

**Reduction of health-related risks among female commercial sex workers: learning
from their life and working experiences**

Short title:

Health-related risks among female sex workers

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ABSTRACT

We performed this study to determine both positive and negative impacts on the health of sex workers working on the street. We conducted this study using key informant and focus group interviews in bars and streets in Mozambique. The interviewed sex workers were aware about the risks and protection against sexually transmitted infections, and consistently used condoms. Most suffered from harmful behaviour, including violence and assault by both customers and other commercial sex workers. We found that sex workers' own skills and knowledge acquired through experience could potentially be developed into life skills that could save and protect their lives.

Keywords: sex worker, life skill, harm reduction, quality of life

The Joint United Nations Programme on HIV/AIDS (UNAIDS) reported that the number of people infected with human immunodeficiency virus (HIV) worldwide was 33 million in 2007. Sub-Saharan Africa has only 11% of the world's population but over 60% of the worldwide number of people living with HIV (24.7 million), and acquired immunodeficiency syndrome (AIDS) is the most frequent cause of death in this region (UNAIDS, 2008).

In some countries in southern Africa, the population aged between 15 and 49 has an HIV infection prevalence rate of more than 30%. Furthermore, among young people aged 15 to 24 years old in the countries of southern Africa, women have a 3.6 times higher rate of HIV infection than men (UNAIDS, 2008) as women are anatomically more susceptible to HIV infection than men. However, in some cases, this is also due to the involvement of women in the sex industry, rape, and sexual violence, which are linked to vulnerability to infection and social factors, such as poverty and gender inequity (Rekart, 2005). This has also resulted in an increase in the number of families headed by children—usually the eldest brother or sister (UNICEF, 2003). Due to economic difficulties, the girls in these families often engage in commercial sex work to sustain the other siblings (Lindblade *et al.*, 2003).

People engaged in the commercial sex trade work face difficulties in receiving public support or assistance. Sex workers, including women trafficked for the commercial sex trade, also experience a number of physical and psychological health risks (Stewart and Gajic-Veljanoski, 2005). Sex trafficked women and girls are vulnerable to HIV infection (Silverman *et al.*, 2006), and coinfection with HIV and other sexually transmitted infections (Silverman *et al.*, 2008). A number of campaigns to raise awareness and to help in the prevention, treatment, care and support of sex workers regarding HIV/AIDS have been conducted around the world (Willis and Levy, 2002). However, the results were insufficient, and several problems remain to be resolved, such as chronic poverty and issues related to human rights (Huda, 2006). Thailand and a number of other countries have implemented successful programmes for the promotion and prevention of HIV/AIDS among sex workers (Nelson *et al.*, 1996; Ford and Koetsawang, 1999). However, the countries of southern Africa have not been able to achieve significant changes because of differences in economic and social conditions, and the extremely high prevalence of HIV infection in this region (UNAIDS, 2008). Effective intervention for people at risk of HIV infection, such as sex workers, is urgently needed in this region in general and in Mozambique in particular.

Among the countries of southern Africa, Mozambique has the most serious situation with regard to the rapid spread of HIV infection and poor economic and social conditions (UNAIDS, 2006). HIV/AIDS is one of the major causes of death among women and children in Mozambique (Menéndez *et al.*, 2008; Sacarlal *et al.*, 2009). The health system and infrastructure in Mozambique do not appropriately reflect the rapid recent changes in social conditions, including the high prevalence of HIV infection (Hagopian *et al.*, 2008). Lack of economic development, poor health service and social infrastructure, low gross national income per capita (US\$340 in 2006) and fragile living conditions affect the rapid increase in rate of HIV infection. In addition, strong cultural norms and gender barriers often result in women being more vulnerable in this country (Passador, 2009; Villela and Barber-Madden, 2009). Young women from the middle classes were more capable in sexual negotiation because they have fewer sexual partners, are more likely to use condoms, seem willing to challenge gender norms and are more assertive than those in the working classes (Machel, 2001). The official language of Mozambique is Portuguese, while all of its neighbours are English-speaking countries. We found that this represents a disadvantage in access to sufficient and timely information for Mozambique as the majority of information on HIV/AIDS and other important information was provided in English worldwide. This

language barrier also results in difficulty in avoiding vulnerability for the population of Mozambique.

Some commercial sex workers attend nightclubs of the city of Maputo and its customers often travel between Maputo, South Africa and other neighbouring countries. The rates of HIV infection are particularly high at the border between South Africa and Mozambique; KwaZulu Natal province has the highest prevalence rate of HIV infection in South Africa (39.1%), and Limpopo province also has a high rate of 20.6% according to the statistics for 2006 (Department of Health of South Africa, 2007). In addition to Mozambican people living in South Africa, attention should be paid to such mobile populations to reduce vulnerability due to their underserved living conditions. The Ministry of Health of Mozambique reported a national prevalence rate of HIV infection in the population aged 15–49 years old of 16% by the end of 2005, with local rates of 21%, 18% and 9% in southern, central and northern regions of the country, respectively. Thus, a number of difficulties remain to be overcome in Mozambique. We consider it is important to improve the health of disadvantaged people, such as commercial sex workers, to address the particular health-related requirements of this country. In the present study, we evaluated the capabilities and both positive and negative influences of experience on health among commercial sex workers in the city of Maputo,

Mozambique. The results of this study will be useful for future evaluation of the factors and mechanisms influencing the spread of sexually transmitted infections (STIs) and HIV infection in southern Africa.

METHODS

Study area and population

We used the snowball method for the present study among sex workers in bars and on the streets of Maputo, Mozambique. Commercial sex workers frequenting bars regularly come into contact with the general public, while those working on the streets and brothels, *etc.*, tend to avoid contact with the public and come into contact only with their customers. In the present study, we conducted interviews with commercial sex workers from the streets, bars, hotels/motels and others. We interviewed the participants in bars, hotel rooms, restaurants and elsewhere. All interviewees gave their informed consent prior to the interview, and each interviewee was asked about their willingness to cooperate with the study, especially with regard to the duration of the interview.

Data collection

We conducted interviews with either individuals or focus groups from June to September, 2008. The two forms of semi-structured interview, *i.e.*, focus group interviews and individual interviews, were conducted using guiding questions that included the following items: 1) sociodemographic information, such as age, educational status, marital status and family, period of time as a sex worker, reason for being a sex worker, and other occupations; 2) daily life, such as daily routine, how is the decision made to work or not to work on a particular day, and satisfaction in life; 3) situation of sex work, such as average number of clients per day, types of sexual activity with clients, experience of violence from client and/or others; 4) knowledge about HIV and STIs, such as mode of transmission, methods of protection, and experience of education and/or having a chance to receive information; 5) health behaviours and life skills, such as use of condoms with clients and private sexual partners, experience of health check-ups, including testing for HIV and other STIs, mode of contraception, self-management of health improvement and protection.

A total of 30 commercial sex workers were recruited for the present interview-based study. Six peer educators who were also commercial sex workers and 16 individual commercial sex workers were divided into 3 focus groups. For the focus

groups, the commercial sex workers were invited to a meeting a few days in advance through local collaborators who were the owners of rooms used for commercial sex work. Each group consisted of 4 to 6 commercial sex workers. In addition to focus group interviews, eight commercial sex workers were interviewed on an individual basis. The individual interviews took 15 to 20 min, and the focus group interview took 40 to 60 min.

The peer educators were commercial sex workers and were also members of the 100% Vida project (“100% Life”, in Portuguese) trained to provide information on the prevention of STIs and distribution of condoms to commercial sex workers at five different areas in Maputo. This project has been organised and implemented by the Health Centre of Porto, Pathfinder International and Population Services International (PSI), since 2007. They also raise awareness among peer educators of commercial sex workers to attend consultations at the Health Centre of Porto, including those on STIs and voluntary testing, as well as testing for HIV and other health problems. The consultations, tests and treatment are provided to the commercial sex workers free of charge by the Health Centre of Porto. These educators worked together previously on a project implemented by a non-governmental organisation from South Africa in 1990, and were therefore experienced in this role.

The interviews were performed by one moderator and one note-taker for both individual and focus group interviews. We did not make tape recordings during the interviews, and only noted the contents of sex workers' discussions after obtaining their permission. After each interview, the moderator and note-takers conferred regarding the results of sex workers' discussions and individual comments to ensure accuracy and avoid misunderstanding. Notes were made for each interview.

The interviewers were trained prior to the study to ensure reliability of data collection in accordance with ethical guidelines. The training included instruction regarding the purpose and procedures of the study, the process of interviewing and collecting data, appropriate attitude and performance of the interviewer, informed consent and ethical issues. The study protocol was approved by the Ethics Committee of the Ministry of Health of Mozambique, and was also authorised by the Division of Health of Maputo City.

Analysis

We analysed the data from the interviews using the following categories: 1) reason to be a sex worker, 2) risks associated with being a sex worker, 3) risky behaviour, 4) reduction of risk, 5) attitude towards sex work, 6) importance in life and 7) happiness in

life. These categories were extracted from the results of empirical interviews with sex workers in a pilot study. In addition, distinctive remarks from the interviews and observations are given as quotations.

RESULTS

Results of focus group interview of peer educators

As shown for numbers 1 to 6 in Table 1, the six peer educators who participated in the focus groups were between 26 and 38 years old and had educational levels between 2nd and 7th grade (*i.e.*, 2 to 7 years of formal education). Five of the peer educators had at least one child and one woman had no children. They had no problems in relation to their work as peer educators, because they knew how to answer all questions that would be asked by other workers. In the previous project launched in 1990, transportation was provided for the peer educators to travel to all locations. However, in the project described here, they had to arrange their own transportation to travel to remote locations to perform their duties as peer educators. The peer educators expected that the 100% Vida project would have increased the allowance because they currently receive 1,000

Meticals (US\$40) per month, and this is not sufficient to cover transport costs and other needs. In addition, they could not work and earn money during their activities as peer educators.

The categories used to classify the interview results are shown in Table 2. Most of the peer educators had experience of working with customers of other nationalities, such as South Africans, Chinese and others, but faced difficulties in communication because the majority of the foreign customers spoke English or other languages. They negotiated with the clients about costs and use of condoms before rather than after engaging in sexual intercourse because it is difficult to make such financial negotiations afterwards, even with customers of the same nationality. Most of them did not speak English, and indicated that they try to communicate with foreign clients who do not speak Portuguese using body language. Some customers offered to pay more to have sex without using a condom, but the peer educators did not accept such high-risk activities. One interviewee raised the issue: “Do they have no concept of the risks?” Sometimes, the clients promised to interrupt coitus if the commercial sex workers agreed to unprotected sex, but the peer educators did not accept this due to fear of the consequences of unprotected sex. They mentioned that prices varied according to customer depending on position during sexual intercourse.

Some did not work during their menstrual period, while others did. In their leisure time and during their menstrual period, they liked being at home with their family, but unfortunately did not have enough time to relax, because they sometimes have to do other work to earn money to support themselves and their family. During their commercial sex work, they encountered many dangerous and high-risk situations, such as violence and theft, as well as the fact that they would often not receive any money until the end of the commercial sex work for the day, and therefore they would like a fixed job.

They described their health and life as outlined below:

Maintaining good health throughout life is more important than money. (Testimony of a peer educator)

I feel as though I am my true self during the day when I'm at home with my family.

However, after dusk, I am "another person" who shakes my ass for the men and my attitude totally changes. (Testimony of a peer educator)

Most of the peer educators had long-term experience of working in the sex trade (around 10 years or more). They reported no difficulties in gaining access to sex workers for dissemination of information regarding prevention of sexually transmitted infections (STIs) and distribution of condoms. In addition, they had gained sufficient experience in the sex trade, including knowledge of risks and negative impacts, and could therefore understand the issues faced by other sex workers although they did not provide details regarding their experience. They noted that this empirical knowledge and skills could help in their activities as peer educators. However, they noted that there were increasing numbers of younger girls apparently in their early teens in the area, who usually ignored the peer educators when they tried to talk to them. Peer educators said they were well trained to disseminate knowledge and information regarding prevention of STIs and HIV/AIDS, and they maintain contact with the health centre to refer sex workers regarding their health problems. Peer educators were confident with their activities to guide other sex workers. They understood their mission and the importance of their role, and were keen to act as peer educators, but were discontented with the small amount of remuneration that would not cover their transportation costs.

Some the peer educators also participated in the monthly meetings of this project held at the Health Centre of Porto. However, they did not contribute during the

meetings, which were run in a top-down manner with only medical doctors and administrators of the 100% Vida project raising points and engaging in discussion.

Results of focus group interviews and individual interviews

Table 1 also shows the demographic characteristics of interviewees in the focus groups (numbers 7 to 22) and individual interviews (numbers 23 to 30) with sex workers. The results of interviews are summarised in Table 2. Most interviewees began working in the commercial sex trade due to a lack of financial resources based on the influence of friends and acquaintances. Participant No. 16 has kept in contact with the father of her child, while the other sex workers did not have contact with their previous partners. Some interviewees worked to earn money to study, and expressed a wish to get another job after achieving a level of education above the 10th grade (10 years of formal education).

Some sex workers had other work selling used clothes or small domestic goods. At night, when they worked, their mother, sibling, or maid cared for their children. Some of the family members and partners knew that they worked in the sex industry, but most did not know, even though they suspected this to be the case. Some

interviewees worked almost every day, while others worked only from Friday to Sunday, often depending on economic conditions and necessity.

The characteristics of the clients described by the sex workers were the same as those of the peer educators' clients. All interviewees reported always using condoms with customers. While customers offered to pay more to have unprotected sex, the interviewees did not accept this risky behaviour. Usually, they negotiated the amount and form of sex with clients before having sexual intercourse. The majority of interviewees also did not accept oral or anal sex. Some of the sex workers with more years of working experience received more money depending on sexual position and contents of sexual services. Women with less experience of commercial sex work accepted only the missionary position, even though they were aware that it is possible to earn more money depending on the position of sexual intercourse.

The interviewees reported their health and life as outlined below:

I cannot buy "health" with money. So, I protect my health without fail. The man may be infected (with HIV), and I would feel stress if I had sex without a condom because of this. It is dangerous. There are white women who have dark-coloured children without

knowing who is the father of the child because they have unprotected sex, but I do not like this. (Testimony of a participant)

This sex trade work is shameful. I will get out of here soon. (Testimony of a participant)

It is strange that a woman (who looks like a young lady) like me is here at this time. If possible, I would live just selling clothes. (Testimony of a participant)

They obtained condoms through the peer educators, and sometimes bought them in pharmacies. Condoms were also available in the pensions used for sex work. The majority of interviewees did not use a condom during sex with their fixed partners, such as their boyfriend or husband, or used other contraceptive methods, such as hormone injection or pills. Most interviewees were familiar with the peer educators and had received information and condoms, and some had already visited the Health Centre of Porto for HIV consultation and testing. However, some interviewees were unaware of the 100% Vida project and had not received condoms from the peer educators. Even without knowledge of the 100% Vida project, all interviewees had information regarding HIV/AIDS and methods of preventing infection.

Most interviewees did not engage in sex work during their menstrual period, but some did due to financial requirements and hid or concealed the situation from their customers before having sexual intercourse by washing the genitals and/or inserting a sponge in the vagina. They obtained such knowledge and skills from other sex workers, and exchanged information regarding how to survive risky situations and tough negotiation with clients. One interviewee reported engaging in sex work with a male friend during her menstrual period if she needed money. Some interviewees waited until their flow had reduced, and most survived on savings earned during the month.

Some interviewees had already experienced violence by customers. Sometimes, customers left them after sex in places far from the centre of the city without paying. Other customers did not pay after sex because they were not satisfied, despite the previously agreed upon price. One of the interviewees reported that she attended a customer from Angola for a few weeks, and stayed at his accommodation during his stay in Maputo. Sometimes, he visits Maputo for business, and calls her when he arrives. She accepts his requests to stay together during his stay in Maputo, because she feels more confident spending time with someone with whom she is already familiar. She reported that he does not show violent behaviour and pays her appropriately.

The commercial sex workers had problems not only with their customers, but also with other commercial sex workers. Some sex workers took the money that other sex workers had earned. Some of the interviewees reported that they had been attacked and robbed of their money by other commercial sex workers; they were often targeted by other commercial sex workers if it appeared that they had earned a relatively large amount of money.

All interviewees who were mothers said they felt happy when they were with their children, while others expressed the same sentiment about being with their family. Most hoped to get a different permanent job and permanent salary. All interviewees who were mothers said they felt sad when their children were sick or when they had no food to give to their children and family.

DISCUSSION

The interviewees were well informed about STIs and means of preventing infection. The 100% Vida project actually works to disseminate information to the interviewees, and they also had other sources of information, such as TV, radio, *etc.* On the other

hand, we have learnt that it is important to consider the views of peer educators directly to improve the function of the 100% Vida project. While working as peer educators, they cannot engage in sex trade work. The activities in which they were engaged as peer educators were voluntary, and so they received remuneration only for transport. However, the amount of remuneration was not sufficient to cover the costs of the peer educators' activities. They appreciated the volunteer work, but they also had a need for financial incentives to continue their activities as peer educators with a degree of high motivation. Some peer educators also participated in the monthly meetings of this project. However, we recommend that the meeting style should be changed to allow the peer educators to provide input regarding the actual situation of the area, and they should be allowed and encouraged to raise points and engage in discussion. Therefore, we suggest that the style of these meetings should become more participatory. We also feel that it would be advantageous to invite larger numbers of peer educators to participate in the meetings if the style of the meetings could be changed to become more feasible to demonstrate their intention and opinion.

In addition, the peer educators' supervisors must improve their performance in providing support, such as listening to their opinions, inviting them to meetings and/or continuing training to improve the peer educators' capacity to perform their duties and

engage in discussions with the project organisers. A previous study suggested that continuous support to maintain the long-term motivation of peer educators is essential to avoid reductions in effectiveness of peer educational programmes (Laukamm-Josten *et al.*, 2000). The Health Centre of Porto provides an important service for commercial sex workers. However, we recommend providing access to mobile clinics for commercial sex workers who are afraid to visit the centre, for projects that require an increase in number of health centre users, and to provide access for commercial sex workers living under more severe conditions. The present study did not include any sex workers identified as migrants. However, prior to the present study, we encountered some commercial sex workers who move frequently between Maputo and South Africa in the same area of the city. Therefore, we showed that it is important to estimate the potential risk of such migrants in Maputo. The potential risk of migrants who were both mobile sex workers and clients, including foreign clients, should be recognised not only with regard to increased risks of STIs and HIV infection, but also risky behaviours and disadvantaged conditions of sex workers due to language barriers.

A previous study in Ghana indicated a rate of consistent condom use of 49.6% among female sex workers, even though their opportunity for condom education was only 14% (Adu-Oppong *et al.*, 2007). In Vietnam, less than 40% of female sex workers

use condoms consistently (Tuan *et al.*, 2007). The interviewees in the present study were aware of the importance of consistent condom use, they had frequent opportunities to have contact with peer educators and were motivated to participate in the present study, and their rate of consistent condom use was relatively high. Thus, we found that outreach access to sex workers by peer educators contributed to the high rate of consistent condom use among the interviewees in the present study. However, the interviewees did not use condoms with their regular partners. The sex workers had recently had more unprotected sexual intercourse with their regular partners, and a previous study suggested that the regular partners would represent a higher risk of infection than clients during commercial sex work (Voeten *et al.*, 2007). Therefore, the 100% Vida project should also focus on increasing protection among commercial sex workers during sexual behaviour with their regular partners.

Urban sex workers are more likely to have larger numbers of clients and to have higher earnings than those in rural areas (Elmore-Meegan *et al.*, 2004; Voeten *et al.*, 2007). Sex workers report that most truck drivers claim to use condoms during casual sexual intercourse (Gysels *et al.*, 2001). The interviewees in the present study reported that they consistently use condoms, which they purchase themselves or obtain from peer educators. We believe that continuous facilitation of access to condoms in

urban settings and where there is a possibility of sexual risk, such as areas with a concentration of truck drivers, may be an important way to reduce vulnerability and risk regarding STIs and HIV infection.

Although the interviewees in the present study said that they worked every day, this does not appear to be the case, and they probably manage their work schedule according to their financial needs. This type of self-management may be advantageous for health protection. The interviewees in the present study indicated that they would like to cease working in the commercial sex industry in the near future. They may think of ways to avoid going to work during of their menstrual period, but due to economic difficulties, they may work during this time because they have no other alternative, despite being happier taking care of their children and family at home.

Moreover, in many cases, commercial sex workers have developed different capabilities to protect their health and life based on their own experience, even under fragile living conditions. Such capabilities could act as means towards personal harm reduction that can protect and promote a healthy lifestyle despite limited resources and unfavourable conditions. We believe that improvements in the quality of life of commercial sex workers can help prevent infection with HIV and other STIs, and also contribute to the empowerment of women. We have obtained data on attitudes and

behaviour related to the health of commercial sex workers are required to reflect on their needs, develop appropriate strategies to promote health and prevent new HIV infections as well as mechanisms to promote these strategies among commercial sex workers. We recommend that approaches dealing with the health of commercial sex workers should be expanded to include protection of their human rights, access to health care without discrimination and attention to psychosocial health issues, such as addiction and violence, because they have specific needs as sex workers in addition to general reproductive and sexual health needs (Chacham *et al.*, 2007). The social impact of limited resources and adverse social conditions (Kishamawe *et al.*, 2005; Dworkin and Ehrhardt, 2007), especially among commercial sex workers in Maputo, Mozambique, should be addressed to allow them to achieve a stable healthy life. We believe the results regarding the skills of commercial sex workers will be useful to develop strategies and methods of health education to improve the condition of health and promote healthy living in this population living under fragile conditions.

Furthermore, commercial sex workers can act as peer educators during their menstrual period, avoiding work in the sex trade if they are voluntarily motivated and are healthy to perform such duties. Some of interviewees in the present study consciously and/or subconsciously considered their menstrual period as a chance to

avoid risks from sex work and to relax. If additional peer educators are required to expand the activities of the 100% Vida project, new commercial sex workers could be recruited, and then trained by those with previous experience. Thus, we suppose that it is possible for commercial sex workers to contribute to a reduction in the risk of STIs through the sex trade at least during their menstrual period. They can also manage their work schedule to allow them to stay home with their children and family. As Campbell and Mzaidume (2001) reported that grassroots participation and peer education were essential for health protection among commercial sex workers living under complex and vulnerable conditions, information and continuing activities by peer educators will be important because of the appearance of new commercial sex workers as well as their frequent relocation.

A previous study performed in Mozambique indicated that correct self-assessment regarding one's own risk of HIV/AIDS was necessary to change behaviour (Prata *et al.*, 2006). We believe that educational messages to avoid risks should be passed to new as well as experienced commercial sex workers. Substantial support, such as the free distribution of condoms, is also important to encourage the adoption of safer behaviours, because the major obstacles to consistent condom use are refusal by clients, lack of availability of free condoms and lack of empowerment to

negotiate with clients for safer sex (Adu-Oppong *et al.*, 2007). In the present study, the interviewees had access to condoms, but it is likely that many others still engage in unprotected sex. An increase in number of well-trained peer educators and participation of commercial sex workers in the promotion and prevention programme during their menstrual period may represent means of harm reduction by improving the capability of commercial sex workers to engage in safer sex and improve their health by avoiding high-risk practices. In addition, empowered commercial sex workers could manage self-help groups, thus leading to the adoption of healthier choices. Commercial sex workers face difficulties in receiving public support or assistance, and their needs are often neither properly nor adequately addressed.

On the other hand, sex workers may develop numerous life skills from their experiences that are valuable for health protection even under fragile living conditions. Such life skills and capacities may then act as harm reduction skills that could protect and promote healthy life choices under disadvantaged conditions with limited resources, *e.g.*, consciously and/or subconsciously avoiding sex work during their menstrual period.

We provide crucial data from which to create practical guidelines for developing and promoting skills that could protect the health of sex workers based on

local knowledge and experience according to the present study, even under disadvantaged conditions. The participation of commercial sex workers in programmes to promote health and safe sex would be beneficial, allowing them to build such programmes by themselves based on their real-life experiences.

We assume that it is also important to educate sex trade customers to reduce the risks of infection and violent behaviour. Sociocultural background must be taken into consideration when implementing programmes for commercial sex workers and their clients. Environmental – structural interventions, such as community solidarity and government policy, showed a positive contribution to reducing risks among female sex workers (Kerrigan *et al.*, 2006a). The condom social marketing programme in Mozambique showed a degree of success in promoting condom use with non-regular sexual partners. However, there were geographical differences in the behavioural changes, with the northern part of the country showing a smaller degree of change than other regions (Agha *et al.*, 2001). Among migrants with different cultural backgrounds, not only language but also communication styles represent barriers to the negotiation of safer sex practices (Rademakers *et al.*, 2005). The value of understanding local context and considering geographical differences was suggested in the management of programmes for commercial sex workers (Tuan *et al.*, 2007). In addition, tight social

networks were suggested to contribute to high rates of condom use among men (Barrington *et al.*, 2009), and social cohesion within a neighbourhood was shown to be positively associated with condom use among adolescents (Kerrigan *et al.*, 2006b). A study in Kenya indicated that 17% of sex workers were assaulted and 35% had been raped during the previous month (Elmore-Meegan *et al.*, 2004). Some of the interviewees in the present study also reported experiences of violence and assault by both customers and other commercial sex workers. It is also important to provide information directly to customers, while there is coordination between the police and owners of pensions, hotels and bars to determine how best to cope in cases of critical situations between commercial sex workers and their clients.

The present study was limited to confirmation of the associations between self-reported information and real practices, and the findings cannot be generalised to other environments. In addition, the possibility of reporting bias should be taken into consideration when evaluating self-reported information. Another limitation was information bias, because the study did not represent all types of commercial sex worker, especially very young women, such as teenagers. A study in South Asia reported that sex-trafficked girls, especially those trafficked prior to 15 years old, had a higher risk of HIV infection (Silverman *et al.*, 2007). Moreover, unmarried young

women are more likely to engage in the commercial sex trade in sub-Saharan Africa (Chatterji *et al.*, 2005). Indeed, we noted the presence of girls who appeared to be less than 15 years old at the bar where the commercial sex workers gathered during this study, but they did not agree to be interviewed. We believe that it is crucial to take young girls and their families and communities into consideration to avoid disadvantaged conditions and support safe and healthy behaviours. Despite these limitations, we obtained data in the present study essential to draft practical guidelines for the development and promotion of the skills of vulnerable women to protect the health of commercial sex workers, even under unfavourable conditions. We recommend that such efforts be based on their experience and local knowledge as well as personal skills, defined as those skills derived from real-life experiences that can be practised on an individual basis. The findings of this study can potentially be used in other countries with similar conditions.

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Table 1. Characteristics of educators in the focus group

No.	Age	Educational status	Number of children	Marital status	Has a regular partner who knows about their sex work	Experience as sex trade worker
1		6 th	3			> 10 years
2	38	2 nd	2	Widow		
3	29	3 rd	3			14 years
4	26	7 th	0			9 years
5	31	6 th	2	Separated		15 years
6	27	6 th	2	Separated		
7	21	8 th	2	Widowed	Has	3 months
8	21	5 th	2 (One died)	Single	Has	1 year
9	21	7 th	1	Single	Has	1 month
10	23	6 th	1	Married		2 months
11	25	10 th	0	Single	Has	6 months
12	25	Freshman (university)	1 (3 years old)	Single	Has/does not know	1 year
13	48	4 th	4 (30, 27, 26 and 24 years old), 2 grandchildren	Widowed		8 months
14	32	6 th	0	Widowed		1 year
15	24	10 th	2	Single	Has/does not know	6 months
16	31	10 th	2	Single	Does not have	4 years
17	28	5 th	1 (9 years old)	Single	Has/knows	1 year
18	28	8 th	0	Single	Has/knows	8 months
19	19	9 th	1 (2 years old)	Separated		3 months
20	23	9 th	2 (4, and 5 years old)	Separated	Has/knows	2 years
21	19	8 th	1 (3 years old)	Separated		4 months
22	23	6 th	1 (4 years old)	Single		6 months
23	25		3 (9, 6, and 3 years old)	Single		1 year
24	25	11 th	2 (9 and 5 years old)	Single		
25	44			Single	Does not have	1 year
26	40		3 (12, 9, and 3 years old)	Single	Has	1 year
27	31	5 th	1 (11 years old)	Widow	Has	11 years
28	25	10 th	2 (9, and 5 years old)	Single	Has	8 months
29	24	3 rd	1	Single	Has/knows	2 years
30	25	8 th	(One died)	Single		1 year

Numbers 1 – 6 were educators, numbers 7 – 22 were study participants in the focus group interview, and numbers 23 – 30 were study participants in individual interviews.

Blank spaces indicate that the participants did not respond.

Table 2. Results of focus group and individual interviews

Categories	Results
Reason to be a sex worker	<ul style="list-style-type: none"> • Economic reasons for daily life and to maintain the lives of their family and children. • To earn fees for studying.
Risks associated with being a sex worker	<ul style="list-style-type: none"> • Inappropriate communication with clients due to language barriers. • Clients do not follow the service contents that have been negotiated with sex workers prior to sexual intercourse. (For example, clients may ejaculate with no condom despite having promised to interrupt coitus.) • Some sex workers perform sex work during their menstrual period for economic reasons. • Sexual, physical and psychological violence and lack of payment after performing sexual intercourse. • Attacks by other sex workers on those who appear to have done well financially.
Risky behaviour	<ul style="list-style-type: none"> • If sex workers have no money to survive, they engage in sex work even during their menstrual period although they are aware of the risks of having sexual intercourse during their menstrual period. • Sex workers do not use a condom during sex with their own partner. • Those with a longer history of sex work are more likely perform variations of sexual activities, such as anal and oral sex.
Reduction of risk	<ul style="list-style-type: none"> • Sex workers always use condoms during sex with clients. • Although clients may increase the price paid for sexual intercourse without a condom, sex workers do not accept such business. • Some sex workers do not engage in sex work during their menstrual period to avoid the risk of infection and/or to take a rest.
Attitude towards sex work	<ul style="list-style-type: none"> • When engaging in sex work, she is not her “real self” but feels like another person. • Sex work is shameful. • Sex workers want to escape from work related to sex and fragile life status.
Importance in life	<ul style="list-style-type: none"> • Health throughout life is more important than money in the moment. • The health and life of their children and family.
Happiness in life	<ul style="list-style-type: none"> • Sex workers feel happy when they can remain with their children and family.