

**Socially damaged women's perception of sexually transmitted infections: A Qualitative study**

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**Abstract:** The population of socially damaged women is reportedly at higher risk for sexually transmitted infections (STIs) than the general population. Qualitative method was utilized to determine socially damaged women's perception of STIs. Two focus groups and eighteen semi-structured in-depth interviews were conducted with socially damaged women, 15-45 years old, at shelters and drop-in-centers in Tehran, Iran. Data was analyzed using the content analysis approach. Although most of the participants had heard about HIV/AIDs and hepatitis, they had inadequate knowledge of STIs, misconceptions about the use of condoms and the transmission of STIs. Perceived sensitivity and efficacy was low among participants and most of them had perceived discrimination in the society. Lack of knowledge and social support and inadequate life skills in Iranian socially damaged women leads them to adopt risky behavior and subsequently to contract STIs.

[Leila Allahqoli, Zhila Abeed Saeedi, Ali Azin, Sepide Hajaan, Hamid Alavi Majd, Nader Molavi. **Socially damaged women's perception of sexually transmitted infections: A Qualitative study.** Life Sci J 2014;11(4s):244-250]. (ISSN: 1097-8135). <http://www.lifesciencesite.com>. 40

**Keywords:** Sexually transmitted infections; women, perception; qualitative research.

## 1. Introduction

Sexually transmitted infections (STIs) are a major public health concern in the developing world, especially among women (Gerbas et al., 1999 ; World Health Organization & Sethwala et al., 2009) and represent a challenge to public health, human rights and national development and security (United Nations, 2012; World Health Organization, 2012). It is estimated that 75-85% of the global burden of STIs occurs in the resource-limited developing world (World Health Organization, 2001).

The epidemic has brought tremendous health, social and economic ramifications to these developing countries (Merson, 1993; World Health Organization, 2008). Women suffer the adverse effects of STIs to a greater degree than men (Centers for Disease Control and Prevention, 2004).

Complications of STIs include acute and chronic pelvic inflammatory disease, infertility, ectopic pregnancy and cervical cancer (Rabiu et al., 2010; Mabey et al., 2010). Socially damaged women in Iran include sex workers, drug addicts, homeless, and

victims of violence (State Welfare Organization of Iran, 2012). Sexual behavior changes in sex worker women have influenced the spread of STIs and have exposed them to a higher risk of HIV infection (Li, 2008). The subject of socially damaged women is taboo in Iran, and there are no precise statistics of the number of such women in Iran. Based on self-reports from socially damaged women, 4.5% of them are infected with STIs and less than one percent are infected with HIV (State Welfare Organization of Iran, 2012). Women's knowledge, attitudes, and risk perceptions influence their behavior and thus their STI risk. To reduce women's STI risk, a clear understanding of the targeted health behaviors and environmental context is needed (Bettinger, 2004). The objective of this study was to explore the perceptions of socially damaged women towards STIs.

## 2. Material and Methods

Qualitative research methods were used for better understanding of the contextual issues surrounding

socially damaged women's perceptions of STIs. Participants were selected from socially damaged women, defined as drug addicts, homeless, sex worker, and victims of violence. To fulfill inclusion criteria, study participants had to be 15-45 years of age, Farsi speaking, literate, Iranian and residents of Tehran, had sexual activity in the past 12 months. Socially damaged women are highly stigmatized in Iranian culture, and thus considered a hard-to-reach population.

Participants were recruited from two shelters and three drop-in centers (DICs) in Tehran. Purposive sampling and theoretical sampling were used in order to maximize the range and diversity of the sample according to age, education, marital status, and risky behavior (Strauss & Corbin, 1998).

Two focus group discussions (FGDs) and eighteen semi-structured in-depth interviews were conducted with socially damaged women from February 2013 to May 2013. Each FGD consisted of 8–10 socially damaged women, and interviews lasted for about 70 minutes. The FGDs explored a number of issues such as perception of STIs, risky sexual behavior and their socio-economic and cultural context, and preventive measures taken against STIs. The semi-structured interview guide consisted of questions to allow participants to fully explain their perceptions and experiences without a previously determined sequence or set of response options. This guide examined women's knowledge, attitudes, beliefs, and practices regarding HIV/AIDS and other STIs.

Durations of in-depth interviews lasted between 34 to 87 min (on average 58 min). All of the interviews were conducted by a female interviewer in a private room using a semi-structured interview guide (Appendix 1). Participants provided written informed consent before the beginning of interviews and explicit permission was sought to audiotape the interviews. The interviews were carried out in Persian by the first author. Recordings were transcribed verbatim and analyzed consecutively.

Consistent with national expectations concerning appropriate remuneration to participants in research studies in Iran, each study participant was given a gift equal to \$3. The research objectives guided the analysis process. Since the sample size was small, data was analyzed manually, using the content analysis technique. Data was organized based on the questions, and the researchers coded the data under common themes. Any issues that were recurring while reading through the data were identified as theme, and as these themes were emerging, they were grouped under categories and sub-categories (Strauss & Corbin, 1998). The Ethics committee of the Avicenna Research Institute approved the study.

### 3. Results

These themes are presented in several parts.

#### **Social and demographic characteristics of interviewees and FGD participants**

The interviewees' ages ranged from 17 to 43 with the majority being in their twenties and thirties; all of them had at least primary school education. All the interviewees were sexually active. The demographic and behavioral characteristics of participants of in-depth interviews are shown in Table 1. In FGDs, more or less the same demographic pattern as that of interviewees emerged; 57% were in the age range of 25-40 years; 22% were married; and the majority of them (72%) had middle school education.

#### **Inadequate Knowledge**

This theme is consisted of subthemes such as ignorance about STIs, misconception about the use of condom, and ignorance about the consequences of risky behavior. Among STIs, most of the participants knew only HIV and hepatitis by name, while many understood that the virus was transmitted via sexual intercourse and common injection. Most participants knew the use of condoms as a way to prevent STIs.

"I just know AIDS and hepatitis which are transmitted through sexual activities. So, one should always use condoms. When I realized that I have HIV and hepatitis, I started to observe healthcare issues; whenever I get an injection, I make sure that no one uses my syringe." [HIV positive, 29-year-old]

"I have heard about hepatitis but not seen the symptoms; I know that it is transmitted through infected needles." [Addicted, 35-year-old]

Some participants had a misconception about the use of condoms which led to not using condoms in sexual relationships.

"Condoms are not good things. They damage the womb, especially in those who don't have much vaginal discharge." [Addicted, 30-year-old]

"I used condoms a couple of times. I didn't use them because they created stickiness in vagina, but every time I had sexual relationship, I washed myself well and used sanitary gels and vaginal suppositories." [Addicted, 28-year-old]

Most participants were unaware of the consequences of risky behavior.

"Well, I started with a man I was his concubine. Since he wanted to have more sexual pleasure and satisfaction, we used drugs." [Addicted, 30-year-old]

"We always use condoms. My husband always uses condoms. To me, it makes no difference. I always tell him that I have gotten a shot. I won't get pregnant, but he, himself, likes to use condoms." [Addicted 28-year-old & HIV-positive partner].

Table 1: Demographic and behavioral characteristics of participants of in-depth interviews

Variable	socially damaged women (n=18)	percentage(%)
Age (years)	<20(2)	11.1
	20-30 (7)	38.8
	30-40 (7)	38.8
	>40(2)	11.1
Marital status	Single (1)	5.5
	Married (1)	5.5
	Widow (1)	5.5
	Divorced (14)	77.7
	Separated (1)	5.5
Education	Primary or Middle School Education (11)	61.1
	High School & Diploma (5)	27.7
	Higher Education (2)	11.1
Imprisonment record	Yes (12)	66.6
	No (6)	33.3
Drug abuse	<sup>a</sup> Yes (16)	88.8
	No (2)	11.1
Homeless	<sup>b</sup> Yes (12)	6.66
	No(6)	33.3
Sex worker (exchange of sex for money, drugs, or other goods and services)	Yes (17)	94.4
	No (1)	5.5

<sup>a</sup>: Two of the drug abuser were injection drug users.

<sup>b</sup>: More than half of homeless lived in shelters and three of the interviewees lived in parks.

Misperception about the transmission of STIs  
Most participants did not have proper understanding of how diseases are acquired and spread. This ignorance led them to engage in risky behaviors and ultimately to acquire STIs.

"Well, I do not put myself at risk of illness. I have never been injection drug user. Every once in a while I go for a check-up and each time, I have sexual relationship with one person only." [Addicted, 31-year-old].

"I have a shallow relationship. I have anal sex, so there is no reason to use condoms." [Homeless, 18-year-old].

"Common infected syringes cause diseases because syringes enter blood, but an unprotected sex is not in contact with blood." [FGD1 participant]

"I am careful; I try to wash myself before and after sexual relationship." [Addicted, 30-year-old, & HIV-positive partner].

"I think HIV is transferred through sex. I have even heard the breath of an HIV-infected person can make you infected." [Homeless, 24-year-old].

There were some myths about disease transmission among participants which could be grounds for infection. For example, considering having a concubine safe in terms of transmission of STIs has led to risky sexual behavior.

### Perceived sensitivity

This theme is consisted of subthemes such as their poor understanding of vulnerability to risky behavior, lack of perceived vulnerability to STIs, lack of understanding of the seriousness of the disease, disregarding the consequences of risky behavior, and judgment based on the appearance.

Most participants had misconceptions about risky behaviors and STIs which led them to engage in high-risk behaviors such as having sex with HIV-infected partner, unprotected sex, sex with multiple unknown people, sex with a bisexual and multi-partner person, and drug use.

"I liked his candor. He told me right from the beginning that he had HIV. I love him so much that I am ready to get ill because of him." [Addicted, 30-year-old]

"We had condoms available, but we didn't use them. You know, the sexual contact would be unnatural with condoms. There wouldn't be much pleasure, especially for men." [Homeless, 18-year-old]

"I met a woman who took me to her home. I had sex with several people in a day, with whomever you can imagine, with Afghans. Every jerk came in had sex with me and went away. Some days I had sex with 7-8 people." [Addicted, 24-year-old]

"My husband is both a womanizer and a gay. Some nights he brought some men home and was

with them. Sometimes he sold me and got me a man." [Addicted, 40-year-old]

Some participants were aware of the diseases, but they did not take them seriously. This had caused two participants to contract HIV.

"Before I got ill, I knew about these diseases, but I kept telling myself that they just say there are so many diseases, but I won't get ill." [HIV positive, 30-year-old]

In some participants, negligence had been the cause of risky behavior leading to STIs.

"At the beginning of our marriage, he didn't tell me anything about it, but a week after our marriage, he told me he had HIV. I didn't take his words seriously, but when I was four months pregnant, I got tested and figured out that I had HIV and hepatitis." [HIV positive & addicted, 40-year-old]

Some participants considered the appearance of people as a criterion to be or not to be infected.

"A prestigious person doesn't have HIV. They value themselves too much to have sexual relationships with anyone." [Homeless, 18-year-old]

"I had sexual relationships with some people. It depends on the character. If he was prestigious, it was clear that he was a really good man, and he did not use drugs. That's why we did not use a condom. If anyone of us was supposed to be afraid and use a condom, it was him not me because he didn't have any risky behaviors." [Addicted, 28-year-old]

#### Perceived efficacy

This theme includes two subthemes: the inability and the skill to say no to an unprotected sex and the inefficiency of a woman in making a decision to use condoms. The women under study hadn't had the ability to have protected sex because of fear of being branded as a sex worker, inadequate behavioral skills, low self-esteem, and fear of losing emotional and financial support of their sexual partners.

"We cannot speak to men about using condoms, they say, 'How professional she is!'. 'She is certainly a prostitute now that she offers it.' They can't be deceived or forced to use condoms. They say, 'We hate condoms, they are plastic.'" [Addicted, 30-year-old]

"In sexual relationship, men told me they wouldn't pay me if they used condoms. I had to be the way they wanted me to because of the cost of drugs and living." [Sex worker, 34-year-old]

"I would have suggested condoms, but I didn't take it seriously because he supported me both financially and emotionally." [Addicted, 28-year-old]

#### Perceived severity

This theme includes three subthemes of social exclusion, limited communication, and social interaction; stigma and discrimination; and feelings of isolation and being ashamed of the disease, as well as people's negative stance against them. Most of the participants had perceived discrimination in the society. This caused them to behave secretly.

"Ordinary people don't eat with them. They fear that their hands might have some scratches, and by shaking hands with them, they get infected too. In children's dormitories, those with HIV have no connection with other children and never speak with them." [FGD1 participant]

"I don't tell anyone that I am ill. I fear that they think badly of me. They might say, 'What has she done? Where has she gone? etc.' or they may get away from me." [HIV positive, 30-year-old]

"People behave badly. Whenever they see someone who is in a poor condition, they say, 'Oh my God, did you see her? She seems to have HIV.' That's why the infected person has to keep his mouth shut. Such looks come from regular people, but for the medical community, this is not an issue and treat us normally." [Addicted 26-year-old]

"People look down on this issue and treat them (the patients) badly. I don't want them to feel fed up with life, so I don't mistreat them. My friend, who got sick, was afraid of, and hid her illness from others. She said if people find out, they would look down at her." [FGD1 participant]

#### 4. Discussion

Socially damaged women participating in this study included injection and non-injection female drug addicts, sex workers, and homeless. As this study indicated, the majority of the socially damaged women heard about HIV/AIDs and hepatitis by attending Drop-In Centers (DICs). Approximately 90% of these women did not know about any STIs other than AIDS and hepatitis and 50% of women participating in these interviews could describe several ways for acquiring STIs.

Most participants thought sexual intercourse to be the most common mode of transmission for STIs. The majority of them considered sexual relationship which included prophylactic measures as the first preventive step against STIs. However, in practice a large number of participants (88%) had unprotected sexual contact. In the Middle East, of all people who recognize the protective effect of condom against HIV transmission, only a few actually use them.

Within the group that uses condom, only a few use them consistently. Even in high-risk groups for which condom use is a priority, the rate of condom use is low (Abu-Raddad et al, 2010).

Misconceptions about modes of infection was common among participants. Some participants regarded injection to be more dangerous than sexual relationships and maintained that blood is in direct contact with injection paraphernalia and therefore far more risky than sexual contact. They believed because they didn't inject drugs, they were not exposed to diseases.

Others regarded having a sexual relationship with one partner or having a concubine as a protective measure against STIs. Some of them did not consider anal and oral sex as routes of acquiring STIs; therefore, they didn't feel the need to employ protection in these sexual practices.

At the other extreme, some believed that STIs could be transmitted through touching and breathing. Similar misperceptions were reported in another study where participants believed HIV could spread through mosquito bites, toilet seats, or swimming pools (Tung et al 2008), kissing the infected person or touching the waist of the infected person (Al-Naggar & Al-Jashamy, 2011).

For some participants, pregnancy was a more important issue than STIs. Their rationale for having unprotected sex was the use of long-term pregnancy prevention measures such as intra-uterine devices (IUD) and tubal ligation (TL). Sanjaume reported that in young populations, the risk of pregnancy has the most influence on adopting protective measures (Sanjaume et al, 2010). The present study showed that most of socially damaged women had no appropriate knowledge regarding STIs; furthermore their misconception regarding its methods of transmission lead to inappropriate behavior which is consistent with findings in the literature (Hasanian, 2005; Gańczak et al, 2007; Sanjaume et al, 2010; Al-Naggar & Al-Jashamy, 2011).

Knowledge of HIV and STIs exerts a major influence on women's perceived risk, attitudes and behaviors, affecting their condom use and other preventive practices (Wong & Yilin, 2003). The results of this study provide supplementary evidence for the critical need to educate socially damaged women about reproductive health issues and STIs.

Risk perception is the first step that distinguishes a high risk behavior from a safer courses of action (Prata et al, 2006).

The perceived sensitivity to STIs among participants was low, leading to high-risk behaviors regardless of the consequences. All participants were sexually active and most of them exhibited high-risk behaviors leading to STIs due to compulsive tendencies and low awareness. They regarded having unprotected sex, as well as having sex with several partners, with HIV positive people, in exchange for money and drugs, and with bisexual and multi-

partner people as high-risk. Lotfi reported that lack of proper risk perception is a common problem among "at risk" women, which predisposes them to avoid condom use on a regular basis (Lotfi et al, 2012).

For the majority of the participants, financial need was the most important reason for having sex: in order to cover the cost of living and drugs and to have a shelter, they felt obligated to engage in high-risk sexual relationships. A few participants mentioned emotional needs and sexual urges as the reasons for having sex. The participants who had sex with HIV-positive persons reported their motivations as both love for their sexual partners and a recourse from loneliness. For some of participants the reasons for having unprotected sexual contact included the need to have financial and emotional support, perceived greater pleasure, and misconception about the use of condoms. Financial needs and lack of negotiation skills are considered two major factors that discourage female sex workers (FSWs) from using condoms with clients, even though they have a high level of knowledge about HIV (Wong et al, 2003).

Misperceptions regarding safety led to improper risk assessment, and a false sense of trust and safety was a principal reason for not using condoms regularly (Lotfi et al, 2012). Lack of social and economic strength are recognized to be the main hurdles against protective sexual behaviors: they reduce women's self-efficacy, making them vulnerable to HIV infection (Shawky et al, 2009; Allen et al, 2010). In this context the sexual relationship and its protection is a male duty and, as a result, women do not have control over having safe sex (Noar et al, 2006). Most participants used drugs upon request from their sexual partners (married or unmarried) in order to increase sexual pleasure without being aware of the addictive consequences of the drugs. Among some participants, judgment based on appearance was sufficient reason to have unprotected sexual relationship. These women did not imagine prestigious men could expose them to STIs and therefore felt protection was unnecessary. A study in Nepal reveals FSWs were relaxed and tended not to use condoms with apparently healthy, young, educated and wealthy clients (Ghimire et al, 2011).

Socially damaged women participating in this study were unable to make decisions about having protected sex because of emotional and financial needs, inadequate behavioral skills, including low self-esteem, an inability to say no, addiction, and fear of loneliness and homelessness.

Lack of authority to make decision about the sexual contacts and use of condoms was reported as



the reason for having unprotected sex by 88% of the participants. Lack of communication skills such as the inability to say no and lack of negotiation skills regarding condom use were highlighted as the main obstacles to its use (Lotfi et al, 2012). Perceived lack of control in condom use in addition to lack of self-esteem were also mentioned as two main reasons for having protective sexual behavior. Being a drug addict, sex worker, and/or person infected with HIV, most participants have experienced dismissive attitudes and scornful looks from other members of the society. This has made them feel isolated and alienated from the society and family, which in turn has facilitated unemployment.

Sexually transmitted diseases can be controlled by reducing the risk of transmission in any sexual practice by using condom (Gańczak et al, 2007). Education can help young people to make informed decisions about their sexual health (Kumarasamy et al, 2003). All women in this study considered full and detailed training on sexual health to be essential in changing their attitudes and behavior towards the issue. The study results emphasize on the need for affiliated organizations to conduct preventative and damage-reduction programs continuously and accurately, to offer effective training to exposed groups, and to provide expert consultation.

#### Acknowledgements:

The study was funded by The Seed money grant from Shahid Behshiti University and Avicenna Research Institute, Tehran, Iran. The authors wish to thank all the women who kindly agreed to participate in this study.

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#### References

1. Abu-Raddad, L.J., Akala, F.A., Semini, I., Riedner, G., Wilson, D., Tawil, O. (2010). Characterizing the HIV/AIDS epidemic in the Middle East and North Africa: time for strategic action. Washington DC: World Bank.
2. Allen, C.F., Simon, Y., Edwards, J., Simeon, D.T. (2010). Factors associated with condom use: economic security and positive prevention among people living with HIV/AIDS in the Caribbean. *AIDS Care*, 22(11), 1386–1394.
3. Al-Naggar, R.A., & Al-Jashamy, K. (2011). Perception of undergraduate university students towards sexually transmitted diseases. A qualitative study. *Journal of Men's Health*, 8 (1), 87–90.
4. Bettinger, J.A. (2004). Influence of STD risk perceptions and family factors on sexually transmitted diseases in female. Ph.D. Dissertation, The Johns Hopkins University.
5. Centers for Disease Control and Prevention. (2004). Sexually Transmitted Disease Surveillance. Retrieved from [WWW.cdc.gov/std/stats.2004](http://WWW.cdc.gov/std/stats.2004).
6. Gańczak, M., Barss, P., Alfaresi, F., Almazrouei, S., Muraddad, A., Al-Maskari, F. (2007). Break the Silence: HIV/AIDS Knowledge, Attitudes, and Educational Needs among Arab University Students in United Arab Emirates. *J Adolescent Health*, 40(6), 572–8.
7. Gerbas, A.C., Toscano, C., Titan, S., Cuchi, P., Gonzalez-Salvatierra, R. & Zacarias, F. (1999). Sexually transmitted disease in Latin American and the Caribbean. *Pan American journal Public Health*, 6(5), 362-370.
8. Ghimire, L., Smith, W.C., Van Teijlingen, E.R., Dahal, R., Luitel, N.P. (2011). Reasons for non-use of condoms and self-efficacy among female sex workers: a qualitative study in Nepal. *BMC Women's Health*, 11, 42.
9. Hasnain, M. (2005). Cultural approach to HIV/AIDS harms reduction in Muslim countries. *Harm Reduct J*, 2, 23.
10. Kumarasamy, N., Solomon, S., Flanigan, T., Hemalatha, R., Thyagarajan, S., Mayer, K., (2003). Natural history of human immunodeficiency virus disease in southern India. *Clinical Infectious Disease*, 36, 79–85.
11. Li, Y. (2008). Prevalence of sexually transmitted infections and HIV and associated risk factors among female sex workers in Guangdong province, China. Epidemiology Ph.D Dissertation. University Of California.
12. Lotfi, R., Ramezani Tehrani, F., Yaghmaei, F., Hajizadeh, E. (2012). Barriers to condom use among women at risk of HIV/AIDS: a qualitative study from Iran. *BMC Women's Health*, 12, 13.
13. Mabey, D., Ndowa, F., Latif, A. (2010). What have we learned from sexually transmitted infection research in sub-Saharan Africa? *Sex Transm Infect*, 86, 488–492.
14. Merson, M.H. (1993). Slowing the spread of HIV: agenda for the 1990s. *Science J*, 220, 1266–1268.
15. Noar, S.M., Carlyle, K., Cole, C. (2006). Why communication is crucial: meta-analysis of the

- relationship between safer sexual communication and condom use. *J Health Commun*, 11(4), 365–390.
16. Prata, N., Morris, L., Mazive, E., Vahidnia, F., Stehr, M. (2006). Relationship between HIV risk perception and condom use: Evidence from a population-based survey in Mozambique. *Int Fam Plan Perspect*, 32(4), 192–200.
  17. Rabi, KA., Adewunmi, A., Akinlusi, FM, Akinola O. (2010). Female reproductive, retract infections. Understandings and care seeking behavior among women of reproductive age in lagos, Nigeria. *BMC Women's Health journal*, 10, 8.
  18. Sanjaume, SS. et al. (2010). Perception of the risk of acquire a sexually transmitted disease in a young population. *Aten Primaria*, 42(3), 143–148.
  19. Sethwala, ND., Mulla, SA., Kosambiya, JK., Desai, VK. (2009). Sexually transmitted infections and reproductive tract infections in female sex workers. *Indian J Pathol Microbiol*, 52( 2), 198-9.
  20. Shawky, S., Soliman, C., Sawires, S. (2009). Gender and HIV in the Middle East and North Africa: lessons for low prevalence scenarios. *J Acquir Immune Defic Syndr*, 51(3), 73–74.
  21. State Welfare Organization of Iran. (2012). Social damages of women street. Retrieved from [www.behzisti.ir/news/Show.aspx?id=20353](http://www.behzisti.ir/news/Show.aspx?id=20353)
  22. Strauss, A., Corbin, J. (1998). Basics of qualitative research: Techniques and procedures for developing grounded theory. 2nd ed. Thousand Oaks, California, 65-87
  23. Tung, WZ., Ding, K., Farmer, S. (2008). Knowledge, Attitudes and Behaviors Related to HIV and AIDS Among College Students in Taiwan. *J of the Association of Nurses in AIDS Care*, 19, 397–408.
  24. United Nations Programme on HIV and AIDS. (2012). UNAIDS Report on the Global AIDS Epidemic. Retrieved from [www.unaids.org/.../unaids/.../20121120\\_UNAIDS](http://www.unaids.org/.../unaids/.../20121120_UNAIDS).
  25. World Health Organization. (2001). global prevalence and incidence of selected curable sexually transmitted infections. Retrieved from [www.who.int/reproductivehealth/publications/rts/HIV\\_AIDS\\_2001\\_2/en/](http://www.who.int/reproductivehealth/publications/rts/HIV_AIDS_2001_2/en/)
  26. World Health Organization. (2008). Global incidence and prevalence of selected curable sexually transmitted infections. Retrieved from [www.who.int/reproductivehealth/publications/rts/stisestimates/en/index.html/](http://www.who.int/reproductivehealth/publications/rts/stisestimates/en/index.html/)
  27. World Health Organization. (2001). Guidelines Management of Sexually transmitted infection. Retrieved from [www.who.int/hiv/hiv\\_aids\\_2001\\_01.pdf](http://www.who.int/hiv/hiv_aids_2001_01.pdf).
  28. World Health Organization. (2012). Sexually transmitted infections (STIs). Retrieved from [www.who.int/mediacentre/factsheets/fs110/en/](http://www.who.int/mediacentre/factsheets/fs110/en/)
  29. Wong, WC., Yilin, W. (2003). A qualitative study on HIV risk behaviors and medical needs of sex workers in a China/Myanmar border town. *AIDS Patient Care STDS*, 17, 417–22.
  30. Wong, ML., Lubek, I., Dy, BC., Pen, S., Kros, S., Chhit, M. (2003). Social and behavioural factors associated with condom use among direct sex workers in Siem Reap, Cambodia. *Sex Transm Infect*, 79, 163–5.

## Appendix

### Interviewers Guidelines

- How much do people in this area understand about transmission and prevention of HIV, the virus that causes AIDS, and other STIs?
- What are the issues that influence people's information about AIDS and HIV?
- What are common sexual practices related to the risk of AIDS or HIV transmission in this population?
- What behavioral changes, if any, have people adopted in order to avoid contracting HIV?

12/11/2013