behaviours, homosexuality.	One-day workshop; Assessed at pre-, post- and three months follow up.	Introduction film, lecture. Delivery: NS	**Knowledge** (Invalidated) - HIV-related knowledge (10 items) **Attitudes** (Validated) - Attitudes toward AIDS and homosexuality (17 items) (Gabay, 1985) Affective component (invalidated) - Fear for caring PLHIV (single item) **Behaviour** (invalidated) - Willing to care PLHIV (single item)	- The intervention significantly improved nurses knowledge of HIV, attitudes (p<.001), fearful of caring PLHIV (p=.005), and willingness to care PLHIV from pre-test to post-test and from pre-test to 3-month follow up (all p<.001)

[a] Study design abbreviation: QE/NC: Quasi-experimental with no control group; QE/C: Quasi-experimental with control group; RCT: Randomized controlled trial
[b] Interventions type abbreviation: I: Information based; SB: Skills building; CS: Counseling/support; C: Contact with affected groups; B: Biomedical strategies; S: Structural strategies.
HIV: human immunodeficiency virus; AIDS: Acquired Immune Deficiency Syndrome; PLWHA: People living with HIV/AIDS; STIs: sexually transmitted infections; PLHIV: People living with HIV; NS: Not specified

Table 6-4 Effect size of HIV/AIDS related-knowledge

Study	Treatment group				Control group				Effect size	
	Sample size (n)	Pre (mean SD)	Post (mean SD)	Longest follow up time point (mean SD)	Sample size (n)	Pre (mean SD)	Post (mean SD)	Longest follow up time point (mean SD)	Pre-post effect size (Conhen's d)	Longest follow up time point effect size (Conhen's d)
All A.C., et al., 1997, U.S.	39	44.92 (10.29)	39.08 (11.21)		NA				-	
		38.00 (8.64)	36.03 (7.39)							
Arora S., et al., 2014, India	33	15.09 (5.4)		30.39 (7.6)	32	17.5 (12.1)		22.94 (9.5)	d=0.86	
Balogun J, et al., 1998, U.S.	26	24.4 (4.2)	25.5 (3.8)	27.9 (2.2)	23	23.9 (4.3)	27.0 (3.3)	27.2 (3.0)	d=0.47	
Bluespruce J., et al., 2001, U.S.	47	-	-		NA					
Britton P, et al., 1999, U.S.	22	10.95 (2.90)	16.41 (2.28)		NA					
Buskin, SE, et al., 2002, China	122	-	-		NA					
Carney JS, et al., 1999, U.S.	22	17.77	21.83		20	17.26	17.94			
Charuluxananan S. et al., 2000, Thailand	177	7.95 (0.98)	9.5 (0.78)	-	NA					
Chisholm M, et al., 1999, U.S.	-				NA					
Collins P.Y., et al., 2006, South Africa	42	3.11(0.75)	3.87 (0.54)		NA				d=1.17	
		73 (19)	86 (13)						d=.74	

Diesel H, et al., 2013, U.S.	8	73.44 (11.3)	77.60 (8.6)	81.25 (3.1)	18	76.63 (6.4)	80.32 (5.1)	80.09 (6.5)	d=0.06	d=0.52
Ezedinachi E, et al., 2002, Nigeria	-									
Geibel S. et al., 2017, Bangladesh	-				NA					
Gross E J., et al., 1993, U.S.	205	78.9 (9.6)	91.0 (7.4)	88.3 (7.3) (N=112)	NA					
Gutierrez J.M.M., 2014, Saudi Arabia	58	23.7	30.6		NA					
Held SL, et al., 1992, U.S.	47	21.38 (3.88)	28.89 (2.46)		52	20.85 (4.08)	21.00 (4.39)		d=1.83	
Kamiru HN, et al., 2009, Swaziland	97	68.7 (13.7)	84.0 (12.0)		NA					
Kaponda CPN, et al, 2009, Malawi	366	80.7	92.1 (n=561)		NA					
Kemppamen J.K., et al., 1996, U.S.	-									
Lewis DA, et al., 1996, UK	29	-	-		NA					
Li L, et al., 2013, China	-	-			880					
Lohiniva A.L., et al., 2015, Egypt	-									
Lueveswanij S., et al., 2000, Thailand	97	-			42	-				
Mak WWS, et al., 2015, Hong Kong	46	65.41 (11.56)	78.36 (8.33)	77.91 (8.51)	42	63.77 (11.14)	74.74 (9.52)	76.23 (14.98)	η^2 =.590 (game-based group) η^2 =.616 (contact group)	η^2 =.431 (game-based group) η^2 =.319 (contact group)

Mahendra V.S., et al., 2006, India	884	-	-		NA					
McCann TV, et al., 1998, Australia	74	-	-		NA					
Mockiene V, et al., 2011, Lithuania	69	EG1: 19.4 (3.674)		25.3 (4.189)	59	18.7 (3.428)		17.9 (3.635)	d=1.89	
	70	EG2: 20.7 (3.701)		21.9 (3.651) (n=63)					d=1.10	
Nanayakkara G et al., 2017, SriLanka	65	18.03 (3.84)	26.97 (3.68)		64	16.84 (4.08)	15.78 (4.05)		d=2.89	
Operario D, et al., 2016, China	121	(Biology) 23.4 (0.09)		35.0 (0.12)	128	23.2 (0.09)		38.2 (0.12)		d=26.67
		(Symptom) 23.7 (0.13)		32.0 (0.18)		24.1 (0.14)		38.6 (0.16)		d=38.8
		(Management) 15.6 (0.11)		26.4 (0.17)		16.0 (0.09)		25.8 (0.15)		d=3.75
		(Treatment) 8.40 (0.11)		13.8 (0.15)		8.70 (0.10)		13.1 (0.18)		d=4.22
		(Counselling) 15.5 (0.15)		27.6 (0.17)		14.7 (0.14)		32.6 (0.09)		d=36.76
Orlander Jay, et al., 1994, U.S.	21	-	-	-	20	-	-	-		
Pisal Hemlate, et al., 2007, India	377	-	-		NA					
Pulerwitz J, et al., 2015, Vietnam	-									
Shah SM, et al., 2014, India	45	78.4 (9.1)	8.7 (8.7) (change)		46	79.7 (10.9)	-1.9 (8.4) (change)		d=1.06	
Stewart KE, et al., 1999, UK	44	-	-		44	-	-			
Stiernborg, M, et al., , 1996, Philippines	EG1: 182 (transmission)	5.7 (3.5)	8.5 (3.4)		195	5.9 (3.6)	6.0 (3.6)		d=0.70	

	EG2: 185	6.5 (3.6)	10.0 (2.4)						d=0.95	
	EG1: 182 (precaution)	3.7 (1.3)	4.6 (1.4)			3.1 (1.1)	3.4 (1.2)		d=1.00	
	EG2: 185	3.7 (1.1)	5.0 (1.1)						d=1.83	
	EG1: 182(Mixed knowledge)	6.1 (1.7)	7.0 (1.6)			5.6 (1.8)	5.7 (1.7)		d=0.74	
	EG2: 185	6.7 (1.5)	8.1 (1.4)						d=0.79	
Uwakwe C.B.U, et al., 2000, Nigeria	68	-	-		73	-	-			
Uys L, et al., 2009, Lesotho, Malawi, South Africa, Swaziland, Tanzania	-	-	-							
Valois P, et al., 2001, Canada	27	-	-		47	-	-			
Varas-Diaz N, et al., 2013, Puerto Rico	208	-								
Wang Debin, et al., 2009, China	69	-	-		NA					
Williams A.B, et al., 2006, China					NA					
Wu S, et al., 2008, China	70	-	-		68	-	-			
Wu Z.Y, et al., 2002, China	296	-	-		270	-	-			
Yiu J.W., et al., 2010, Hong Kong	55	14.02 (2.48)	16.50 (1.28)	15.92 (1.71)	47	12.91 (2.23)	16.69 (1.42)	15.35 (1.67)	d=0.14	d=0.34
Young E, et al., 1989, U.S.	200	-			NA					

Table 6-5 Effect size of attitudes towards caring for PLWHA

Study	Treatment group				Control group				Effect size	
	Sample size (n)	**Pre (mean SD)**	**Post (mean SD)**	**Longest follow up time point (mean SD)**	**Sample size (n)**	**Pre (mean SD)**	**Post (mean SD)**	**Longest follow up time point (mean SD)**	**Pre-post effect size (Conhen's d)**	**Longest follow up time point effect size (Conhen's d)**
All A.C., et al., 1997, U.S.	39	44.92 (10.29) 38.00 (8.64)	39.08 (11.21) 36.03 (7.39)		NA				- -	
Arora S., et al., 2014, India	33	103.36 (4.17)		129.12 (13.5)	32	104.1 (7.5)		112.22 (32.9)		d=0.67
Balogun J, et al., 1998, U.S.	26	131.1 (19.7)	129.6 (25.2)	144 (21.1)	23	120.0 (28.0)	128.2 (27.0)	126 (29.1)	d=0.11	d=0.29
Bluespruce J., et al., 2001, U.S.	47	-	-	-	NA					
Britton P, et al., 1999, U.S.	22	(Comfort) 6.68 (2.17) (Skill) 7.14 (2.30)	8.50 (1.79) 11.27 (2.07)		NA					
Buskin, SE, et al., 2002, China	122	-	-		NA					
Carney JS, et al., 1999, U.S.	22	64.9	75.45		20	65.67	65.58			
Charuluxananan S. et al., 2000, Thailand	177	-	-		NA					
Chisholm M, et al., 1999, U.S.	104	79.28 (13.72)	86.59 (12.74)		NA					
Collins P.Y., et al., 2006, South Africa	42	3.37 (.56)	3.69 (.61)		NA				d=.54	
Diesel H, et al.,	8	(AIDS	-0.54 (0.3)	-0.70 (0.2)	18	-0.75 (0.4)	-0.80 (0.4)	-0.71 (0.3)	d=.0.13	d=1.05

2013, U.S.		attitudes) -0.44 (0.3) (stigma) 25.50 (6.0)	27.38 (9.2)	28.50 (7.4)		21.89 (5.3)	23.67 (7.3)	24.50 (9.0)	d=0.02	d=0.01
Ezedinachi E, et al., 2002, Nigeria	1072	-	-		480	-	-			
Geibel S. et al., 2017, Bangladesh	300	-	-		NA					
Gross E J., et al., 1993, U.S.	205	73.6 (8.2)	78.1 (7.3)	77.5 (7.4) (N=112)	NA					
Gutierrez J.M.M., 2014, Saudi Arabia	58	2.75 (0.57)	2.56 (1.03)		NA					
Held SL, et al., 1992, U.S.	47	116.68 (18.89)	123.32 (16.69)		52	121.21 (20.18)	117.96 (19.22)		d=0.30	
Kamiru HN, et al., 2009, Swaziland	50	55.3 (7.3)	57.5 (7.4)		NA					
	72	Self efficacy 35.8 (8.7)	42.5 (4.9)							
Kaponda CPN, et al, 2009, Malawi	366 (blame)	1.46 (0.84)	1.09 (0.42) (n=561)		NA					
	366 (contact)	2.96 (0.23)	2.97 (0.18) (n=561)							
	366 (self-efficacy)	2.78 (0.41)	2.90 (0.29)							
Kemppamen J.K., et al., 1996, U.S.	18	-	-		18	-	-			
Lewis DA, et al., 1996, UK	29	-	-		NA					
Li L, et al., 2013, China	880	-	-	-	880	-	-	-		
Lohiniva A.L., et al., 2015, Egypt	203	4.0 (Value-based stigma)	2.1		144	4.4	3.8			
		3.6 (fear-based stigma)	1.1			3.9	3.2			
Lueveswanij S., et	97	-	-		42	-	-			

al., 2000, Thailand										
Mak WWS, et al., 2015, Hong Kong	46	33.87 (8.09) (stigmatized)	30.11 (7.13)	31.02 (7.18)	42 (contact group)	33.79 (9.34)	29.07 (8.79)	31.05 (9.55)	η^2 =.379 (game-based group) η^2 =.405 (contact group)	Pre-test to follow up η^2 =.219 (game-based group) η^2 =.140 (contact group)
		14.61 (4.00) (discrimination)	12.83 (3.07)	13.46 (3.67)		15.12 (4.91)	12.52 (3.97)	13.29 (4.36)	η^2 =.230 (game-based group) η^2 =.083 (contact group)	η^2 =.346 (game-based group) η^2 =.184 (contact group)
		15.33 (4.09) (fear)	13.24 (3.69)	13.57 (4.17)		15.12 (4.91)	12.52 (4.09)	13.29 (4.36)	η^2 =.280 (game-based group) η^2 =.211 (contact group)	η^2 =.457 (game-based group) η^2 =.264 (contact group)
Mahendra V.S., et al., 2006, India	884	42.79	38.07		NA					
McCann TV, et al., 1998, Australia	74	-	-		NA					
Mockiene V, et al., 2011, Lithuania	69	2.80 (.701)		2.95 (.613)	59	2.81 (.695)		2.74 (.585)		d=0.35
	70	3.00 (.758)								
Nanayakkara G et al., 2017, SriLanka	65	64.88 (11.13)	73.82 (9.66)		64	64.25 (10.05)	61.41 (11.33)		d=1.18	
Operario D, et al., 2016, China	-				128					
Orlander Jay, et al., 1994, U.S.	21	-	-	-	20	-	-	-		

Pisal Hemlate, et al., 2007, India	371 (consent and confidentia lity)	67.27 (11.998)	21.423 (13.330)	NA			
	371 (stigma)	42.135 (22.970)	16.39 (15.228)				
Pulerwitz J, et al., 2015, Vietnam	493	5.9 (2.1) (fear)	5.1 (1.5) (n=482)	302	5.8 (1.9)	4.6 (1.0) (n=315)	d=20.00
		8.6 (3.4) (Social stigma)	7.4 (2.8)		7.9 (2.8)	6.6 (2.3)	d=0.16
Shah SM, et al., 2014, India	45	-					
Stewart KE, et al., 1999, UK	44	-	-	44	-	-	
Stiernborg, M, et al., , 1996, Philippines	EG1: 182 (general attitudes)	18.8 (3.4)	18.3 (3.2)	195	19.0 (3.3)	18.6 (3.4)	d=0.03
	EG2: 185	18.8 (3.7)	20.0 (3.8)				d=.459
	EG1: 182 (specific categories of patients)	16.3 (5.7)	16.1 (6.5)		16.5 (5.5)	15.9 (5.7)	d=0.11
	EG2: 185	16.4 (5.9)	18.1 (6.2)				d=0.40
	EG1: 182 (fear)	15.2 (4.4)	16.7 (4.6)		16.5 (4.7)	16.5 (4.6)	d=0.33
	EG2: 185	15.3 (4.6)	17.8 (4.7)				d=0.54
Uwakwe C.B.U, et al., 2000, Nigeria	68	-	-	73	-	-	
Uys L, et al., 2009, Lesotho, Malawi, South Africa, Swaziland,	41	0.46 (0.46)	0.39 (0.43)	134	0.24 (0.41)	0.24 (0.41)	d=0.17

Tanzania										
Valois P, et al., 2001, Canada	27	-	-		47	-	-			
Varas-Diaz N, et al., 2013, Puerto Rico	269	2.79 (0.51) (n=241)	2.61 (0.58/)	2.59 (0.59) (n=206)	234	2.88 (0.48)	2.83 (0.51) (n=219)	2.77 (0.57) (n=179)	d=0.40	Conhen’d =0.29 (6-month) Cohen’s d= 0.30 (12-month)
Wang Debin, et al., 2009, China	69	-			NA					
Williams A.B, et al., 2006, China	208	4.1 (0.736) (empathy) 3.5 (0.736) (avoidance) 0.6 (0.368) (general attitudes)	4.3 (0.736) 3.1 (0.736) 1.2 (1.471)		NA					
Wu S, et al., 2008, China	70	-	-		68	-	-			
Wu Z.Y, et al., 2002, China	296	-	-		270	-	-			
Yiu J.W., et al., 2010, Hong Kong	55	2.74 (0.54) (stigmatizing) 3.78 (0.78) (fear)	2.27 (0.50) 3.07 (0.82)	2.58 (0.65) 3.23 (0.91)	47	2.81 (0.68) 4.20 (0.90)	2.63 (0.53) 3.60 (0.87)	2.69 (0.60) 3.60 (1.02)	d=0.69 d=0.62	d=0.17 d=0.38
Young E, et al., 1989, U.S.	200	-			NA					

SD=$\sqrt{N}$ x (upper limit – lower limit)/3.92
https://www.statstodo.com/CombineMeansSDs_Pgm.php

Table 6-6 Effect size of behaviour towards PLWHA

Study	Treatment group				Control group				Effect size	
	Sample size (n)	Pre (mean SD)	Post (mean SD)	Longest follow up time point (mean SD)	Sample size (n)	Pre (mean SD)	Post (mean SD)	Longest follow up time point (mean SD)	Pre-post effect size (Conhen's d)	Longest follow up time point effect size (Conhen's d)
All A.C., et al., 1997, U.S.	-				NA				-	
Arora S., et al., 2014, India	-									
Balogun J, et al., 1998, U.S.	26	8.9 (5.6)	9.8 (5.0)	8.4 (3.1)	23	11.2 (3.6)	10.4 (3.4)	11.0 (3.9)	d=0.36	d=0.14
Bluespruce J., et al., 2001, U.S.	47	-	-		NA					
Britton P, et al., 1999, U.S.	22	10.18 (3.74)	12.86 (1.94)		NA					
Buskin, SE, et al., 2002, China	122	-	-		NA					
Carney JS, et al., 1999, U.S.										
Charuluxananan S. et al., 2000, Thailand	177	-	-		NA					
Chisholm M, et al., 1999, U.S.	-				NA					
Collins P.Y., et al., 2006, South Africa	-				NA					
Diesel H, et al., 2013, U.S.	8	9.08 (1.5)	9.76 (0.3)	9.76 (0.5)	18	8.61 (1.6)	9.55 (0.9)	9.18 (1.2)	d=0.16	d=0.07
Ezedinachi E, et al., 2002, Nigeria	-									
Geibel S. et al., 2017, Bangladesh	-				NA					
Gross E J., et al., 1993, U.S.	205	-	-		NA					
Gutierrez J.M.M., 2014, Saudi Arabia	58	1.76 (0.62)	1.79 (0.87)		NA					
Held SL, et al., 1992, U.S.	47	11.47 (3.46)	10.08 (2.84)		52	11.29 (3.74)	11.42 (3.26)		d=0.44	

Kamiru HN, et al., 2009, Swaziland	-				NA					
Kaponda CPN, et al, 2009, Malawi	-				NA					
Kemppamen J.K., et al., 1996, U.S.	18	-	-		18	-	-			
Lewis DA, et al., 1996, UK					NA					
Li L, et al., 2013, China	880	-	-		880	-	-			
Lohiniva A.L., et al., 2015, Egypt	-									
Lueveswanij S., et al., 2000, Thailand	97	49.5%	36.9%		42	54.8%	54.8%			
Mak WWS, et al., 2015, Hong Kong	46	41.04 (5.53)	44.87 (5.61)	43.98 (6.89)	42	40.29 (7.08)	45.74 (6.77)	44.52 (7.64)	η^2=.535 (game-based group) η^2=.516 (contact group)	pre-test to follow up η^2 =.311 (game-based group) η^2 =.395 (contact group)
Mahendra V.S., et al., 2006, India	884	-	-		NA					
McCann TV, et al., 1998, Australia	74	-	-		NA					
Mockiene V, et al., 2011, Lithuania	-									
Nanayakkara G et al., 2017, SriLanka	-									
Operario D, et al., 2016, China										
Orlander Jay, et al., 1994, U.S.	-									
Pisal Hemlate, et al., 2007, India	-				NA					
Pulerwitz J, et al., 2015, Vietnam	-									

Shah SM, et al., 2014, India	45	1.9 (0.9) (fear HIV at work)	-0.6 (9) (change)		46	1.6 (0.9)	-0.3 (0.9) (change)		d=0.33	
		1.7 (1.1) (fear HIV outside work)	-0.7 (1.0) (change)			1.4 (1.1)	-0.3 (1.2) (change)		d=0.44	
Stewart KE, et al., 1999, UK	44	-	-		44	-	-			
Stiernborg, M, et al., , 1996, Philippines										
Uwakwe C.B.U, et al., 2000, Nigeria	68	-	-		73	-	-			
Uys L, et al., 2009, Lesotho, Malawi, South Africa, Swaziland, Tanzania	41	0.42 (0.48)	0.25 (0.35)		NA					
Valois P, et al., 2001, Canada	-									
Varas-Diaz N, et al., 2013, Puerto Rico	-									
Wang Debin, et al., 2009, China	-				NA					
Williams A.B, et al., 2006, China	208	97 (25.750)	110 (22.071)		NA					
Wu S, et al., 2008, China	-									
Wu Z.Y, et al., 2002, China	296	-	-		270	-	-			
Yiu J.W., et al., 2010, Hong Kong	55	4.08 (0.79)	4.73 (0.75)	4.40 (0.76)	47	3.88 (0.91)	4.26 (0.87)	4.21 (0.84)	d=0.58	d=0.24
Young E, et al., 1989, U.S.	-				NA					

Table 8-1 Content validity index of the items in the questionnaire

I. Knowledge of sex workers and prostitution law (Expert panel N=6)

Item	Relevant (ratings ≥ 3)	Not relevant (rating ≤2)	I-CVI	Interpretation
1. Do you personally know anyone who identifies as a sex worker?	6	0	1.00	Appropriate
2. Have you ever met/recognized a sex worker?	6	0	1.00	Appropriate
3. Do you have any ideas about the prostitution law in Hong Kong?	5	1	0.833	Appropriate
4. Have you ever attended a lecture, course or community forum about sex worker at any time before the survey?	6	0	1.00	Appropriate
5. How much education you have received regarding caring for sex workers from the nursing curriculum?	5	1	0.833	Appropriate
6. How would you rate your level of knowledge about sex workers?	6	0	1.00	Appropriate
7. In practical classes, do you feel the need to have some knowledge about sex workers?	5	1	0.833	Appropriate

II. The Attitudes toward Prostitutes and Prostitution Scale (Expert panel N=6)

Item	Relevant (ratings ≥ 3)	Not relevant (rating ≤2)	I-CVI	Interpretation	S-CVI
1. Prostitution is trafficking of women	6	0	1.00	Appropriate	0.891
2. Most prostitutes are drug addicts	5	1	0.833	Appropriate	
3. Prostitution is forcing undesired sexual behaviour	5	1	0.833	Appropriate	
4. Prostitution is important for teaching teenage boys about sexuality	2	4	0.667	Appropriate	
5. Prostitutes earn a lot of money	5	1	0.833	Appropriate	
6. Prostitution allows the women who practice it to actualize their sexual fantasies	5	1	0.833	Appropriate	
7. Prostitution increases drug use in society	6	0	1.00	Appropriate	
8. Most prostitutes are morally corrupt	6	0	1.00	Appropriate	
9. Without prostitution more women would get raped	6	0	1.00	Appropriate	
10. Most prostitutes are ugly	3	3	0.50		
11. Prostitution damages society's morals	5	1	0.833	Appropriate	
12. Prostitutes spread AIDS	6	0	1.00	Appropriate	
13. Prostitution is a violation of women's human dignity	6	0	1.00	Appropriate	
14. Prostitutes enjoy the controlling of men	5	1	0.833	Appropriate	
15. Women become prostitutes because they were not properly educated	5	1	0.833	Appropriate	
16. Prostitution provides men with stress relief	6	0	1.00	Appropriate	
17. Prostitution is a form of violence against women	6	0	1.00	Appropriate	
18. Prostitutes like sex	5	1	0.833	Appropriate	
19. Many prostitutes are students who prefer a convenient, profitable job	5	1	0.833	Appropriate	
20. Prostitutes are victims of drug abuse	6	0	1.00	Appropriate	
21. Prostitution is a way for some women to gain power and control	6	0	1.00	Appropriate	
22. Women choose to be prostitutes	6	0	1.00	Appropriate	
23. Prostitution increases the rate of sexually transmitted diseases	6	0	1.00	Appropriate	
24. Prostitution is a form of rape in which the victim gets paid	5	1	0.833	Appropriate	
25. Prostitution harms the institution of marriage	4	2	0.667	Inappropriate	
26. Most prostitutes only work as prostitutes for a few years to get settled	5	1	0.833	Appropriate	

	financially				
27.	Prostitutes are unable to get out of the situation they are in	6	0	1.00	Appropriate
28.	Prostitution is a way to empower economically disadvantaged populations	6	0	1.00	Appropriate
29.	Through prostitution, pretty girls can find a husband	5	1	0.833	Appropriate

III. Attitudes toward sex workers with HIV and sexually transmitted diseases (STDs) (Expert panel N=6)

	Relevant (ratings ≥ 3)	Not relevant (rating ≤2)	I-CVI	Interpretation	S-CVI
1. Sex workers should be legalized	6	0	1.00	Appropriate	1.00
2. Sex workers is immoral	6	0	1.00	Appropriate	
3. Sex workers is a sin	6	0	1.00	Appropriate	
4. There should be compulsory medical tests of sex workers	6	0	1.00	Appropriate	
5. Before admission to hospital, sex workers should be routinely tested for HIV/STDs	6	0	1.00	Appropriate	
6. Sex workers who become infected with HIV/STDs deserve no sympathy	6	0	1.00	Appropriate	
7. Sex workers who get HIV/STDs through their activity should have to pay for medical care	6	0	1.00	Appropriate	
8. Sex workers should be given free condoms to reduce the spread of HIV/STDs	6	0	1.00	Appropriate	

IV. Support for FSWs' human rights (Expert panel N=6)

Attitudes toward sex workers' human rights (Self-developed questionnaire based on reproductive rights and human rights standards and principles)

	Relevant (ratings ≥ 3)	Not relevant (rating ≤2)	I-CVI	Interpretation	S-CVI
1. Sex workers have the right to nondiscrimination and equal treatment.	6	0	1.00	Appropriate	0.963
2. Sex workers have the right to life, including quality of life.	6	0	1.00	Appropriate	
3. Sex workers have the right to maintain their physical integrity, without fear of violence.	5	1	0.833	Appropriate	
4. Sex workers have the right to marry and start a family.	6	0	1.00	Appropriate	
5. Sex workers have the right to privacy of their personal information.	6	0	1.00	Appropriate	
6. Sex workers have the right to information and education that may affect their well-being.	6	0	1.00	Appropriate	
7. Sex workers have the right to access the highest attainable standard of health (physical and psychosocial).	6	0	1.00	Appropriate	
8. Sex workers have the right to benefit from health-related scientific progress.	5	1	0.833	Appropriate	
9. Sex workers have the right to access the basic necessities (housing, food, and clothing) for an adequate standard of living.	6	0	1.00	Appropriate	

V. Willingness to treat sex workers (Expert panel N=6)

Item	Relevant (ratings ≥ 3)	Not relevant (rating ≤2)	I-CVI	Interpretation	S-CVI
1. If I am allowed to choose, I will not choose to serve patients who are sex workers	6	0	1.00	Appropriate	1.00
2. I would refuse to care for patients who are sex workers	6	0	1.00	Appropriate	
3. I am willing to take care of patients who are sex workers	6	0	1.00	Appropriate	

VI. Cultural Competence Assessment for caring for sex workers (Expert panel N=6)

Item	Relevant (ratings ≥ 3)	Not relevant (rating ≤2)	I-CVI	Interpretation	S-CVI
For each of the following statements, select the response that best describe how you feel about the statement:					
1. Occupation is the most important factor in determining a person's culture	1	5	0.167	Inappropriate	0.833
2. Sex workers think and act alike	4	2	0.667	Inappropriate	
3. Many aspects of sex work influence health and health care	5	1	0.833	Appropriate	
4. Aspects of sex work need to be assessed for each individual, group, and organization	6	0	1.00	Appropriate	
5. If I know about a sex worker, I don't need to assess their personal preferences for health services	4	2	0.667	Inappropriate	
6. Spiritually and religious beliefs are important aspects of many sex workers	5	1	0.833	Appropriate	
7. Sex worker may identity with more than one cultural group	5	1	0.833	Appropriate	
8. Language barrier is the only difficulties for sex workers in Hong Kong	2	4	0.333	Inappropriate	
9. I believe that sex workers should be treated with respect no matter what occupation	6	0	1.00	Appropriate	
10. I understand that sex workers may define the concept of "health care" in different ways	5	1	0.833	Appropriate	
11. I think that knowing about sex workers helps direct my work with them	6	0	1.00	Appropriate	
For each of the following statements check the box that best describes how often you do the following:					
12. I include sex work assessment when I do individual or organizational evaluations	5	1	0.833	Appropriate	
13. I seek information on cultural needs when I identify sex	6	0	1.00	Appropriate	

workers				
14. I have resources books and other materials available to help me learn about sex workers	5	1	0.833	Appropriate
15. I use a variety of sources to learn about the sex workers	6	0	1.00	Appropriate
16. I ask sex workers to tell me about their own explanations of health and illness	6	0	1.00	Appropriate
17. I ask sex workers to tell me about their expectations for health services	6	0	1.00	Appropriate
18. I avoid using generalizations to stereotype groups of sex workers	6	0	1.00	Appropriate
19. I recognize potential barriers to service that might be encountered by sex workers	6	0	1.00	Appropriate
20. I remove obstacles for sex workers) when I identify barriers to services	5	1	0.833	Appropriate
21. I remove obstacles for sex workers when people identify barriers to me	4	2	0.667	Inappropriate
22. I welcome feedback from sex workers about how I relate to sex workers from their work	6	0	1.00	Appropriate
23. I find ways to adapt my service to sex workers' preference	5	1	0.833	Appropriate
24. I document sex work if I provide direct client service	5	1	0.833	Appropriate
25. I document the adaptations I make with sex workers if I provide direct client services	5	1	0.833	Appropriate

VII. Education needs

Item	Relevant (ratings ≥ 3)	Not relevant (rating ≤2)	I-CVI	Interpretation
1. Do you think the topic of FSWs should be addressed in the undergraduate nursing curriculum?	6	0	1.00	Appropriate
2. Which education approach would you prefer to acquire knowledge related to caring for FSWs?	6	0	1.00	Appropriate

Table 8-2 Psychometric properties of the measurements

Measurement	Cronbach's Alpha	Intra-class correlation coefficient (ICC)	95% CI
Attitudes toward FSWs	.653	.911	.776-.965
Support for FSWs' human rights	.967	.872	.668-.951
Willingness to care for FSWs	.745	.844	.605-.938

Appendix I Ethical Approval Letter for Qualitative Study of Nurses

To	Loke Yuen Jean Tak Alice (School of Nursing)		
From	Vaelimaeki Maritta Anneli, Chair, Departmental Research Committee		
Email	maritta.valimaki@	Date	21-Mar-2018

Application for Ethical Review for Teaching/Research Involving Human Subjects

I write to inform you that approval has been given to your application for human subjects ethics review of the following project for a period from 15-Mar-2018 to 30-Sep-2019:

Project Title:	A qualitative study of practicing nurses on their perceptions on female sex workers
Department:	School of Nursing
Principal Investigator:	Loke Yuen Jean Tak Alice
Project Start Date:	15-Mar-2018
Reference Number:	HSEARS20180314004

You will be held responsible for the ethical approval granted for the project and the ethical conduct of the personnel involved in the project. In the case of the Co-PI, if any, has also obtained ethical approval for the project, the Co-PI will also assume the responsibility in respect of the ethical approval (in relation to the areas of expertise of respective Co-PI in accordance with the stipulations given by the approving authority).

You are responsible for informing the Human Subjects Ethics Sub-committee in advance of any changes in the proposal or procedures which may affect the validity of this ethical approval.

Vaelimaeki Maritta Anneli

Chair

Departmental Research Committee

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Appendix II Information Sheet for Qualitative Study of Nurses

INFORMATION SHEET

A qualitative study of practicing nurses on their perceptions of female sex workers

You are invited to participant in a study supervised by Prof. Alice Yuen Loke, Dr. Zenobia Chan, and conducted by Haixia Ma, who is a PhD student of the school of Nursing, The Hong Kong Polytechnic University.

The purpose of the focus group discussion is to explore practicing nurses' knowledge of, attitudes towards, and willingness to provide care for female sex workers in Hong Kong. The information collected can assist intervention programs development or help nursing schools to make plans to improve curriculum and prepare its nursing students responding to the diverse health care needs of the communities. The focus group discussion will last 60-90 minutes, which will be audiotaped for future analysis.

Risks for taking part in this study will be minimal. There will be a chance that you may feel uncomfortable talking about female sex workers. If you feel uncomfortable during the study, you will be allowed to terminate the interview, and you can feel free to approach the research team for further issues related to this research after the interview. Also, you can also seek psychological counseling from the Office of Counseling and Wellness of the Hong Kong Polytechnic University.

Your participation is voluntary. You may refuse to participate or may withdraw consent and discontinue the participation in the study at any time with no penalty. All the collected data will be subjected to strict anonymity and confidentiality. Your name will not appear on any data record sheets or publications. They will be locked up in a secure location and only the members of the research team can have access to this data. All the data will also be destroyed after use.

If you have any complains about the conduct of this research study, please do not hesitate to contact Miss Cherrie Mok, Secretary of the Human Subjects Ethics Sub-committee of the Hong Kong Polytechnic University in person or in writing (c/o Research Office of the University) stating clearly the responsible person and department of this study. If you would like more information about this study, please contact Haixia Ma (email: polly.ma@ , Tel: 3400-3794), or her supervisor Prof. Alice Yuen Loke (alice.yuen.loke@ , Tel：2766-6386).

Thank you for participating in this study.

________________	________________	________________
Alice Yuen Loke Principle Investigator, Professor School of Nursing The Hong Kong Polytechnic University	Zenobia Chan Associate Professor School of Nursing The Hong Kong Polytechnic University	Ma haixia PhD student School of Nursing The Hong Kong Polytechnic University

Appendix II Information Sheet for Qualitative Study of Nurses (Chinese version)

有關資料
護士對性工作者態度的研究

誠邀閣下參加由香港理工大學護理學院袁楨德教授和陳頌儀博士負責監督,香港理工大學護理學院博士研究生馬海霞負責執行,關於「**護理專業學生對性工作者態度的研究**」。

這項研究的目的是瞭解護士對性工作者態度的研究。 閣下的參與有助於我們瞭解護士對性工作者的認識，態度，及將來為其服務的意願，為初步制定減低護理專業學生對性工作者歧視的干預措施提供依據，並且為將來改善學校課程以培養出滿足社區健康需求,包括滿足弱勢人群健康需求的畢業生提供資料。小組訪談大概持續 60-90 分鐘。在討論過程中將會對討論內容進行錄音,以期為後期的研究分析提供依據。

小組討論並沒有可預計的風險。 但閣下可能因討論性工作者而引起不安。如遇有次情況,可示意訪問員稍緩訪問，您有權在任何時間中止面談。如訪談中閣下感到精神緊張或出現心理負擔，可隨時終止訪談。 閣下訪談後有任何問題可以向研究小組查詢。 閣下如有心理不適,亦可以向香港理工大學學生事務處預約心理健康及輔導服務。

是次研究純屬自願性質，閣下有充分的權利在研究開始之前或之後退出這項研究,而不會因此受到任何不公平的待遇或被追究責任。所有參與者的資料將會保密及加上編碼。參與者的個人身份，絕對不會在任何研究報告或其他相關文獻出現。所有資料,只有研究者得悉。待研究結束將對所有資料進行銷毀處理。

如果閣下對這項研究有任何不滿,可隨時親身或書面與香港理工大學人類實驗物件操守小組委員會秘書莫小姐聯絡(位址:香港理工大學研究事務處轉交)。如果閣下想獲悉更多有關這項研究的資料,請與香港理工大學護理學院博士研究生馬海霞(電郵:polly.ma@ ，電話:3400-3794)， 或者袁楨德博士(電郵:alice.yuen.loke@ , 電話:2766-6386 聯絡)。

謝謝閣下有興趣參與這項研究。

袁楨德教授	陳頌儀博士	馬海霞女士
主要研究员		
香港理工大学护理学院	香港理工大学护理学院	香港理工大学护理学院

Appendix III Consent Form for Qualitative Study of Nurses

CONSENT TO PARTICIPATE IN RESEARCH

A qualitative study of practicing nurses on their perceptions of female sex workers

I ___________________hereby consent to participate in the captioned research supervised by Prof. Alice Yuen Loke, Dr. Zenobia Chan, and conducted by Ms. Haixia Ma, a PhD student.

I understand that information obtained from this research may be used in future research and published. However, my right to privacy will be retained, i.e., my personal details will not be revealed.

The procedure as set out in the attached information sheet has been fully explained. I understand the benefits and risks involved. My participation in the project is voluntary.

I acknowledge that I have the right to question any part of the procedure and can withdraw at any time without penalty of any kind.

______________________	______________________	______________________
Name of the participant	Signature of the participant	Date
______________________	______________________	______________________
Name of the researcher	Signature of the researcher	Date
______________________	______________________	______________________
Name of the witness	Signature of the witness	Date

Appendix III Consent Form for Qualitative Study of Nurses (Chinese Version)

参与研究同意书
護士對性工作者態度的研究

本人 ___________同意參加由香港理工大學護理學院袁楨德教授和陳頌儀博士負責監督,香港理工大學護理學院博士研究生馬海霞負責執行的研究專案。

本人清楚明白此計畫所獲得的資料,有機會被用於未來的研究及發表。 然而本人的個人資料會絕對保密,完全保留私隱權利。

本人對所附的計畫詳情已經十分清楚, 明白當中涉及的一切利益及風險。 本人是自願參與這項研究。

本人理解有權在研究過程中提出問題,並在任何時候決定退出研究而不會受到任何不正常的待遇或被追究責任。

______________ 參與者姓名	______________ 參與者簽署	______________ 日期
______________ 研究員姓名	______________ 研究員簽署	______________ 日期
______________ 見證人姓名	______________ 見證人签署	______________ 日期

Appendix IV Ethical Approval Letter for Qualitative Study of Female Sex Workers

To	Loke Yuen Jean Tak Alice (School of Nursing)		
From	Vaelimaeki Maritta Anneli, Chair, Departmental Research Committee		
Email	maritta.valimaki@	Date	06-Dec-2018

Application for Ethical Review for Teaching/Research Involving Human Subjects

I write to inform you that approval has been given to your application for human subjects ethics review of the following project for a period from 22-Nov-2018 to 16-Aug-2019:

Project Title:	Experience of female sex workers in accessing health care services in Hong Kong: a qualitative interview study
Department:	School of Nursing
Principal Investigator:	Loke Yuen Jean Tak Alice
Project Start Date:	22-Nov-2018
Reference Number:	HSEARS20181122001

You will be held responsible for the ethical approval granted for the project and the ethical conduct of the personnel involved in the project. In case the Co-PI, if any, has also obtained ethical approval for the project, the Co-PI will also assume the responsibility in respect of the ethical approval (in relation to the areas of expertise of respective Co-PI in accordance with the stipulations given by the approving authority).

You are responsible for informing the Human Subjects Ethics Sub-committee in advance of any changes in the proposal or procedures which may affect the validity of this ethical approval.

Vaelimaeki Maritta Anneli

Chair

Departmental Research Committee

Appendix V Information Sheet for Qualitative Study of Female Sex Workers

Information Sheet for Individual Interview among Female Sex Workers
INFORMATION SHEET

A qualitative study of the experience of female sex workers in accessing health care services

You are invited to participant in a study supervised by Prof. Alice Yuen Loke, and conducted by Haixia Ma, who is a PhD student of the School of Nursing, The Hong Kong Polytechnic University.

The purpose of the individual interview study is to explore the experience of sex workers in accessing healthcare services in Hong Kong. The information collected can assist the health care professionals to understand the facilitators and barriers that influence sex workers' access to and experience of health care services in Hong Kong. The findings of the study will contribute to the development of stigma reduction intervention programs to facilitate of access of sex workers to health care services. The individual interview will last around 60 minutes.

Risks for taking part in this study will be minimal. There will be a chance that participants may feel uncomfortable talking about negative healthcare service experience. If participant feel uncomfortable during or after the study, social workers from the NGO will help to provide psychological counseling service at free of charge to respond to any negative reactions.

Participation in this study is voluntary. Participants may refuse to participate or may withdraw consent and discontinue the participation in the study at any time with no penalty. All the collected data will be subjected to strict anonymity and confidentiality. Participants' name will not appear on any data record sheets or publications. The data will be locked up in a secure location and only the members of the research team can have access to this data. All the data will also be destroyed after use.

If participants have any complains about the conduct of this research study, please do not hesitate to contact Miss Cherrie Mok, Secretary of the Human Subjects Ethics Sub-committee of the Hong Kong Polytechnic University in person or in writing (c/o Research Office of the University) stating clearly the responsible person and department of this study. If you would like more information about this study, please contact Haixia Ma (email: polly.ma@ , Tel: 3400-3794), or her supervisor Prof. Alice Yuen Loke (alice.yuen.loke@ , Tel：2766-6386).

Thank you for participating in this study.

Alice Yuen Loke
Principle Investigator, Professor
School of Nursing
The Hong Kong Polytechnic University

Ma haixia
PhD student
School of Nursing
Hong Kong Polytechnic University

Appendix V Information Sheet for Qualitative Study of Female Sex Workers (Chinese version)

有關資料
性工作者就醫經歷的研究

誠邀閣下參加由香港理工大學護理學院袁楨德教授負責監督,香港理工大學護理學博士研究生馬海霞負責執行，關於「**性工作者就醫經歷的研究**」。

這項研究的目的是瞭解性工作者的就醫經驗。閣下的參與有助於我們瞭解性工作者醫療服務的需要及就醫障礙,並為初步制定減低護理專業學生對性工作者歧視的干預措施提供依據, 並且為將來改善及滿足社區健康需求,包括滿足弱勢人群健康需求的資料。訪談大概持續 60 分鐘。

參加面談並沒有可預計的風險。但閣下可能因憶述受歧視地經歷及不公平的待遇而引起不安。如遇有次情況,可示意訪問員稍緩訪問,您有權在任何時間中止面談。如訪談中或訪談後閣下感到精神緊張或出現心理負擔,紫藤社工會提供免費心理輔導。

是次研究純屬自願性質, 閣下有充分的權利在研究開始之前或之後退出這項研究, 而不會因此受到任何不公平的待遇或被追究責任。所有參與者的資料將會保密及加上編碼。參與者的個人身份,絕對不會在任何研究報告或其他相關文獻出現。所有資料,只有研究者得悉。待研究結束將對所有資料進行銷毀處理。

如果閣下對這項研究有任何不滿,可隨時親身或書面與香港理工大學人類實驗物件操守小組委員會秘書莫小姐聯絡(位址:香港理工大學研究事務處轉交)。如果閣下想獲悉更多有關這項研究的資料,請與香港理工大學護理學院博士研究生馬海霞(電郵:polly.ma@ ，電話:3400-3794)，或者袁楨德博士(電郵:alice.yuen.loke@ , 電話:2766-6386 聯絡)。

謝謝閣下有興趣參與這項研究。

________________	________________
袁楨德教授	馬海霞女士
主要研究員 香港理工大學護理學院	香港理工大學護理學院

Appendix VI Consent Form for Qualitative Study of Female Sex Workers

CONSENT TO PARTICIPATE IN RESEARCH
Experience of health care services among female sex workers in Hong Kong: a qualitative study

I ___________________hereby consent to participate in the captioned research supervised by
Prof. Alice Yuen Loke, and conducted by Haixia Ma.

I understand that information obtained from this research may be used in future research and published. However, my right to privacy will be retained, i.e., my personal details will not be revealed.

The procedure as set out in the attached information sheet has been fully explained. I understand the benefits and risks involved. My participation in the project is voluntary.

I acknowledge that I have the right to question any part of the procedure and can withdraw at any time without penalty of any kind.

______________________	______________________	__________
Name of the participant	Signature of the participant	Date
______________________	______________________	__________
Name of the researcher	Signature of the researcher	Date
______________________	______________________	__________
Name of the witness	Signature of the witness	Date

Appendix VI Consent Form for Qualitative Study of Female Sex Workers (Chinese version)

参与研究同意书
性工作者就醫經歷的研究

本人 ___________同意參加由香港理工大學護理學院袁楨德博士負責監督,香港理工大學護理學院博士研究生馬海霞負責執行的研究專案。

本人清楚明白此計畫所獲得的資料,有機會被用於未來的研究及發表。 然而本人的個人資料會絕對保密,完全保留私隱權利。

本人對所附的計畫詳情已經十分清楚, 明白當中涉及的一切利益及風險。 本人是自願參與這項研究。

本人理解有權在研究過程中提出問題,並在任何時候決定退出研究而不會受到任何不正常的待遇或被追究責任。

___________________	___________________	___________________
參與者姓名	參與者簽署	日期
___________________	___________________	___________________
研究員姓名	研究員簽署	日期
___________________	___________________	___________________
見證人姓名	見證人签署	日期

Appendix VII Ethical Approval Letter for Cross-Sectional Study of Nursing Students

To	Loke Yuen Jean Tak Alice (School of Nursing)		
From	Vaelimaeki Maritta Anneli, Chair, Departmental Research Committee		
Email	maritta.valimaki@	Date	03-Jan-2019

Application for Ethical Review for Teaching/Research Involving Human Subjects

I write to inform you that approval has been given to your application for human subjects ethics review of the following project for a period from 31-Dec-2018 to 16-Aug-2019:

Project Title:	Nursing students' knowledge, attitudes, cultural competence and education need in caring for sex workers in Hong Kong: a cross-sectional survey
Department:	School of Nursing
Principal Investigator:	Loke Yuen Jean Tak Alice
Project Start Date:	31-Dec-2018
Reference Number:	HSEARS20181231002

You will be held responsible for the ethical approval granted for the project and the ethical conduct of the personnel involved in the project. In case the Co-PI, if any, has also obtained ethical approval for the project, the Co-PI will also assume the responsibility in respect of the ethical approval (in relation to the areas of expertise of respective Co-PI in accordance with the stipulations given by the approving authority).

You are responsible for informing the Human Subjects Ethics Sub-committee in advance of any changes in the proposal or procedures which may affect the validity of this ethical approval.

Vaelimaeki Maritta Anneli

Chair

Departmental Research Committee

Page 1 of 1

Appendix VIII Information Sheet for Cross-Sectional Study Among Nursing Students

INFORMATION SHEET

Nursing students' knowledge, attitudes, and education need in caring for sex workers in Hong Kong: a cross-sectional survey

You are invited to participant in a study supervised by Prof. Alice Yuen Loke, and conducted by Haixia Ma, who is a PhD student of the school of Nursing, The Hong Kong Polytechnic University.

The purpose of the cross-sectional study is to explore undergraduate nursing students' knowledge of, attitudes towards, and education needs in caring for sex workers in Hong Kong. The information collected can assist intervention programs development or help nursing schools to make plans to improve curriculum and prepare its nursing students responding to the diverse health care needs of the communities. It will take 15-20 minutes to complete the survey.

Risks for taking part in this study will be minimal. There will be a chance that you may feel uncomfortable when answering questions about female sex workers. If you feel uncomfortable during the study, you will be allowed to terminate the interview, and you can feel free to approach the research team for further issues related to this research after the interview. Also, you can also seek psychological counseling from the Office of Counseling and Wellness of the Hong Kong Polytechnic University.

Your participation is voluntary. You may refuse to participate or may withdraw consent and discontinue the participation in the study at any time with no penalty. All the collected data will be subjected to strict anonymity and confidentiality. Your name will not appear on any data record sheets or publications. They will be locked up in a secure location and only the members of the research team can have access to this data. All the data will also be destroyed after use.

If you have any complains about the conduct of this research study, please do not hesitate to contact Miss Cherrie Mok, Secretary of the Human Subjects Ethics Sub-committee of the Hong Kong Polytechnic University in person or in writing (c/o Research Office of the University) stating clearly the responsible person and department of this study. If you would like more information about this study, please contact Haixia Ma (email: polly.ma@ , Tel: 3400-3794), or her supervisor Prof. Alice Yuen Loke (alice.yuen.loke@ , Tel：2766-6386).

Thank you for participating in this study.

____________________	____________________
Alice Yuen Loke	Ma haixia
Principle Investigator, Professor	PhD student
School of Nursing	School of Nursing
The Hong Kong Polytechnic University	The Hong Kong Polytechnic University

Appendix VIII Information Sheet for Cross-Sectional Study Among Nursing Students (Chinese version)

有關資料
護理專業學生對性工作者的知識，態度，文化能力和教育需求方面的研究

誠邀閣下參加由香港理工大學護理學院袁楨德教授和陳頌儀博士負責監督,香港理工大學護理學院博士研究生馬海霞負責執行,關於「**護理專業學生對性工作者的知识，態度，和教育需求方面的研究**」。

這項研究的目的是瞭解護理專業學生對性工作者的知识，態度，和教育需求方面的研究。 閣下的參與有助於我們瞭解護理專業學生對性工作者的認識, 態度, 及將來為其服務的意願, 為初步制定減低護理專業學生對性工作者歧視的干預措施提供依據, 並且為將來改善學校課程以培養出滿足社區健康需求,包括滿足弱勢人群健康需求的畢業生提供資料。此問卷大約需要 15-20 分鐘。

本研究並沒有可預計的風險。 但閣下可能因問及性工作者而引起不安。如遇有次情況,可示意訪問員稍緩訪問, 您有權在任何時間中止問卷調查。如問卷調查中閣下感到精神緊張或出現心理負擔, 可隨時終止問卷調查。 閣下問卷調查後有任何問題可以向研究小組查詢。 閣下如有心理不適,亦可以向香港理工大學學生事務處預約心理健康及輔導服務。

是次研究純屬自願性質, 閣下有充分的權利在研究開始之前或之後退出這項研究,而不會因此受到任何不公平的待遇或被追究責任。所有參與者的資料將會保密及加上編碼。參與者的個人身份, 絕對不會在任何研究報告或其他相關文獻出現。所有資料,只有研究者得悉。待研究結束將對所有資料進行銷毀處理。

如果閣下對這項研究有任何不滿,可隨時親身或書面與香港理工大學人類實驗物件操守小組委員會秘書莫小姐聯絡(位址:香港理工大學研究事務處轉交)。如果閣下想獲悉更多有關這項研究的資料,請與香港理工大學護理學院博士研究生馬海霞(電郵:polly.ma@ ,電話:3400-3794),或者袁楨德博士(電郵:alice.yuen.loke@ , 電話:2766-6386 聯絡)。

謝謝閣下有興趣參與這項研究。

______________________ ______________________

袁楨德教授 馬海霞女士

主要研究员
香港理工大学护理学院 香港理工大学护理学院

Appendix IX. Consent Form for Cross-Sectional Study Among Nursing students

CONSENT TO PARTICIPATE IN RESEARCH

Nursing students' knowledge, attitudes, cultural competence and education

need in caring for sex workers in Hong Kong: a cross-sectional survey

I ___________________ hereby consent to participate in the captioned research supervised by Prof. Alice Yuen Loke, and conducted by Ms. Haixia Ma, a PhD student.

I understand that information obtained from this research may be used in future research and published. However, my right to privacy will be retained, i.e., my personal details will not be revealed.

The procedure as set out in the attached information sheet has been fully explained. I understand the benefits and risks involved. My participation in the project is voluntary.

I acknowledge that I have the right to question any part of the procedure and can withdraw at any time without penalty of any kind.

Name of the participant	Signature of the participant	Date
Name of the researcher	Signature of the researcher	Date
Name of the witness	Signature of the witness	Date

Appendix IX. Consent Form for Cross-Sectional Study Among Nursing students

(Chinese Version)

参与研究同意书

護理專業學生對性工作者的知識，態度，文化能力和教育需求方面的研究

本人 ___________同意參加由香港理工大學護理學院袁楨德教授負責監督,香港理工大學護理學院博士研究生馬海霞負責執行的研究專案。

本人清楚明白此計畫所獲得的資料,有機會被用於未來的研究及發表。 然而本人的個人資料會絕對保密,完全保留私隱權利。

本人對所附的計畫詳情已經十分清楚, 明白當中涉及的一切利益及風險。 本人是自願參與這項研究。

本人理解有權在研究過程中提出問題,並在任何時候決定退出研究而不會受到任何不正常的待遇或被追究責任。

___________________	___________________	___________________
參與者姓名	參與者簽署	日期
研究員姓名	研究員簽署	日期
見證人姓名	見證人签署	日期

Appendix X Interview guide of the qualitative interview among nurses_English version

Part I. Characteristics of the participants

1. **Age:** ___________
2. **Gender**
    a. Male
    b. Female
3. **Place of birth**: __________
4. **Marital status**
    a. Single (live alone)
    b. Single (living with boyfriend/non-paying partner)
    c. Married
    d. Separated
    e. Divorced
    f. Widowed
5. **Program**
    a. Master of Science in Nursing
    b. Master of Science in Infection Control
    c. Master of Science in Mental Health Nursing
    d. Doctor of Health Science/ Doctor of Health Science (Nursing)
    e. Others, please specify: ___________________________________
6. **Year of study**
    a. Year one
    b. Year two
    c. Year three
    d. Year four
    e. Others, please specify: ________________
7. **Religion**

a. Christian

b. Muslim

c. Catholic

d. Buddhist

e. Atheist

f. Agnostic

g. Non-religious

h. Others, please specify: ______________________________

8. Type of housing

a. Private house

b. Public house

c. Rent house

d. Others

9. Family monthly income

a. < 10,000
b. 10,000-20,000
c. 20,000-30,000
d. 30,000-40,000
e. >40,000

10. Types of working organization (hospital/clinics)

a. Public
b. Private
c. NGO
d. Others, please specify: ______________________________

Part II. Nursing practice and training

1) How many years have you worked as a registered nurse or enrolled nurse?

_________________ years

2) Types of nursing

   a. General nurse

   b. Mental health nurse

3) Which unit are you working in?

   ____

4) Have you ever received sex-work related teaching/training?

   a. Yes

      If yes, please specify:

      1) Undergraduate
      2) Hospital
      3) Continuing Nursing Education
      4) Others: ______________________________

   b. No

Part II Qualitative interview guide among nurses

1. Can we start by sharing with me what a typical day at work is like for you and what kind of patients and problems you encounter?

2. Can you recall a suspected sex worker in your work unit?

   Prompting questions: Can you describe the patient? How did the patient appear to you that led you suspect s/he may involve in sex work? What made you think....? Can you tell me more about....? What did you do about...?

Target question(s) to get at the 'core' of your concerns about stigma with sex workers:

3. How do you manage concerns when you suspect the patient is a sex worker?

   Prompting questions: What goes through your mind as you try to provide care for the patient? Can you tell me more about the concerns or discomfort you feel? What did you do when....?

4. How do you feel after working with those you suspect are sex workers?

   Prompting questions: How did you come to feel that way? What makes it difficult to help patients in this situation? Can you tell me more about...?

5. How do you feel about providing sex worker-related training to nursing students/nurses?

Appendix XI Interview guide of the qualitative study of nurses (Chinese version)

第一部分. 人口學資料

1. 年齡:__________

2. 性別

    a. 男

    b. 女

4. 出生地: __________

5. 婚姻狀態

    a. 單身 (獨居)

    b. 單身(同居)

    c. 已婚

    d. 分居

    e. 離異

    f. 喪偶

6. 學歷/就讀課程

    a. 護理學碩士

    b. 感染控制碩士

    c. 護理學碩士（精神科）

    d. 護理學博士

    e. 其他,請列明: ______________________________

7. Religion

    a. 基督教

    b. 天主教

    c. 佛教

    d. 無神論者

e. 不可知主義

f. 無宗教信仰

8. 其他， 請列明： ____

9. 房屋類型

a. 私人屋苑

b. 公共房屋（公屋，居屋）

c. 租住房屋

d. 其他

10. 家庭月收入

a. < 10,000
b. 10,000-20,000
c. 20,000-30,000
d. 30,000-40,000
e. >40,000

11. 工作機構類型(醫院/診所)

a. 公立醫院
b. 私家醫院
c. 非政府組織
d. **其他， 請列明:** ____________________________________

Part II. 護士經歷/培訓

1) 請問您做註冊護士/登記護士已經有多少年了？

________________ 年

2) 護士類別

c. 普通科護士

d. 精神科護士

3) 請問您工作的部門?

____

4) 請問您是否接受過性工作者方面的培訓?

   a. 有

      如果有，請列明時間

      1) 本科期間
      2) 醫院培訓
      3) 護理持續教育
      4) 其他: ______________________________

   c. 沒有

第二部分. 訪談

多謝大家參與我們這個研究。我們將會討論一個比較敏感，很少公開討論，但有十分重要的話題。所以， 大家有權選擇中止或者拒絕回答我任何問題。但是研究團隊會保證大家所說的任何內容都絕對保密，絕對不會向你們的工作單位洩露。同樣，我想強調任何意見並無對錯之分。我們的討論，並非評論你的工作，而是希望通過此研究，幫助護士在面臨一些困難或特別的病人的時候，能夠從容應對。

所以，討論的內容可能有些敏感，希望大家盡可能多的分享你們的寶貴意見和感受。我可以將我們的對話錄音嗎，這樣我可以專注在我們的談話上，而不是做筆記。

大家可以先

1. 以你們最平常的一天開始吧。平時你們的工作是什麼樣的？面臨的是哪些病人？你工作中最常遇到的問題都有哪些？
2. 你能否回憶起一些有性病的病人，或者懷疑她有性病的病人？
   可不可以描述一下那個病人？從哪些方面，你開始懷疑這個病人有性病？你為什麼這麼懷疑？可否講多 D?
3. 當你懷疑病人有性病的時候，你的心態是什麼樣的？
   當你為這類病人提供護理服務的時候，你心裡怎麼想的？你的猶豫，你的不舒服可否講多些？當你服務的時候，你怎麼做的？關於性工作者，你從哪些得知的？
4. 為一些懷疑/疑似性工作者服務後，你什麼感覺？

哪些方面你覺得自己很難為她們服務？可否講多 D

我簡單總結一下。。。

5. 關於這個課題，你還有什麼其他的意見或看法嗎

謝謝大家的參與，你的時間和幫助對我的研究十分重要。

Appendix XII Interview guide of the individual interview among female sex workers (English version)

Part I. Characteristics of the participants

1. **Age:** ________
2. **Place of birth:**________
3. **If you were not born in Hong Kong, how long have you been living in Hong Kong:**

   ________years
4. **Education level**
   a. Primary education or below
   b. Junior secondary education
   c. Senior secondary education
   d. Post-secondary non-tertiary education
   e. Tertiary education or above
5. **Marital status**
   a. Single (live alone)
   b. Single (living with boyfriend/non-paying partner)
   c. Married
   d. Separated
   e. Divorced
   f. Widowed
6. **Type of housing**

   2）Public housing estate

   3）Home ownership scheme

   4）Private house

5）Rent house

6）Villa

7）Traditional village hourse

8）Others

7. **Total number of pregnancy:** ________________

Including: No. of birth of the child _______;

No. of miscarriage ___________;

No. of induced abortion _________;

No. of stillbirth __________;

Other: ___________________________

8. **How many children do you have?**

   a. None
   b. One
   c. Two
   d. Three or more

9. **How about your relationship with your children (If you have children)**

   a. Very close
   b. Good
   c. Fair
   d. Bad

10. **Do your children know that you are working in the sex industry?**

   a. Yes
   b. No
   c. Not sure

11. **Who else lives together with you?**

a. Husband

b. Boyfriend

c. Mother/father

d. Father/mother in-law

e. Other sex worker

f. Others: ______________________

Part II. Sex work

1. **How old were you when you start to work as a sex worker?**

   (years old)

2. **Why did you choose to work as a sex worker?**

   ____

3. **Where do you currently work?**

   a. One women brothel

   b. Karaoke bar

   c. Bars

   d. Saunas and massage parlor

   e. Night club

   f. Hotels

   g. Street

   h. Others, please specify: ________________________

4. **Average number of client/week**: ___________(client/week)

5. **Price per intercourse (HK Dollar)**

   a. <100

   b. 101-300

   c. 301-500

d. >500

6. **Motherly household income (HK Dollar)**

   a. <10,000

   b. 10,001-15,000

   c. 15,001-20,000

   d. >20,000

7. **Condom use frequency with clients**:______%

   Condom frequency with boyfriend/partner/husband: ______%

Part III. Health status

1. **Do you smoke?**

   a. Yes

   If yes, No. of cigarette/day: __________

   b. No

2. **How often do you drink?**

   a. Almost every night

   b. Every week

   c. Every two weeks

   d. Every month

   e. I don't drink

3. **Have you ever been diagnosed with any sexually transmitted diseases (STDs)?**

   a. Never

   b. HIV/AIDS

   c. Syphilis

   d. Chlamydia

   e. Gonorrhea

f. Genital warts

g. Human papillomavirus (HPV)

h. Herps

i. Hepatitis B

i. Others, please specify: ______________________

4. **Do you have been diagnosed with other disease? If yes, please specify**:

5. **Self perceived health status:**

a. Excellent /very good

b. Good

c. Fair

d. Poor

6. **If you have any children, how about the health of the children?**

a. Excellent/very good

b. Good

c. Fair

d. Poor

7. **In the past one month, have you ever used the health care services?**

a. Yes

b. No

8. **If yes, where did you obtain the health care services?**

a. Non-governmental organization/outreach services

b. Public hospital/clinic

c. Private hospital/clinic

d. Traditional Chinese medicine

e. Others, please specify: ____

9. If no, where do you think you would prefer to get the health care services?

a. Non-governmental organization/outreach services

b. Public hospital/clinic

c. Private hospital/clinic

d. Traditional Chinese medicine

e. Others, please specify: ____

10. Reasons of using the health care services

a. Medical consultation/advice

b. HIV/STD testing and treatment

c. Pap smear test

d. Psychological counseling

e. Termination of pregnancy

f. Violence (e.g. sexual violence)

g. Substance abuse treatment

h. Others, please specify: ____

11. Overall health care service experience

a. Excellent

b. Good

c. Fair

d. Poor

Qualitative interview guideline

Part III. Warm up questions

1) First, I would like to get to know you better. Could you introduce yourself?

a. How long have you lived here?

b. What do you do in a typical day?

c. What are your working hours? How many days a week?
d. How do you describe your job? Can you describe the positive and negative aspects of your job, and give some examples?
e. How is your relationship with your children? Perceived supports from them or supports for them?

2) Healthcare needs

a. How do you describe your health? How important is health to you?
b. In your experience what illnesses do you think are most common with sex workers? Which types of health care services do you think is the best suitable for you?

c. What are your goals for health? How would you try to reach health goals?

3) Healthcare access

a. If needed, which types of health care services you would like to choose? (e.g. public, private or NGO) Why?
b. In your experience, how does your sex work affect your access to health care?
c. What do you see as the biggest problem in accessing healthcare services for female sex workers in Hong Kong?

4) Health care services experiences

a. As a sex worker, in what ways do you think your experience of your health care services might be different to people who do not identify as sex workers? How might that have been different?
b. Could you describe your experience of accessing health care service? (e.g. happy or unhappy experience)

c. When you discuss you, your life, and what matters to you with your health care providers, do you think your sex work should be part of that discussion? Why? How?
d. How do you feel about being asked directly/suspected about your sex work?
e. Overall, how do you evaluate the health care services provided by the doctors/nurses?

5) Attitude towards sex work-related stigma reduction intervention among nursing students

a. Could you offer some suggestions on current health care services?
b. What should we teach health care providers?
c. What would you like to suggest on becoming a better nurse?
d. How do you feel about the idea of workshop between sex work and nurse to increase mutual understanding and reduce stigma?
e. Is there anything you'd like to add?

Thank you!

Appendix XIII Interview guide of the individual interview among female sex workers (Chinese version)

第一部分：個人資料

1. 年齡：________________________

2. 出生地：

a) 香港

b) 中國大陸

c) 其他：

3. 【只問非香港出生者】咁你黎左香港幾耐？____________________

4. 教育程度

a)小學或以下

b) 初中

c) 高中

d) 專上非學位

e) 大學或以上

5. 婚姻狀況

a) 單身

b) 單身（同居）

c) 已婚

d) 分居

e)離異

f) 喪偶

6. 房屋類型

a) 公屋

b) 村屋：別墅/平房/新型村屋

c) 居屋

d) 村屋：建設磚石蓋搭建築物/傳統村屋

e) 私人住宅單位

f) 其他

g) 租住房屋

7. 共有______次懷孕

其中包含_____次分娩; _____次自然流產; _____次人工流產; ______次死產

8. 您有幾個孩子？

a) 沒有

b) 1 個

c) 2 個

d) 3 個以上

9. 如果有子女，您和子女關係怎麼樣？

a) 很好，很親密

b) 好

c) 一般

d) 很不好

10. 您子女是否知道您從事性工作？

a) 知道

b) 不知道
c) 不肯定

11. 您現在和誰一起生活？（可多選）

a) 獨自生活
b) 父母
c) 丈夫
d) 男朋友
e) 子女
f) 同行姐妹
g) 其他：________________________

第二部分： 工作情況

1. 您從事性工作大約多久了？ ____________________（年）

2. 您從事性工作的原因?

____

____

3. 目前您的工作地點？

a) 一樓一
b) 卡拉 OK
c) 酒吧
d) 桑拿足浴
e) 夜總會
f) 酒店
g) 街道
h) 其他，請列明： ________________________________

4. 平均每周有幾個客人？ ____________________（客人/**周**）

5. 平均家庭月收入（港幣）

a. <10,000
b. 10,001-15,000
c. 15,001-20,000
d. >20,000

6. 每次服務收費約多少（港幣）？ ____________________

平均月收入約多少（港幣）？ ____________________

7. 安全套使用頻率

a) 與客人______________%; b) 與男朋友/配偶_____________%

第三部分：健康情況

1. 是否吸煙

a) 是 ________支/天

b) 否

2. 是否飲酒

a) 是

□ 每天 □ 每週 □ 每兩周 □ 每個月

b) 否

3. 您曾經是否患有任何性病？

a) 從來沒有

b) 愛滋病

c) 梅毒

d) 淋病

e) 衣原體感染

f) 支原體感染

g) 尖銳濕疣（椰菜花）

h) 人類乳頭瘤病毒

i) 生殖器皰疹

j) 乙肝

k) 其他，請列明 ____

4. 您是否患有其他疾病？如果有，請列明：

____

5. 您對自己目前的健康狀況評價

a) 非常好

b) 好

c) 一般

d) 差

6. 如果有子女，您對子女的健康情況評價

a) 非常好
b) 好
c) 一般
d) 差

7. 過去的一個月內，您有沒有使用過香港的醫療服務？

a) 有
b) 沒有

8. 如果您曾經使用過香港的醫療服務，請問使用過哪種類型的醫療服務？

a) 非政府組織/外展服務
b) 公立醫院/診所
c) 私家醫院/診所
d) 中醫服務
e) 其他，請列明： ______________________________

9. 如果未曾使用過香港的醫療服務，假如將來生病或健康檢查，您將會選擇哪種類型的醫療服務？

a) 非政府組織/外展服務
b) 公立醫院/診所
c) 私家醫院/診所
d) 中醫服務
e) 其他，請列明 ______________________________

10. 使用醫療服務的原因（可多選）

a) 醫療諮詢/建議
b) 愛滋病/性病檢測或治療
c) 子宮頸抹片檢查
d) 心理輔導
e) 終止妊娠
f) 暴力（例如性暴力）
g) 美沙酮治療服務
h) 其他，請列明 ______________________________

11. 整体来讲，您对医疗服务的评价

a. 非常好
b. 好
c. 一般
d. 差

第四部分：訪談

1） **首先，我想進步一步瞭解您。你可否簡單自我介紹一下？（熱身問卷）**

a) 您來香港多久了？
b) 您生命中最重要的人是誰？
c) 您同您子女關係怎麼樣？
d) 您為什麼選擇性工作這個行業？
e) 可否描述一下您最平常的一天？
f) 您怎麼看待自己，怎麼看待自己的這份工作？可否跟我們分享您工作中開心或者不開心的事情嗎？
g) 您覺得其他人怎麼看待你？
h) 將來您有什麼打算？

2） **健康需求**

a) 您覺得自己的健康狀況怎麼樣？健康對您有幾重要？
b) 對性工作者來講，哪種疾病最常見？最需要哪種醫療服務？
c) 您有哪些健康方面的目標? 您怎麼做，才能達到這些目標?

3） **醫療途徑**

a) 如果有需要，您選擇哪種醫療機構就醫？（公立，私立醫院或 NGO），原因？
b) 性工作如何影響你求醫？
c) 您認為香港性工作者在求醫方面有哪些困難或障礙？

4） **醫療服務**

a) 比較性工作者與非性工作所接受的醫療服務，是否有任何不同？如果有不同，您覺得是什麼原因造成的？
b) 您可否描述一下您曾經的求醫經歷嗎？（開心或不開心的經歷）
c) 求診時，你覺得是否有必要談起性工作？為什麼？如何談起呢？
d) 假如醫護人員直接問/懷疑你是否從事性工作，你將會是什麼感受？
e) 整體來講，您覺得醫生/護士對你的態度怎麼樣？

5） **醫療護理服務及教育方面的建議**

a) 您對目前的醫療服務有哪些建議？
b) 我們應該教授醫護人員哪些方面的知識？
c) 您心中醫護人員應該具備哪些素質或能力？

d) 如果有工作坊，目的是增進性工作者和護士的互相瞭解，您怎麼看待？
e) 您是否還有內容需要補充？

多謝參與！

Appendix XIV Questionnaire of the cross-sectional survey among nursing students

Part I. Characteristics of the participants

1. **Age**
    a. 18
    b. 19
    c. 20
    d. 21
    e. 22
    f. 23
    g. >23
2. **Gender**
    c. Male
    d. Female
3. **Place of birth**
    a. Hong Kong
    b. Mainland, China
    c. Overseas
4. **Which year in bachelor of nursing programme are you?**
    f. Year one
    g. Year two
    h. Year three
    i. Year four
    j. Year five
5. **Types of nursing programmes**
    a. General nursing

b. Mental health nursing

6. **Religion**

i. Christian

j. Muslim

k. Catholic

l. Buddhist

m. Atheist

n. Agnostic

o. Non-religious

p. Others

7. **District of resident**

a.	Island	b.	Kwai Tsing
c.	North	d.	Sai Kung
e.	Sha Tin	f.	Tai Po
g.	Tsuen Wan	h.	Tuen Mun
i.	Yuen Long	j.	Kowloon City
k.	Kwun Tong	l.	Sham Shui Po
m.	Wong Tai Sin	n.	Yau Tsim Mong
o.	Central & Western	p.	Eastern
q.	Southern	r.	Wan Chai

Part II. Knowledge of sex work and prostitution law

1. Do you personally know anyone who identifies as a sex worker?

a. Family member

b. Friend

c. Acquaintance (People who you are familiar with)

d. Classmates

e. Neighbour

f. Other

g. No

2. Have you ever seen somebody who you recognized as a sex worker?

a. Yes

b. No

c. I am not sure

3. Rank top five the most influential factors on your attitudes toward sex workers?

	Ranking
a. The attitudes of my family	
b. The attitudes of my friends	
c. My school education	
d. The attitudes of clinical instructor	
e. The media	
f. The culture	
g. The social atmosphere about sex workers	
h. The religion	
i. Nursing code of ethics of providing fair and equal treatment to all patients	
j. Personal positive experience with sex workers	
k. Personal negative experience with sex workers	
h. Others, please specify	

4. Prostitution is defined as the exchange of sex for money or goods. Which one of the following is true?

a. Prostitution is legal in Hong Kong

b. Prostitution is illegal in Hong Kong

c. Prostitution is not illegal in Hong Kong

d. I have no ideas

5. In your opinion, is it morally acceptable or morally unacceptable to buy sex?

(1 for "Totally morally acceptable" to 10 for "Totally morally unacceptable".)

Totally morally acceptable Totally morally unacceptable

1	2	3	4	5	6	7	8	9	10

6. **In your opinion, is it morally acceptable or morally unacceptable to sell sex?**

(1 for “Totally morally acceptable” to 10 for “Totally morally unacceptable”.)

Totally morally acceptable Totally morally unacceptable

1	2	3	4	5	6	7	8	9	10

7. **Have you ever attended a lecture, course or community forum about sex worker at any time before the survey?**
   a. Yes
   b. No
   c. I can’t remember
8. **How would you rate your level of knowledge about sex workers?**
   a. No knowledge
   b. Low level
   c. Average level
   d. High level
   e. Very high level
9. **How many hours of education you have received regarding caring for sex workers?**
   a. None
   b. 1-5 hours
   c. 6-10 hours
   d. 11-15 hours
   e. 16-20 hours
   f. >20 hours
10. **Do you feel the need to have knowledge about sex workers?**
   a. Yes, I am interested in this topic and want to have a lot of knowledge about sex workers.
   b. Yes, I want to have some knowledge about sex workers.
   c. Yes, I want to have a little knowledge about sex workers.
   d. No, I have no interest in such topic.
   e. I am not sure
11. **When taking a patient history, will you specifically encourage disclosure of possible sex worker identity?**

a. Yes
b. No
c. I am not sure

Part III Attitudes

a) The Attitudes toward Prostitutes and Prostitution Scale

Item	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
	1	**2**	**3**	**4**	**5**
1. Prostitution is trafficking of women					
2. Most prostitutes are drug addicts					
3. Prostitution is forcing undesired sexual behaviour, for example, forced sex without a condom.					
4. Prostitution is important for teaching teenage boys about sexuality					
5. Prostitutes earn a lot of money					
6. Prostitution allows the women who practice it to actualize their sexual fantasies					
7. Prostitution increases drug use in society					
8. Most prostitutes are morally corrupt					
9. Without prostitution more women would get raped					
10. Most prostitutes are ugly					
11. Prostitution damages society's morals					
12. Prostitutes spread AIDS					
13. Prostitution is a violation of women's human dignity					
14. Prostitutes enjoy the controlling of men					
15. Women become prostitutes because they were not properly educated					
16. Prostitution provides men with stress relief					
17. Prostitution is a form of violence against women					
18. Prostitutes like sex					
19. Many prostitutes are students who prefer a convenient, profitable job					

20. Prostitutes are victims of drug abuse					
21. Prostitution is a way for some women to gain power and control					
22. Women choose to be prostitutes					
23. Prostitution increases the rate of sexually transmitted diseases					
24. Prostitution is a form of rape in which the victim gets paid					
25. Prostitution harms the institution of marriage					
26. Most prostitutes only work as prostitutes for a few years to get settled financially					
27. Prostitutes are unable to get out of the situation they are in					
28. Prostitution is a way to empower economically disadvantaged populations					
29. Through prostitution, pretty girls can find a husband					

b) Attitudes toward sex workers with HIV and sexually transmitted diseases (STDs)

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	**2**	**3**	**4**	**5**
1. Sex workers should be legalized					
2. Sex workers are immoral					
3. Sex worker is a sin					
4. There should be compulsory medical tests of sex workers					
5. Before admission to hospital, sex workers should be routinely tested for HIV/STDs					
6. Sex workers who become infected with HIV/STDs deserve no sympathy					
7. Sex workers who get HIV/STDs through their activity should have to pay for medical care					
8. Sex workers should be given free condoms to reduce the spread of HIV/STDs					

c) Attitudes toward sex workers' human rights

Items	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. Sex workers have the right to nondiscrimination and equal treatment					
2. Sex workers have the right to life, including quality of life					
3. Sex workers have the right to maintain their physical integrity, without fear of violence					
4. Sex workers have the right to marry and start a family					
5. Sex workers have the right to privacy of their personal information					
6. Sex workers have the right to information and education					

that may affect their well-being					
7. Sex workers have right to access the highest attainable standard of health (physical and psychosocial)					
8. Sex workers have the right to benefit from health-related scientific progress					
9. Sex workers have the right to access the basic necessities (housing, food, and clothing) for an adequate standard of living.					

d) Willingness to treat sex workers

Item	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
	1	2	3	4	5
1. If I am allowed to choose, I will not choose to provide care to patients who are sex workers					
2. I would refuse to care for patients who are sex workers					
3. I am willing to take care of patients who are sex workers					

Part IV Education needs

1. **How do you think the topic of sex workers should be addressed in the undergraduate nursing curriculum?**
   a. It should be addressed in the undergraduate nursing curriculum
   b. Training would be needed only for those who work in units that have frequent encounters with sex workers
   c. It should be addressed in the Office of General University Requirement (OGUR).
   d. There is little need for formal training, such topic can be leaned through self-learning or service-learning activities.
   e. There is no need at all to address the topic of sex workers in the undergraduate nursing curriculum

f. I have no idea
g. Others

2. **Which education approach do you prefer to acquire knowledge related to caring for sex workers? (You can select more than one option)**
   a. Lecture
   b. Workshop/seminar
   c. Service-learning
   d. Self-learning
   e. Volunteer training organized by NGOs
   f. I have no interest in such topic
   g. Others

Appendix XV

Formulae for calculating effect size for RCT and quasi-experimental study with controlled group

a. Formulae for calculating *d* for RCT:

ES (Cohen's d) = $[Mean_T - Mean_C] / SD_{pooled}$

$SD_{pooled} = \sqrt{[SD_T^2 + SD_C^2]/2}$

b. Formulae for calculating *d* for controlled trials:

$ES_{Pre\text{-}/Post\text{-}Test\ Two\ Groups}$ (Cohen's d) = $c[(Mean_{Tpost} - Mean_{Tpre}) - (Mean_{Cpost} - M_{Cpre})]/SD_{pooled}$

$SD_{pooled} = \sqrt{[(n_T - 1)SD_{Tpre}^2 + (n_C - 1)SD_{Cpre}^2]/(n_T + n_C - 2)}$

$c = 1 - 3/(4(n_T + n_C - 2) - 1)$

$Mean_{Tpre,}$ = mean of treatment group at pre-intervention

$Mean_{Tpost}$ = mean of treatment group at post-intervention

$Mean_{Cpre,}$ = mean of control group at pre-intervention

M_{Cpost} = mean of control group at post-intervention

SD_{pooled} = pooled standard deviation at pre-intervention;

SD_{Tpre}, SD_{Cpre} = standard deviation at pre-intervention of treatment and control group, respectively;

n_T = sample size of treatment;

n_C = sample size of control group

c = bias correction factor

Appendix XVI Certificate of volunteer training

MIDNIGHT BLUE
午夜藍

義工嘉許狀

Voluntary Service Appreciation Certificate

茲頒發此證書予

馬海霞

以表揚其積極完成午夜藍2019義工培訓計劃

機構印鑑

二零一九年七月二十八日

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