



## ICASH-A14

# SOCIODEMOGRAPHIC CHARACTERISTICS, WORK VENUE, KNOWLEDGE, AND CONDOM USE WITH CLIENTS AMONG INDIRECT FEMALE SEX WORKERS IN DENPASAR, BALI, INDONESIA

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### ABSTRACT

**Introduction:** Female sex workers (FSWs) remain an important key population affected by HIV&AIDS in Indonesia. Indirect FSWs, in particular, are exposing to higher risk comparing to direct FSWs due to their characteristics and working conditions that could be barriers to safe sex or consistent condom use. This study aimed to identify association between sociodemographic characteristics, work venue, and knowledge on HIV&AIDS toward condom use among indirect FSWs.

**Methods:** This was a cross-sectional study using secondary data from a survey on indirect FSWs conducted by Center for Public Health Innovation (CPHI), Udayana University, Indonesia during August to October 2017. About 171 indirect FSWs were eligible for this analysis. The dependent variable in this study was consistent condom use during the last month. Independent variables consisted of socio-demographic characteristics, work venue, and knowledge on HIV&AIDS. Data were analysed using univariate and multivariate analysis.

**Results:** About half of indirect FSWs (50.17%) reported using condom consistently with their clients during the last month. Indirect FSWs were more likely to use condom consistently if they completed senior high school or higher (OR=3.49; 95%CI=1.42-8.57), but less likely to use condom if they were currently or ever married compared to single ones (OR=0.23; 95%CI=0.06-0.82). Those who worked in karaoke, cafe, and bar were less likely to use condom consistently compared to those in massage parlor, spa, and beauty salon (OR=0.09; 95%CI=0.03-0.26).

**Conclusions:** Level of consistent condom use was low, indicating the need to intensify HIV prevention to indirect FSWs. Significant determinants of consistent condom use included marital status, educational level, and work venue. This study informed that providing HIV&AIDS information and improving negotiation skill that fit with characteristics of indirect FSWs and giving institutional support at workplace is crucial to ensure consistent condom use among indirect FSWs.

**Keywords:** indirect female sex workers, condom use, clients, Indonesia

### INTRODUCTION

HIV epidemic remains concentrated among key populations in Indonesia such as female sex workers (FSWs), men who have sex with men (MSM), and people who inject drugs (PWID). The integrated biological and behavioural survey (IBBS) in 2015 showed that the HIV prevalence among FSWs, MSM, and PWIDs was 7.97%, 25.80%, and 28.78%, respectively [1]. Even though the HIV prevalence among

FSWs was lower than other key populations, they performed riskier sexual behaviour since the consistent condom use among them was reported very low, consisting of 43.4% for direct FSWs and 40.2% for indirect FSWs, compared to MSM of 61.5% [1]. Therefore, FSWs remain an important key population that needs to be concerned.

The term of FSWs is defined into two groups, comprising direct FSWs as those who have the occupation for selling sex only, for example brothel-based sex workers or street-based sex workers whereas indirect FSWs are those who have another occupation other than selling sex or sex work is not their main source of income, such as a masseur in a massage parlor [1-3]. Comparing both types of FSWs, indirect FSWs have a higher mobility because they are not bound by pimps as occurring to brothel-based sex workers [4]. Moreover, the working condition of indirect FSWs pushes them into more vulnerable of HIV risk because they are less likely to be protected by the owner and gain less peer support [2]. Therefore, maintaining the protected sex among indirect FSWs is a pressing issue.

Similar to the national trend, the number of people newly infected with HIV in Denpasar continuously increased over time and remains as the highest number of HIV and AIDS cases in Bali province. AIDS Commission of Denpasar, Bali reported that 3,315 HIV cases and 2,865 AIDS cases were documented in 2016 [5]. Focusing on condom use with clients defined as whether FSWs had clients who used male condom during the sexual intercourse, a previous study found that condom use prevalence among brothel-based FSWs in Denpasar at last sex was 87% and of this, 63% were consistent to use condom for one week [6]. However, no study to date which reveals the condom use and its predictors among indirect FSWs in Denpasar, Bali and hence, it is necessary to conduct this study.

Limited studies have discussed the condom use determinants among indirect FSWs in Indonesia. A study conducted in 9 districts found that enabling factors (access to condom and HIV testing uptake) and reinforcing factors (the support from the owner, clients, and health providers) were associated with the condom use with clients among indirect FSWs [7]. In addition, a qualitative study revealed that the inconsistent condom among indirect FSWs with clients was related to the lower position of FSWs for condom negotiation, misconception of HIV and STIs, and low peer support [4]. Based on previous studies that found various findings, this study aimed to identify association between sociodemographic characteristics, work venue, and knowledge on HIV&AIDS toward condom use among indirect FSWs in Denpasar, Bali, Indonesia. The finding from this study potentially contributes to add knowledge on current situation of protected sex among indirect FSWs and understand factor underlying condom use behaviour among them. Furthermore, it can be used to develop appropriate public health interventions targeting on characteristics or other factors that are related to low condom use among indirect FSWs.

## METHODS

### *Data*

This study was a cross-sectional study using secondary data analysis from a survey on indirect FSWs conducted by Center for Public Health Innovation (CPHI), Udayana University, Indonesia from August to October 2017. Out of 200 indirect FSWs interviewed, only 171 indirect FSWs were eligible for this study with an inclusion criteria of having clients during the last month.

### *Variables*

Dependent variable in this study was consistent condom use with clients, measured by whether indirect FSWs had clients who used condom “every time” when having sexual intercourse during the last month. Meanwhile, independent variables consisted of socio-demographic characteristics (age, marital status, educational level, residential status, duration of sex work), work venue, and knowledge on HIV&AIDS.

*Statistical Analysis*

Univariate and multivariate analysis were employed for statistical analysis purpose. For univariate analysis, percentage (%) was used for present the data distribution for categorical variables whilst mean and standard error (SE) were applied for continuous variable. In addition, for multivariate analysis, binary logistic regression was employed where the result was presented in adjusted odds ratio (aOR), 95% confidence interval (CI), and p value. More importantly, prior the analysis, sampling weight and clustering effect were taken into account since the sampling method of data collection employed cluster random sampling.

*Ethical Consideration*

The survey of which this study based on has been approved by Research Ethics Commission, Faculty of Medicine, Udayana University/ Sanglah General Public Hospital, Denpasar, Bali, Indonesia with No. 1094/UN.14.2/KEP/2017. In addition, for this study using secondary data analysis, an approval was obtained from Institutional Review Board (IRB) at Institute for Population and Social Research, Mahidol University with Certificate of Exemption (COE) No. 2018/04-125.

**RESULTS**

Based on table 1, most of the indirect FSWs aged 25 years old and above (75.91%) while the majority were currently and ever married (79.30%) and about half of them (50.37%) completed senior high school and higher. According to their original province where they come from, almost all indirect FSWs were from outside Bali (97.12%) whereas those who were from Bali accounted less than 5%. Almost half (47.42%) worked as sex workers for less than one year and the rest worked for >1 year until 3 years (20.08%) and more than 3 years (31.78%). Based on work venue where indirect FSWs can have different main occupation and working condition, more than half (64.17%) worked in karaoke, bar, and cafe and about 35.83% worked in massage parlor, spa, and beauty salon. Importantly, only 50.17% indirect FSWs who reported for every time using condoms with their clients during the last month.

Table 1. Percentage distribution of socio-demographic characteristics, work venue, and consistent condom use among indirect FSWs

Variables	Categories	n=171 (%)
Age	< 25 years old	24.09
	≥ 25 years old	75.91
Marital status	single	20.70
	married/divorced/widowed	79.30
Educational level	< senior high school	49.62
	senior high school or higher	50.37
Residential status	outside Bali	97.12
	Bali	2.88
Duration of sex work	≤ 1 year	47.42
	>1-3 years	20.80
	> 3 years	31.78
Work venue	massage parlor, spa, beauty salon	35.83
	karaoke, bar, cafe	64.17
Consistent condom use	inconsistent	49.83
	consistent	50.17

Knowledge on HIV&AIDS measured in score showed that the average score was 6.40 out of 10, indicating some indicators of knowledge were poorly known by indirect FSWs. Based on table 2, about half of indirect FSWs answered correctly whether “showering or washing the vagina after sex can prevent the HIV infection” (50.95%) and “someone will not be infected with HIV if she/he consume the

antibiotic prior to sexual intercourse” (51.04%). In addition, only less than half could give right answer whether “someone who has been infected with HIV quickly shows the symptoms of HIV after being infected” (42.38%), “there is a vaccine that prevents of being infected with HIV” (25.52%), and “a woman cannot be infected with HIV if she has sex during her period” (39.68%).

Table 2. Indicators of Knowledge on HIV&amp;AIDS among Indirect FSWs

No.	Indicators	Correct Answer (%)
1.	HIV is not transmitted through coughing and sneezing	69.37
2.	Showering or washing the vagina after sex can prevent the HIV infection	50.95
3.	Someone who has been infected with HIV quickly shows the symptoms of HIV after being infected	42.38
4.	There is a vaccine that prevents of being infected with HIV	25.52
5.	A woman cannot be infected with HIV if she has sex during her period.	39.68
6.	Someone will not be infected with HIV if she/he consume the antibiotic prior to sexual intercourse	51.04
7.	Having sexual intercourse with multiple partners increases the risk of being infected with HIV	98.08
8.	Someone can be recognised whether has been infected with HIV or not just by looking at him/her	83.28
9.	HIV can be transmitted through a syringe which has been used by others	96.73
10.	HIV can be transmitted from the mother to her child during the pregnancy	82.82
Score of Knowledge on HIV&AIDS (mean ± SE)		6.40 ± 0.13

Based on multivariate analysis using binary logistic regression with enter method as presented by table 3 showed that factors associated with consistent condom use with clients consisted of marital status, educational level and work venue. Indirect FSWs who were married or ever married (divorced/widowed) were 77% less likely to use condom consistently compared to those who have never been in the union (OR=0.23; 95%CI=0.06-0.82). However, they were more likely to use condom consistently by 3.49 times if they completed senior high school or higher compared to those who did not complete senior high school (OR=3.49; 95%CI=1.42-8.57). Based on work venue, those who worked in karaoke, cafe, and bar were 91% less likely to use condom consistently compared to those in massage parlor, spa, and beauty salon (OR=0.09; 95%CI=0.03-0.26).

Table 3. Factors associated with consistent condom use with clients among indirect FSWs

Independent Variables	aOR	95% CI	p-value
Age			
< 25 years old	ref		
≥ 25 years old	1.23	0.36 – 4.15	0.738
Marital status			
single	ref		
married/divorced/widowed	0.23	0.06 – 0.82	0.025
Educational level			
< senior high school	ref		
senior high school/ higher	3.49	1.42 – 8.57	0.007
Residential status			



Independent Variables	aOR	95% CI	p-value
outside Bali	ref		
Bali	0.99	0.11 – 9.19	0.994
Duration of sex work			
≤ 1 year	ref		
>1-3 years	2.20	0.75 – 6.44	0.149
> 3 years	0.72	0.24 – 2.17	0.554
Work venue			
message parlor, spa, salon	ref		
karaoke, bar, cafe	0.09	0.03 – 0.26	<0.001
Knowledge on HIV&AIDS	0.91	0.68 – 1.20	0.502

## DISCUSSION

Condom use remains as the most effective strategy in the control and prevention of HIV in the situation where the HIV vaccine has not been discovered [8]. Condom use among indirect FSWs becomes a key strategy for eliminating HIV transmission and reducing new HIV infection. It is confirmed by a previous study in Cotonou, Benin that an increase of condom use among FSWs between 1993 and 2008 have averted 62% of new HIV infections among FSWs and 33% in the overall population [9]. The finding from this study showed that consistent condom use prevalence with clients accounted for a half (50.17%) during the last month. A study conducted among brothel-based or direct FSWs in the same geographical revealed that 63% of direct FSWs were consistent to use condoms with clients for one week [6]. Even though both results are not comparable since time period of measuring condom use is different (one month vs one week), the prevalence of consistent condom use might be similar among both types of FSWs while the measurement is conducted during the last month. In addition, another study from nearby island found that condom use varied across sex work venues, such as 53% among freelance-based, 31% among brothel-based, and 16% among entertainment-based FSWs [10]. To be noted that consistent condom use practice among indirect FSWs (50.17%) found in this study is far away from the ideal condition of achieving 100%. Therefore, understanding factors underlying the consistent condom use among indirect FSWs remains an important issue.

Based on socio-demographic characteristics, married or ever married FSWs were less likely to use condoms consistently with their clients. This finding is consistent with a previous study in Ghana which found that the likelihood of the consistent condom use was 3 times higher among single FSWs compared to the married FSWs [11]. In addition, a study in Rajshahi, Bangladesh also found the same finding where married ones were more willing to practice unprotected sex with clients. It is related to single FSWs have more concerns with unwanted pregnancy which is not accepted in Asian cultures and hence, they more insist to use condom for contraceptive purpose [12]. However, some previous studies found contradictory findings that married ones were more likely to use condom consistently [10, 13, 14]. In this study, while married indirect FSWs did not use condom consistently with clients, it impacts to increase HIV transmission also from them to their regular partner (husband) since condom use is low among married couples in Indonesia [15].

Educational level was also identified as an important predictor for the consistent condom use as similar to what previous studies found [13, 16]. Low educational level affects to lower condom use among indirect FSWs that may be due to their poor understanding about negative consequences of unprotected sex [11]. Therefore, the intervention needs to take this characteristics into account by providing HIV information that fits with low educated FSWs. In addition, this study found knowledge on HIV&AIDS was not associated with consistent condom use. Even though almost all (98.08%) indirect FSWs knew that having sexual intercourse with multiple partners increases the HIV risk, only 50.17% who were consistent to use condom with clients. It indicates that being knowledgeable is not sufficient to avoid unsafe sex, but they need to have adequate skill in negotiating condom use with clients [17]. It implies

that not only providing HIV-related information, but also training how to negotiate condom use is important among indirect FSWs.

The consistent condom use also varied by venues. Those working in the massage parlor, spa, beauty salon were more likely to have protected sex. The main occupation of indirect FSWs in those venues related to providing message service. Particular massage venues tend to be labelled as disguised prostitution places as the customers can request sex services after having a massage. As finding from a qualitative study by Nemoto et al. which found that clients perceived massage parlors as a secure environment and safe place for having sex [18]. With this condition, indirect FSWs who worked at those venues might prepare themselves to have protected sex with clients. Meanwhile, for other venues where indirect FSWs are more likely to have unsafe sex, the intervention should be targetted to the owner of establishments in order to give institutional support such as enforcing condom use regulation and create enabling working condition such as providing free condoms available at the workplace.

The findings of this study suggested to provide HIV&AIDS information and also give the training about condom use negotiation and communication that work well with characteristics of indirect FSWs. In addition, public health intervention should be targetted to the owners of establishments to create enabling working condition at venues by providing free condoms at work venues.

## CONCLUSION

The consistent condom use among indirect FSWs was not high (50.17%). Factors associated with consistent condom use with clients in the previous month consisted of marital status, educational level, and work venue. Some public health interventions are suggested such as strengthening information about HIV&AIDS transmission and negotiation skills for indirect FSWs, and also providing insitutional support at workplace.

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