

Knowledge, Attitude, and Perception Towards Condom Use among Female Sex Workers in North Jakarta: A Mixed-Method Study

Achmad Kemal Harzif^{1,2)}, Raymond Surya¹⁾, Ariel Timy Chiprion¹⁾, Heidi Dewi Mutia²⁾, Aisyah Retno Puspawardani²⁾, Nafi'atul Ummah²⁾, Putri Nurbaeti²⁾, Atikah Sayogo Putri¹⁾, Budi Wiweko^{1,2)}

¹ Department of Obstetrics and Gynecology, Faculty of Medicine, Universitas Indonesia, Jakarta, Indonesia 10430

² Human Reproduction, Infertility, and Family Planning Research Center, Indonesian Medical Education and Research Institute, Jakarta, Indonesia 10430

✉ Email: kemal.achmad@gmail.com

ABSTRACT

Background: HIV/AIDS is a significant global health and social issue, particularly affecting sex workers, who are the second most common high-risk population. Efforts have been attempted to address the challenges, including promoting safer sex and increasing sex workers' awareness of condom use to reduce sexually transmitted disease (STDs) transmission. **Objectives:** This study aimed to examine the knowledge, attitude, and perception among FSWs in North Jakarta towards condom use to prevent HIV. **Method:** Using a validated WHO questionnaire, this cross-sectional community-based study was conducted in pubs and lounges in North Jakarta among 182 FSWs. The questionnaire was translated forward and backward to ensure accuracy. The data were analyzed using SPSS Statistics for Windows and transcription in MS Word for qualitative data. **Results:** The reliability test for knowledge and attitude were 0.427 and 0.456, respectively. The study found that most participants (75%) had good knowledge about the benefits of condom use, and most agreed that condoms are suitable for casual or established relationships. However, due to cultural barriers in Indonesia, most subjects (68.1%) felt embarrassed about buying condoms. **Conclusion:** The study found that FSWs possess a good knowledge and attitude regarding the utilization of condoms to avert STDs, particularly HIV/AIDS. Nonetheless, there is a need to enhance FSWs' attitudes towards condom use and perceptions of health services, particularly those related to STDs, given their classification as a population at high risk. **Keywords:** FSW, HIV/AIDS, Prevention of STD, Sexually transmitted disease.

INTRODUCTION

Human Immunodeficiency Virus (HIV)/Acquired Immune Deficiency Syndrome (AIDS) is one of the world's major global public health issues, with a devastating impact on individuals, families, and communities worldwide. (WHO, 2023) In 2022, according to UNAIDS, around 39 million individuals were reportedly affected by HIV, out of which 1.3 million were newly infected globally. The data showed in the Asia Pacific region, nearly half of new HIV infections occurred among young people thus possessing them to a greater risk of transmission. In Indonesia, the prevalence of new HIV infection has decreased over the years, but the disease remains a significant public health concern, especially among high-risk groups like sex

workers. Sex workers are the second most common high-risk population after men who have sex with men (MSM), with estimated population counts of 277,600 cases. While the prevalence among sex workers is only 2.1% compared to 17.9% in MSM, 13.7% in injecting drug users (IDU), and 13.7% in transgender, the HIV testing and awareness among sex workers remains low (38.6%) compared to transgender people (65%), IDU (57.2%), and MSM (55.5%). Apart from that, the percentage of condom usage among sex workers is lower than among MSM and IDU populations. (UNAIDS, 2023).

Female sex workers (FSWs) are particularly vulnerable to HIV/AIDS due to their profession, which exposes them to a higher risk of infection, a staggering twenty one times higher than other women of reproductive age. (Atuhaire et al., 2020)

This heightened risk is a significant concern globally, as FSWs often engage in commercial sexual services that are illegal in many countries. In these illegal settings, FSWs typically work in karaoke bars, massage parlors, saunas, and hair and beauty salons, as well as on the street or in parks. These environments facilitate unlimited interaction between FSWs and members of the general population, making FSWs a key factor in the spread of HIV to the broader population (Abdella et al., 2022; Wanjiru et al., 2022).

However, the situation is particularly challenging for FSWs in Indonesia. They face numerous barriers, including stigma and discrimination related to sex work, which can significantly hinder their ability to access healthcare services and adhere to treatment regimens. Furthermore, the illegal nature of commercial sexual services in Indonesia means that FSWs often operate in the shadows, making it difficult for health educators and prevention programs to reach them effectively. (Andriyani et al., 2021; Hanifa et al., 2019).

Jakarta, the capital city, is at the forefront of confronting public health challenges, including HIV/AIDS. Reports indicate a concerning rise in HIV cases within the city, despite a national downward trend. In 2019, the city reported 5,743 HIV cases, a number which slightly increased to 5,982 by 2022, according to the Health Profile of DKI Jakarta for 2022 and 2019. (Dinas Kesehatan Provinsi DKI Jakarta, 2019, 2022) Further highlighting the city's struggle, Jakarta was ranked third in the number of reported AIDS cases across Indonesia in 2019, trailing only behind Central Java and East Java. (Kementrian Kesehatan RI, 2019) This escalating situation underscores the urgent need to address HIV/AIDS spread within the city.

North Jakarta, with its sprawling area of 146.66 km² and a population density of 12,358 per km² as of 2019. (Dinas Kesehatan Provinsi DKI Jakarta, 2019) The district, home to the primary inter-island and international gateway, Tanjung Priok Port, experiences heightened vulnerability to STD transmission. (Fajrunni'mah & Lestari, 2019) This susceptibility stems from the risky sexual behaviors among individuals frequenting the port, including sailors, fishermen, and port workers,

compounded by readily accessible sex services. (Fajrunni'mah & Lestari, 2019) The area was historically known for hosting "Kramat Tunggak," Jakarta's largest legal prostitution complex until its closure in 1999. Nonetheless, the cessation of this complex did not eradicate the practice; instead, it dispersed to various illegal zones including Pela-Pela, Kalibaru, Koja Utara, among others, perpetuating the facilitation of sex work in more concealed environments. (Suud, 2019; Tadie & Permanadeli, 2015) Based on the findings of the DKI Jakarta Social Services Department, North Jakarta has been identified as the area with the highest number of female sex workers, reaching a total of 154. (Badan Pusat Statistik Provinsi DKI Jakarta, 2019) This situation, combined with the lack of stringent regulatory measures and the enforcement of safety protocols, creates an environment ripe for the spread of STDs and HIV/AIDS.

Given the critical role that FSWs play in the transmission and spread of HIV/AIDS, it is essential to understand their knowledge, attitudes, and perceptions towards condom use among FSWs, especially in North Jakarta. This understanding is crucial for addressing appropriate promotive and preventive attempts and also guides the development of more effective targeted interventions and health education programs that focus on accurate information about HIV/AIDS, condom use, and other prevention methods. Ultimately, this will improve the health and well-being of FSWs in Indonesia, who are often marginalized and underserved in healthcare systems.

METHODS

Questionnaire translation

An existing questionnaire produced by the World Health Organization (WHO) in 2001, "Illustrative Questionnaire for Interview-Surveys with Young People," was translated to Indonesian by two independently certified medical translators whose first language was Indonesian. The Indonesian questionnaire was backward-translated to English by another medical translator to check the accuracy. The authors revised the initial translations from any ambiguous or mistranslated words. The authors only chose several sections in the translated questionnaire, including socioeconomic

and family characteristics, knowledge of HIV/AIDS and STDs, knowledge and attitudes about condom use, and perception of health services.

Questionnaire validation

For quantitative data, normality tests were performed using Kolmogorov-Smirnow. Descriptive analysis was presented in frequency, percentage, median, and minimum-maximum. A validity test with Pearson correlation (r arithmetic more than r table) and a reliability test with Cronbach's alpha (>0.5) were performed for questions about knowledge and attitude of condom use towards HIV/AIDS or STD prevention.

Sample and procedure

A cross-sectional community-based study using qualitative and quantitative data collection methods was conducted in November 2019. All FSWs working in 10 pubs and lounges in North Jakarta were included. Incomplete questionnaire was excluded from the study. The participants were asked for written informed consent. They obtained structured questionnaires to explore FSW's knowledge and attitude toward condom use concerning STDs and perception of the health service. In addition to quantitative data, qualitative data were collected from interviews with ten random FSWs who had completed the structured questionnaires. Participants gave verbal consent to participate in the qualitative component with several questions.

Data analysis

The data gathered from completed questionnaires were distributed by frequency and percentage. The analysis

used SPSS Statistics for Windows, version 23.0. Qualitative data were obtained through in-depth interviews with some respondents. The data were transcribed into MS Word for analysis. Similar questions were asked and discussed separately with each respondent.

Ethics

This study has been accepted by the Ethical Committee of Health Faculty of Medicine Universitas Indonesia under KET-248/UN2.F1/ETIK/PPM.00.02/2019.

RESULTS AND DISCUSSION

After performing forward and backward translations from the questionnaire produced by WHO, we recruited the first 30 respondents for the samples. Only 4/8 knowledge and 3/5 attitude questions regarding condoms were valid. All valid questions were processed into a reliability test, and the result was 0.427 and 0.456 for knowledge and attitude questions. Meanwhile, we did not conduct the perception questions for this test since it only asked for opinions.

212 FSWs filled in the questionnaire; however, only 182 participants answered all questions. Most FSWs were 21-24 years old (68.1%) and considered religion essential (96.7%). Most of them were smoking and habitual drinkers. Table 1 describes the characteristics and demographics of the respondents. Tables 2 and 3 show the knowledge and attitude toward condom use related to STDs. Meanwhile, Table 4 presents the perception of FSWs about health services.

Table 1. Characteristics demographic of respondents.

Characteristics	N (%)
Age (years old)	
<20	26 (14.3%)
21-24	124 (68.1%)
25-29	27 (14.8%)
30-34	3 (1.6%)
≥ 35	2 (1.1%)
Religion	
Islam	170 (93.4%)
Christian	12 (6.6%)
Importance of the religion	
Very important	176 (96.7%)
Important	6 (3.3%)
Not important	0
Educational background	
Illiterate	2 (1.1%)
Primary school	14 (7.7%)
Secondary school	78 (42.9%)
High school	88 (48.4%)



Starting age as FSW	
≤15 years old	2 (1.1%)
16 years old	20 (11.0%)
17 years old	34 (18.7%)
18 years old	48 (26.4%)
19 years old	27 (14.8%)
≥20 years old	51 (28.0%)
Parents alive	
Yes	142 (78%)
One of them	36 (19.8%)
Orphan	4 (2.2%)
Smoking	139 (76.4%)
Alcohol	160 (87.9%)

FSW, Female Sex Worker

Table 2. Respondents' knowledge towards condom use related to sexual transmitted disease.

Statement(s)	N (%)
Heard about HIV/AIDS - YES	174 (95.6%)
Seen condom - YES	182 (100%)
Condom is an effective method to prevent HIV/ AIDS - TRUE ^a	166 (91.2%)
To determine HIV status, a person can perform a blood examination - TRUE	161 (88.5%)
HIV/ AIDS can be cured - FALSE ^a	121 (66.5%)
Condom is an effective method to avoid the unwanted pregnancy - TRUE ^a	151 (83.0%)
Condom is safe for using more than once - FALSE	144 (79.1%)
Condom is an effective method to prevent sexual transmitted disease - TRUE ^a	144 (79.1%)

HIV, Human Immunodeficiency Virus; AIDS, Acquired Immunodeficiency Syndrome ^a Valid question

Table 3. Respondents' attitudes towards condom.

Statement(s)	N (%)
Condoms are suitable for casual relationship - AGREE ^a	148 (81.3%)
Condoms are suitable for steady, loving relationships - AGREE	165 (90.7%)
It would be too embarrassing for someone like me to buy or obtain condoms - AGREE	124 (68.1%)
Condoms reduce sexual pleasure - AGREE ^a	58 (31.9%)
Condoms can slip off the man and disappear inside the woman's body - AGREE ^a	79 (43.4%)

^a Valid question

Table 4. Respondents' perceptions of health services.

Statement(s)	N (%)
Have you ever visited a health facility or doctor of any kind to receive services or information on contraception, pregnancy, sexual transmitted diseases? - YES	182 (100%)
For the last twelve months, have you sought services or information from a doctor or a nurse for these services? - YES	120 (65.9%)
When you last saw a doctor or a nurse, what was your reason for going? (can be answered more than one choice)	
1. Contraception	25 (12.6%)
2. Sexual transmitted disease	21 (10.6%)
3. Obstetrical examination	5 (2.5%)
4. Pregnancy test	6 (3.0%)
5. Effort to perform abortion	3 (1.5%)
6. Routine gynecological examination	116 (58.3%)
7. Others	23 (11.6%)
Did you feel comfortable enough to ask questions?	156 (85.7%)
Were the questions you asked during the consultation answered adequately?	157 (86.3%)
Was there enough confidentiality?	144 (79.1%)

Following the completion of the questionnaire, several random respondents had in-depth interviews. The first question was whether clients requested not to use condoms. Would they

agree? If so, what would be the reason? The most common answers were:

"I will refuse it regardless of any offer because whenever we get HIV

positive, we have to quit this job and go down to the street FSW.”

However, several respondents would ask about the offer amount before accepting the request. The next question was about the monthly income and whether they were satisfied with the amount, which was mostly answered as follows:

“We get around six and ten million rupiahs every month, with which we are satisfied. Our income depends on the tipping from the clients for our service.”

We also asked what the main reason for doing this job was, and if there is any offer with a similar income and leaving the current job, would they accept it?

“Regarding my educational background, this is the only job with an interesting income. However, I would like to leave it if there is any other ‘halal’ and prospective job.”

Another question was about the social opinion of this job, to which the answer was:

“I always hide the job from my social group because they think that this job is related to sexually transmitted disease that they might judge and exclude us from the circle.”

“I do not care about the social opinion because I run this job, which promises good income. I try to blend in the community.”

Socio-demographic characteristics

In our study, most respondents were 21-24 years old, similar to the study conducted in Brazil.(Penha et al., 2015) Most of our respondents graduated from high school. Other studies reported variations in education level. A study in Ethiopia showed that most FSWs had completed primary school (grades 1-8) (Rameto et al., 2023) Meanwhile, a study in India showed that most FSWs were illiterate.(Giri et al., 2012) However, education level was not associated with condom use in the FSW population (Rameto et al., 2023; Yang et al., 2020).

Smoking and drinking habits were found in 76.4% and 87.9% of respondents, respectively. Study by Beksinska showed that FSWs with harmful use of alcohol were less likely to use condom at last sex with clients (Beksinska et al., 2022). In a meta-analysis conducted in low and middle income countries, harmful alcohol use among FSWs was shown to be significantly associated with inconsistent condom use, STDs, and use of drugs (Beksinska et al., 2023). Other study conducted in China showed that alcohol intake and regular smoking among adolescent sex worker are higher compared to general adolescent population (Zhang et al., 2020). Smoking and drinking were associated with drug use, which may increase the risks of HIV and STDs (Naghizadeh et al., 2023; Yeo et al., 2022; Zhang et al., 2020).

Knowledge and attitude

Most respondents answered questions about knowledge of HIV/AIDS correctly. Similar results were found regarding the knowledge about condoms. Nevertheless, some answers were false. This unawareness may render FSWs more susceptible to STDs.

The majority of the respondents agreed that condoms are suitable for casual relationships or established relationships. However, some believe that condoms may decrease sexual pleasure. Other studies also found that condoms may lessen sexual pleasure, especially for men (Huber-Krum et al., 2020; Spyrelis & Ibisomi, 2022).

Incorrect usage of condom and myths about taking a bath after condomless sex was also another problem faced, in one study, four out of 25 women suggested using more than one condom, due to fear of condoms slipping while having sex (Shewale & Sahay, 2022).

There was also a false belief that a condom may disappear inside a woman's body when it slips off (Kosugi et al., 2019; Ogolla & Ondia, 2019). The other challenge was that most respondents were too embarrassed to obtain condoms alone (68.1%). A study in Iran identified that women who were taunted when buying condoms tended not to use condoms (Mohammadi Gharehghani et al., 2020). Thus, those beliefs may lead sex workers to unprotected sex. Therefore, further promotive and preventive attempts against STDs, primarily HIV/AIDS, and the benefit of condom use among FSWs are imperative.

A qualitative study involving 35 FSWs in Bali and Malaysia identified stability and romantic relationships as the primary factors influencing their decision to forego condom use (Januraga, Mooney-somers, et al., 2020) Most respondents prefer to use condoms during sexual intercourse. However, some respondents agree to do unprotected sexual contact for extra income.

A study in China found that 33.6% of FSWs had sex without a condom if the customer paid extra money and looked clean. In Vietnam, a study conducted among FSWs also showed some consumers want to pay more for unprotected sex (Mohammadi Gharehghani et al., 2020). Inconsistent condom use (ICU) is identified as the risk factor for both acquiring and transmitting STD (Decker et al., 2020). In Indonesia, a study conducted in Bali showed that FSWs accepted to serve clients without condoms because they were offered big money and wanted to be financially successful workers (Januraga, Mooney-somers, et al., 2020). Study which also conducted in Bali 2020 found that newcomers who have few relations may not know the competition among seniors who get more money by providing unprotected sex to their clients. (Januraga, Gesesew, et al., 2020). Young sex worker compared to older FSWs are unlikely to negotiate with older male clients who have financial muscles and able to dictate terms of transaction, and they have limited negotiating power, vulnerability to intimidation, violence, and more likely to forego the use of condom if the clients pay more (Elmi et al., 2023; Motsoeneng, 2024). This indicates poor socio-economic status was why FSWs took their jobs and engage in risky sexual behavior. (Motsoeneng, 2024; Panneh et al., 2022; Wanjiru et al., 2022).

Another factor that justifies the reason for unsafe sex is the influence of alcohol. Study by Khumaidi et al, reported that FSWs who had a higher level alcohol consumption were 2.706 times to have high-risk sexual behavior such as condomless compared to those with low level alcohol consumption (Khumaidi et al., 2021). Alcoholism in this type of occupation has emerged as the cause of unintended condomless sex, as shared by the responders in the study conducted in India (Shewale & Sahay, 2022). It was not possible to use a condom properly when

the FSW was drunk. Maintaining the awareness to ensure that condoms are used and not breakage or slip is vital to control condom use. (Amogne et al., 2022).

Although most responders have good knowledge about HIV/AIDS and condom use, barriers to safe sex implementation are still encountered, necessitating interventions that can change behavior, such as a study conducted in Surakarta, which recommended a peer education program to promote female condom use among female sex workers (FSWs), following better motivation and self-efficacy regarding female condom use in the peer education group compared to the control group. Another study in China showed higher condom usage consistency in the intervention group compared to the control group (77% vs 70.5%, $P = 0.032$) (Dong et al., 2019) The importance of comprehensive preventive services is demonstrated by research in India, where FSWs receiving targeted interventions (TI) related to HIV/AIDS, such as condom distribution, proper condom use demonstrations, STD checkups and counseling, were more likely to use condoms during their last sexual activity and consistently use condoms over three months (Sahu et al., 2022) Care Support Education, an education and communication-based intervention, was conducted by Azinar et al. and showed that the intervention was effective in changing knowledge, attitudes, and perceptions of FSWs regarding HIV/AIDS prevention and transmission behaviors (Azinar et al., 2020). In an African study, family planning and HIV prevention workshops were conducted for FSWs, and the results showed that community empowerment-based interventions increased consistent condom use and reduced HIV infection rates (Beckham et al., 2021). Barriers are crucial in changing habits, and when individuals or communities believe in the benefits of new healthy habits or behaviors more than old ones, that is where a change in habits or behaviors towards a healthier direction will occur (Azinar et al., 2020; Garzon et al., 2020; Salve, 2023).

Qualitative study

Money was the main reason why FSWs were doing their job. A quote from Brucker said, "People enter the profession for various reasons, the most common being unemployment or a desire to improve their income." They saw

themselves as entrepreneurs and put a great effort into maximizing their income through the sex industry. Research for sex work stated that FSWs did their job because of money (Januraga, Mooney-somers, et al., 2020) It was appropriate in this interview with the clients.

Research performed in Den Haag, Amsterdam, Berlin, Krakow, Warsaw, London, and New York City interviewed sixteen women from various aspects of the sex industry. They reported “needing money” to enter this industry for specific circumstances such as everyday living expenses (including housing and food), college costs and credit card debt, travel, leisure, and luxury expenses (Januraga, Mooney-somers, et al., 2020) Financial issues were also essential to sustain the condom use of FSWs, besides the knowledge of condom use benefits. A study in India showed that the FSWs who had improved financial security had significant improvements in consistent condom use (Mahapatra et al., 2020).

Some studies showed that ICU is because of the lack of knowledge of FSWs. However, in this study, we revealed that even though FSWs knew about HIV and condoms, some FSWs agreed to forego the condom when offered extra money. In addition, some were still embarrassed to buy condoms and believed that condoms could decrease sexual pleasure, which could be a barrier.

CONCLUSION

Based on these findings, the knowledge and attitude of FSWs towards condom use to prevent STDs, especially HIV/AIDS, was good. The perception of FSWs about health services should be improved, especially for STDs, considering FSWs as a high-risk population.

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