Title: The Socio-Ecological Model Approach to Understanding Barriers and Facilitators to the Accessing of Health Services by Sex Workers: A Systematic Review

Abstract

Inequities in accessing health care persist among sex workers. The purpose of the review is to understand the health-seeking behaviours of sex workers and their access to health care services with socio-ecological model. Of 3,852 citations screened, 30 met the inclusion criteria for this review. The access that sex workers have to health services is a complex issue. A wide range of barriers and facilitators at multiple levels could influence sex workers' utilization of health care services, such as health or service information, stigma, social support, quality of health care, available, accessible and affordable services, healthcare policy. 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.

Introduction

Access to health services is related to the timely use of services according to the need (1). There are four dimensions to the issue: geographic accessibility, the availability of care, financial affordability, and the acceptability of the services (2). 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 (3-5). Such limitations could lead to serious health consequences and even death (6).

Sex workers are among the most marginal and vulnerable groups in society. They face dangerous and specific occupational risks, and are in need of multiple health services. Human immunodeficiency virus (HIV) and sexually transmitted infections (STIs), violence, and mental illness are commonly linked to sex work (7-9). Other occupational risks, such as substance abuse, bladder problems, latex allergies, musculoskeletal injuries, respiratory infections, unwanted pregnancies, and unsafe abortions have also been reported to be health issues faced by sex workers (10-13). Sex workers have multiple health care needs in areas such as the prevention and treatment 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 (13-15). Instead, they use self-prescribed medications, or visit illegal clinics (13-15) .

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 (16, 17), suffered from mental illness (18), and drug users (19) 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 (18), perception of risk (17), and internalized stigma and fear of disclosure (16-18) at the individual level as barriers. Other factors are relating to the reliance on family and friends (16, 18) at the interpersonal micro-level; and social stigma (16, 18, 19) at the community meso-level. At the socio-policy / laws macro-level, there are barriers such as discrimination in health care settings (17, 19), breach of privacy (19), and lack of accessibility (17, 18) at the health organization exo-level; and the lack of available universal testing or free treatment (17, 19). 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 (20, 21) (Figure 1). It considers the dynamic interplays between individuals and their environments as determinants of health-related behaviour. The social ecological model acknowledges that an individual's behaviour is shaped through multilevel factors that include the intrapersonal, interpersonal, institutional, community, and policy levels (20). The social-ecology 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.

[Insert Figure 1 here]

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, and the following definition of a sex worker has been adopted: "People who receive money or goods in exchange for sexual services, and who consciously define those activities as income generating even if they do not consider sex work as their occupation" (p.2) (22).

Methods

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 diciplines of health and biomedical sciences, social sciences, psychology, and nursing, that provide insights to the speicific 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.

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 2.

[Insert Figure 2 here]

Assessing the quality of the included literature

The quality of the selected studies was assessed before inclusion in this review. The quantitative studies was assessed using the critical appraisal guide outlined by Crombie for descriptive surveys (23). 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 Critical Appraisal Skills Programme (CASP) checklists for qualitative studies (24), 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 Table 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.

[Insert Table 1 here]

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 Table 2.

Results

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 Table 2.

[Insert Table 2 here]

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 (Table 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 (25-49). These included the 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 (25, 35, 42) or a low perception of the risks of HIV/STIs (29, 35). They were also plagued by numerous fears: feared public exposure (25, 28-31, 36, 46, 47, 49); feared being infected with HIV (26, 35, 42-44, 46), and feared the side-effects of potential treatments (25, 39). Financial constraints further pushed them outside of the health care system (26, 28, 34, 35, 37, 38, 42, 44). Moreover, the capacity of the sex workers to take care of themselves was undermined by a number of factors, such as substance abuse (27, 32, 41, 42, 44, 45), street life (32), mental health status (32), sex work (27), and ability to adhere to daily regimes (39).

Barriers at the interpersonal level

Six studies identified barriers at the interpersonal level to accessing health services (25, 27, 28, 33, 35, 40). 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 (27, 40), and that their competitiveness in the sex industry would be severely impaired (27). 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 (25, 33, 35).

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 (25-28, 30-40, 42, 45-53).

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 (25-28, 30, 31, 33-35, 37, 38, 40, 44-51), and they felt that their right to privacy and confidentiality was being violated in health care settings (25, 27, 28, 35, 38, 51). Overwhelmingly, inadequate and inconvenient services were considered barriers to accessing health services (25, 26, 28-30, 32, 34-40, 42, 44, 45, 47-52). 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 (26, 32, 40, 42, 47). Sex workers were also frustrated by inconvenient opening hours (28, 36), long waiting times (25, 26, 28, 30, 34, 35, 37, 38, 45, 47, 48, 51), inconvenient locations (26, 30, 32, 34, 37, 38, 42, 49), and absence of user-friendly appointment systems that they encountered (30, 36, 39). Sex workers experienced discomfort with the types of clinics that they visited (36, 39, 47, 52), and feared being labelled as sex workers at STI clinics (35, 47, 52).

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 (26, 38, 47, 51). 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 (26, 37, 51). 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 (26, 27, 29, 31, 34, 35, 38-44, 49, 53, 54). Specifically, they were concerned about the stigma associated with HIV/STIs (26, 27, 29, 31, 35, 39, 41, 43), drug use (40, 42, 44), and sex work (26, 27, 34, 41, 43, 49, 53).

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 (32). 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 (32).

[Insert Table 3 here]

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 (Table 4). The facilitators to accessing to 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 (26, 27, 33, 41-44, 47, 53), 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 (26, 27). Various health concerns also facilitated their health-seeking behaviour, such as perceptions of the risk of becoming infected with HIV/STIs (41, 42, 44), perceptions of the severity of their symptoms (33, 42, 44, 47), and the belief that maintaining good health is a matter of commitment to their family (27).

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 (25-27, 33, 35, 40-43). The social network of sex workers served as a source of health information and support (25, 27, 33, 35, 43), and emotional and practical support from peers encouraged individuals to seek access to health services (26, 33, 40, 43).

Facilitators at the institutional level

Seventeen studies described facilitators at the institutional level (26, 28, 30, 33, 35, 36, 38, 39, 41, 42, 44-46, 49, 51-53) 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 (26, 33, 35, 36, 38, 44-46, 49, 52). Approximately 63% of sex workers in the UK suggested that doctors should have an appropriate knowledge of the sex industry and the needs of the sex workers in their community (30). Ten studies reported that available, accessible, and affordable services were welcomed by sex workers (30, 35, 39, 42, 44, 46, 49, 51-53). 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 (30, 46, 51, 52). Furthermore, sex workers suggested that clinics have convenient opening hours (30, 39, 46, 51, 52), a convenient location (30, 35, 39, 42, 44, 46, 49, 52), a user-friendly appointment system (30), interpretation services (52), and affordable price (41, 44, 49, 52).

Facilitators at the community level

Non-government advocacy groups play a large role in facilitating the health-seeking behaviour of sex workers (26, 27, 45). 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 (27), providing emotional support and financial assistance (26), providing sex workers with knowledge of their legal and human rights (45), advocating government support for HIV treatment, and working for corruption-free health services (26).

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 (26, 35, 43, 52).

[Insert Table 4 here]

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 affects 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) (55). 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 (56). 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 (52). 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 (57, 58). 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 (56). 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 (59). 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 (60). 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 (32). 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.

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 (61).

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.

Conclusion and Implications

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.

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Compliance with Ethical Standards

Conflicts of interest

The authors declare that they have no conflict of interest.

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