

Indian Scale of Attitude towards Condom Use among Female Sex Workers (ISACUS-FSW): Development and Validation

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Abstract

Background and Objectives: Female Condom (FC) is a dual protection contraceptive, aimed both, towards the prevention of pregnancy as well as STIs/HIV in women. The National AIDS Control Programme, implemented by the State agency, therefore seeks to popularize its acceptance and usage among Female Sex Workers (FSWs), as an option to male condoms, to adopt safe sex with clients and to reduce the incidence of STIs/HIV. The objective of this study was to document the knowledge and first hand experiences of FC use amongst brothel based Female Sex Workers (FSWs) of a city in western India. **Methods:** The study is a subsection of a mixed methods doctoral study. The data was extracted from qualitative design. In-depth interviews with FSWs were administered. FSWs were selected from the brothels using a purposive sampling method. A total of twenty in depth interviews were administered. **Interpretations:** The study reflected the advantages and limitations of the use of FC. The FSWs were found to have low knowledge about FC. In some instances such as dealing in ebriated clients and in intimate relations, the FSWs thought that, it gave self-control to protect from unsafe encounters. But the cost attached to it as compared to the availability of free male condoms, different serious misconceptions including fear of FC getting trapped inside the vagina during use, increase time in client's ejaculation were challenges in use. **Conclusion:** The study reveals the positives and challenges experienced in using FC among brothel based FSWs. There is a need to strengthen the promotion of usage of FCs in FSWs through the Targeted Interventions (TI) of National AIDS Control Organization (NACO) to improve the knowledge and to reduce different road blocks that would impede the use of FCs among FSWs.

Keywords: Experiences; Female condom; Female sex workers; Knowledge

Introduction

The vulnerability of sex workers to getting infected with HIV is 10 times-20 times more in comparison to adults in the general population. Nevertheless, there is an extensive variation between regions and countries. ^[1] This community shares common socio-legal elements (marginalized and criminalized), irrespective of the background making them vulnerable across the globe. ^[2] Worldwide they constitute 9% of the total number of new HIV infections. There is evidence of a higher prevalence of more than 50% among Female Sex Workers (FSWs) in eastern southern Africa. ^[3] In contrast, an HIV prevalence of 4.2% was reported in a community-based survey among FSW of India. However, it varies by state and even by district within a state. Maharashtra, a high-HIV-prevalence state on India's western coast, has had a constant high HIV prevalence among FSWs over the years (23.62% in 2005, 19.57% in 2006, 17.9% in 2007, 10.77% in 2008, 6.89% in 2012, and 6.89% in 2013). ^[4] In order to control the epidemic, the National AIDS Control Organization (NACO) implements the 'Targeted Interventions' for FSWs and diligently promote condom use to prevent and control the HIV/AIDS epidemic. In the UNAID report, India, Laos, and Sri Lanka reported condom use above 90% among sex workers among the Asian and Pacific nations in 2018. ^[5] Nevertheless, sustained condom use was found to be low in

both the national level surveys of India. Multiple partners and inconsistent condom use were quoted to be the primary reasons for low condom use. ^[2] A study in five states of India showed that consistent condom use was positively associated with young age (<30 years), capacity to negotiate with clients for condom use, membership in self-help groups, high self-efficacy, self-confidence, and client solicitation in streets and brothels. ^[6] Health behavior models integrate attitudes as a primary construct. ^[7] They showcase that condom use is determined by attitudes towards the act. Notably, change in attitude towards condom use is a key mechanism through which sexual risk reduction interventions can be designed to bring behavior changes. ^[8,9] The association of attitudes and behaviours are tested with the applications of theories; the theory of reasoned action and, its descendant, the theory of planned behaviour describes the relation between attitude and behaviour as a contemplative process, with an individual actively choosing to engage in attitude related behaviour. A high correlation of

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attitudes and subjective norms to behavioural intention, and subsequently to behaviour, has been confirmed by studies.^[10] Further, in context to condom use it corroborates that individuals are more likely to use them when a) They perceive the threat of the disease HIV/AIDS, b) There is a high self-efficacy to use condoms; c) They are equipped with knowledge that it is an effective means of prevention of HIV/AIDS, and d) They have positive attitudes towards condom use.^[11] There are studies that have explored the association; Ugandan FSWs identification with the profession and positive attitude towards condom use was associated with condom use.^[12] In contrast, Chinese FSWs held negative attitudes in terms of misconceptions related to the clients' physique and health status that resulted in low condom use. Further, fear of getting an infection from clients through unprotected sex and self-efficacy acted as the significant predictors towards insistence of condom use in FSWs of South Korea Philippines and Thailand.^[13-15] In the Philippines, baseline research assessed knowledge and attitudes of FSWs preceding development of an HIV prevention intervention. One of the findings reflected a strong correlation of condom use with the presence of a Sexually Transmitted Infection (STI) and attitudes towards it. As a matter of fact, there is a dearth of research in this area with respect to FSWs of India. Understanding FSWs attitudes in terms of self-efficacy to negotiate condoms with clients, their perceptions about condom use and beliefs about clients' attitudes towards condom use would aid in building correct interventions to increase condom use among FSWs with clients. To address the gap, a doctorate study in the western part of India looked at attitudes among FSWs and developed a culture-specific scale. The present study highlights the method of development of a scale, its reliability and validity and the findings of the research.

Rationale for development of a scale

Empirical research is dependent on rigorous methods that necessitate effective assessment with a valid and reliable tool. Building one is a complex process.^[16] In search of an appropriate scale to measure attitudes of the brothel-based FSWs, literature review directed to scales that was administered on diverse populations including FSWs. However, a generalization of a single tool across varied populace is not possible always, that too when it is a very peculiar community like FSWs, which formed the basis for development of a "cultural equivalent" tool.^[17]

Materials and Methods

The study used a mixed-methods design comprising quantitative and qualitative methods to understand the holistic context of condom use/non-use among brothel-based FSWs. Pune a metropolitan city in a state of Maharashtra has a red light area in the middle of the city, that is surrounded by many commercial localities, large numbers of electronic shops, and sizable brothels (333) with a population of around 2500 FSWs.^[18] The inclusion criteria included adult FSWs (above 18 years of age) and who were residents of the brothels for the past six months. Minors and newly entered in the area were excluded. The sample size was calculated using one of the approaches used for this population. An n=80 was achieved for the quantitative

study. The respondents were selected with two-stage sampling.

Selection of clusters (brothels) using a systematic random sampling method.

Selection of respondents with convenience sampling (The population under study is hard to reach and prefer to remain clandestine). The study's requirement of seeking personal information related to sex work led to the option of convenience.

An approval was taken from Savitribai Phule Pune University's ethics committee prior to data collection. Written informed consent (signature/thumb impression) was obtained from FSWs with an ability to read and write whereas consent with a witness; mostly by colleague FSW/brothel manager/peer educator was taken from the respondents who were not able to read and write. A semi-structured interview schedule was used for quantitative data collection which included questions on socio-demographic profile, details about sex work, assessment about knowledge about condom use, the scale to measure attitudes and the pattern of condom use/non-use and effect on health in terms of reported symptoms of STIs.

Development of the scale

Likert scale was found to be appropriate for the purpose considering its applicability in measuring attitudes.^[19]

Phase I: Item selection: FSWs' attitude towards condom use was operationally defined as 'psychological evaluation of condom use act as favourable or unfavourable and psyche to act (condom use act).^[20-21]

A pool of items was derived by two approaches

Review of validated scales used to measure attitudes towards condoms. This method helped in identification of existing validated scales to measure attitudes among FSWs and other populations. From the scales context specific items applicable to brothel based FSWs were selected.

Communication with FSWs. Prior to the tool development, discussions with the FSWs was done. From the conversations, items in context to beliefs/opinions/feelings on current practices of condom use, self-efficacy to negotiate condom use, apprehension/fear and perceptions towards condom use emerged.

A pool of 51 items was identified in the primary stage.

Rating of the items

Two psychologists' rated the items on variables of clarity, potency and language for ease of understanding in measuring the attitudes as per the operational definition. Out of the 51 items 27 items were redundant and finally, 24 items remained.

Phase II: Finalizing the scale: The finalized items were succinct and in first-person for ease of relatability, since the FSWs were conversant in Hindi language items were translated to Hindi language and back translated. Likert scale scores on five points strongly agree to strongly disagree. To maintain symmetrical balance the subscales were worded 50% positive and negative respectively. To obtain a **single** score reflecting the intensity in a single direction that is, a high score to reflect a positive attitude and a low to indicate a negative attitude. Positive statements

with strongly agree response was rated as five in comparison to strongly disagree with minimum score of one. And negative statements strongly agree was given a minimum score of one and strongly disagree was given a maximum score of five. They were not reversed during analysis.

First pilot: The pretesting revealed that the respondents were unable to differentiate the responses on the five point scale. To solve the issue, a few respondents' put forth the concept of using pictures to denote the responses on the scale. Two sets of pictures were designed, one set of coloured wheels and another with currency of Indian rupees.

Coloured wheel pictures

- A full green-colour wheel depicted-strongly agree response
- A full red-colour wheel depicted-strongly disagree response
- Three green parts of the wheel with one red part-agree response
- Three red parts of the wheel with one green part-disagree response
- No colour on the wheel-Neutral response

Currency of Indian rupee

- A picture of Rs 100=Strongly agree response,
- A picture of Rs 75=Agree,

- A picture of Rs 50=Strongly disagree and
- A picture of Rs 25=For disagree and
- No money denotation for neutral response.

Second pilot: The draft scale was pretested the second time with pictures on a sample of 20 FSWs who volunteered for participation. FSWs comprehended the pictures of coloured wheels better than the currency images, which were finalized. The scale was administered, reading the statements and showing pictures to collect responses. Invariably, all participants successfully answered the scale items by looking at the pictures. The small pilot sample size of 20 limited the calculation of the reliability at this phase [Table 1].^[22]

Analysis of the scale responses

After data collection the items were subjected to reliability analysis to measure the internal consistency. Cronbach alpha was computed using statistical package for social science version 20. An alpha of 0.81 was achieved for 18 statements. Six items were deleted as it had a poor inter-item correlation.

Each respondent's summated score was calculated on individual items thus scores in the range of

1. 70-100 as positive
2. 40-70 as neutral

Table 1: The final selected items categorized under the domains with the source.

sl.no	Variable	Items	Source of Items
1		I feel, I can comfortable use condom with all my clients	NIMH
2		I feel, I can make un willing clients, willing to use condoms.	NIMH
3		I feel, it is uncomfortable to negotiate condom use with client in open (road/ market place)	Developed
4	Self-efficacy to negotiate condom use	If I refuse to have sex without condom then brothel owner or client may harm me.	Developed
5		I think if I insist on condom use then I will lose my clients and it will significantly affect my earning but still my health is a priority	Developed
6		I feel I can confidently talk about condom use with my clients	NIMH
7		I should also use condom with my regular partner	Developed
8		I feel, I can easily say no to sex if any client refuses to use condom (even if he offers extra money for sex without condom)	NIMH
1		I need not use condoms with clients in good physical health as they cannot have HIV/AIDS	Developed
2		I think condoms are not needed during anal and oral sex	Developed
3		Once tested negative for HIV means I needn't use condom anymore	Developed
4		I can get infected with HIV/AIDS even if I am consistent in condom use	Developed
5	Perceptions about condom use	I think that most of the clients are often in hurry and don't have time for condoms	Developed
6		Condoms are not required with other contraception method	UCLA
7		Sometimes I don't use condoms with clients because I don't have it	Philippines
8		Condoms can tear and slip during sexual intercourse	Nigeria/NIMH
9		I should also use condom with my regular partner	Developed
10		Condoms are used only to prevent pregnancy, it has other uses also	UCLA
11		Female sex worker with positive results should always use condom	Original
12		Under influence of alcohol or drug a client's risk taking behaviour increases	Original
1	Beliefs about client's attitude towards condom use	I think clients do not feel embarrassed to use condom	UCLA/Nigeria/CES
2		Some clients feel that condom make sex less pleasurable hence they don't want to use it	Nigeria/CES
3		Now a days, clients are aware enough to use condoms	Original
4		I think that if I use condom with my regular partner/lover or husband he may doubt my health or character	Original

NIMH: Multi-site condom use self-efficacy scale; UCLA: Multidimensional condom attitudes scale by Questionnaire of validating self-reported condom use among FSWs of Philippines; Developing a scale for measuring the barriers to condom use in Nigeria; Condom embarrassment scale.

3. 10-40 as negative

Cross tabulations with application of the chi-square tests, fishers' tests were used to determine the associations between demographic and sex work profile with attitudes towards condom use.

Results

Quantitative findings

Table 2 shows that more than a quarter was in the age range of 23 years-32 years. A majority *i.e.* 78.8% were illiterate. More than 30% were married, 25% were deserted, separated, or a divorcee, a small percent *i.e.* 8.8%, was widowed. They represented different states such as 30% were from West Bengal and Karnataka each, 22.5% from Andhra Pradesh and remaining, 8% from Maharashtra and 6.3% included from Uttar Pradesh, North East, and Madhya Pradesh. The sub-sections of the qualitative sample included respondents in the age range of 23-32, 80% illiterate FSWs, 35% from West Bengal, 25% FSWs were either deserted/separated and 10% widow, 15% FSWs were Devdasis. Figure 1 reflects that more than half 65.8% have positive attitudes towards condom use and 34.2% scored neutral on the scale; that is neither positive nor negative attitude. Out of the sample of 80 FSWs, 4 refused to answer the questions on the scale.

Qualitative finding

With 60% FSW reflecting a positive attitude towards condom use, the concern about loss of business with insistence of condom use emerged in the qualitative study. Most FSWs voiced that "Sex work business has been badly affected by condom use and the fear of getting infected with HIV. Before condoms were introduced, we were flourishing in the business; the red light area was thriving with clients. Now, it is a vicious

cycle, we understand the importance of condom use, but its insistence does not guarantee business". Table 3 shows that 82% FSWs in the age group of 18-22 years reflected a positive attitude towards condom use, and 80% of respondents above 40 years had a neutral attitude. Interestingly more than half 62.3% FSWs who could not read and write have a positive attitude. A significant percentage 73.9% of FSWs of West Bengal, have positive attitude as against 43.5% from Karnataka with a neutral attitude. A significant association was found between marital status, types of clients entertained and attitude towards condom use. A total of 85.7%, 78.9% and 78.6% of widows, deserted/separated/divorcees and unmarried respondents respectively were found to have positive attitudes as compared to 57.7% married. A majority of *i.e.* 70% of *Devdasis have a neutral attitude towards condom use. "Nepalese FSWs possess positive attitudes regarding condom use with clients; they negotiate the use of condom otherwise deny reluctant customers", 55 years old Brothel owner. Table 3 reveals that 66% with positive attitudes were entertaining three types viz. OCNC, RPC, and RP in contrast to 5% with positive attitude and entertaining OCNC only. A majority, 72% with positive attitudes were having RP. A significant association was obtained with a p value of 0.049. A significant association $p=0.001$ was found between rates of sexual encounter with clients and attitude towards condom use. It was found that 100% FSW with positive attitude were charging rates in the range of Rs. 201-300 and above Rs. 300 each. It is significantly noted that as the rates decreased the proportion of FSW with positive attitude have decreased as well, 60.3% respondents charging in the range of 101-200 and 57.1% who were taking below Rs. 100 have positive attitude respectively. There are a few FSWs who solicit high rates for sexual encounters. They negotiate their own terms which include high charges and condom use. They have a positive attitude towards condom use. "I refuse clients' reluctant to pay high rates and condom use, hence entertain 1-2 clients every day only, I believe, I am safe, earn sufficient to satisfy needs" 19 years FSW. Figure 2 shows that more than half, 61% respondents with positive the attitude were in a relationship with RP for 1 years-5 years, 36% for 6 years-10 years and 2.4% for 11 years-15 years a significant association ($p=0.030$) was observed as the number of years in a relationship with RP increases the percentage of respondents with positive attitudes decreased. Majority 70% of respondents with a positive attitude were using condoms with occasional new clients as compared to 88.7% and 55.6% with

Table 2: Characteristics of the respondents

Variable	Quantitative (n=80)	
	n	%
Age in years		
18-22	7	8.8
23-27	28	35
28-32	20	25
33-37	13	16.2
38-42	9	11.2
Above 42	3	3.8
Literacy		
Illiterate (cannot read and write)	64	78.8
Literate (can read and write)	16	20
Marital status		
Unmarried	15	18.8
Married	27	33.3
Deserted/Separated/Divorcee	20	25
Widow	7	8.8
*Devdaasi	11	13.8
Maharashtra	7	8.8
Nepal	2	2.5
West Bengal	24	30
Karnataka	24	30
Andhra Pradesh	18	22.5
Others	5	6.3

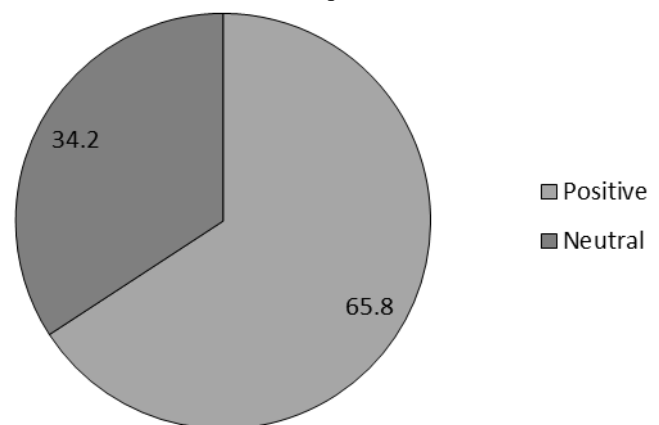
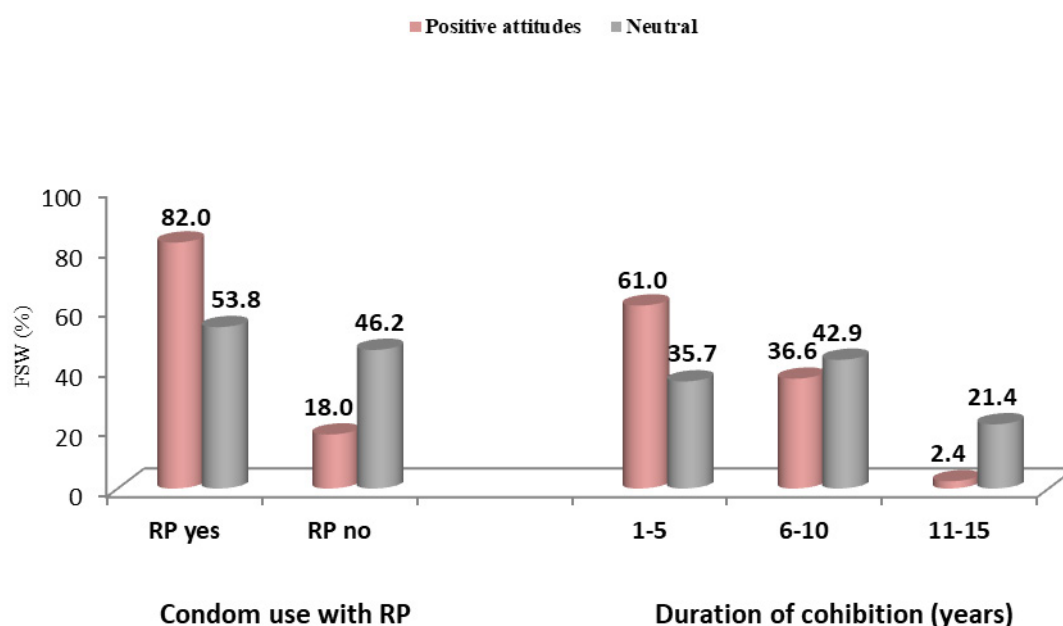


Figure 1: Respondents' attitudes towards condom use.

Table 3: Types of clients entertained, charges negotiated and attitudes towards condom use.

Sex work related variable	Positive attitude		Neutral	
	No. of resp.	Percent	No. of resp.	Percent
	Type of clients entertained (p=0.049)			
OCNC	0	0	2	4
OCNC, RPC	13	50	6	12
OCNC, RPC, RP	13	50	38	76
OCNC, RP	0	0	4	8
Total	26	100	50	100
	Charges solicited by FSW with clients in rupees (p=0.001)			
Below 100	3	11.5	4	8
201-300	23	88.5	35	70
301-400	0	0	9	18
401-500	0	0	2	4
Total	26	100	50	100

**Figure 2:** FSW attitudes towards condom use, sexual partnership with RP, no. of years of cohabitation.

a positive attitude but not using condoms with a regular partner and regular paying clients [Figure 2].

Discussion

Characteristics of the respondents

The respondents were mostly from a young age group, illiterates, married with diverse natives. The HIV sentinel surveillance HSS conducted in the year 2010-2011 in the state of Maharashtra has documented similar findings regarding characteristics of FSWs from brothels. There are very few studies on this typology of FSWs in India.

Method of development of scale

The scale to measure attitude towards condom use is highly reliable in terms of internal consistency. The methods adopted in development of the scale holds to the traditional techniques inclusive of domain identification and item generation from a review of literature and use of inductive approach of interactions with the respondents, that is corroborated in other studies too. Similarly, the phase of content validation and the rating was

found in other studies too. [23] In the scale, eight items measured self- efficacy, four appropriate to the context of sex work was adapted from NIMH, multisite condom attitude scale. [24] It measures confidence in condom use and has been implemented on patients attending STD clinics, women from community-based health service organizations, university students, etc. The remaining four items evolved from the experiences of embarrassment in the negotiation of condoms, the effect of the insistence to use condoms in terms of fear of losing clients, brothel owners and clients' threat of abuse/harm, losing the trust of the regular partners shared by FSWs in different situations. The next construct of perceptions about condom use was measured by twelve items; seven originated from discussion with FSWs. Condom use under the circumstances of getting a client with good and healthy physique, engagement in anal and oral sex, seropositive/negative HIV tests results, fear of getting infected with HIV, sexual intercourse under the influence of alcohol/drug, client's hurry to rush through sex and leave the brothel. Three were adapted from UCLA scale that focused on perception about condom's contraception properties and a belief about prevention of HIV/AIDS with consistent condom

use.^[25] One item assessed belief about availability of condoms that was selected from the questionnaire of validating self-reported condom use among FSWs of Philippines.^[26] The last one about fear of breaking of condoms during sexual intercourse was influenced by the items from scales of Nigeria and NIMH respectively.^[27] The third construct of FSWs beliefs about clients' attitudes towards condom use had four items. Two were adopted from UCLA/Nigeria and CES scale respectively.^[28] They covered the aspect of clients' belief about not getting pleasure with condoms during sex and non-embarrassed feeling while using them. Items about the client's belief about condoms use trust in intimate relationships and clients' awareness to use condoms evolved in the discussion with FSWs.

Implementation of the scale to collect responses

The use of coloured wheel pictures to collect responses on the Likert scale was successful. This method could be recommended in similar contexts. It is evident that use of illustrative images does not affect the data quality.^[28] In addition, there is an advantage of easy identification by respondents than verbal labels because they eliminate the barrier of mapping feelings into words. Another opinion expressed by an author in a book was that people can conceal a controversial attitude and can give a socially desirable response in using text responses.^[29] Non-verbal expressions would help to infer attitudes because they are independent of the content of speech. This is the original research which has used illustrative images to collect responses on a scale to measure attitudes towards condom use.

FSWs attitudes towards condom use

The finding of 70% of respondents having a positive attitude is promising. However, the verbatim about the apprehension of the insistence of condom use having an adverse impact on sex work cannot be overlooked. Somewhere, beneath the positive attitude, there is a concern about the livelihood that has emerged. Young FSWs having positive attitude recommends focused interventions in this age group for advocacy of consistent condom use. A similar finding was observed among young male college students of China and among women in Northeast Brazil. Interestingly, more than 50% of FSWs who could not read and write possess positive attitudes proves that literacy not having any impact on the attitudes. FSWs from natives of West Bengal was found to be having positive attitudes, but this association of native and attitudes is understudied and need to be explored further. A significant association between marital status and attitudes, *i.e.* increase percentage of widow/deserted/unmarried FSWs with positive attitude shows that single status brings in self-responsibility towards health. There are no studies about this association in context to FSWs. However, one study in rural women of Tanzania found that condom use was higher among single than married women, making them more confident to negotiate condom use with their partners.^[30-33] There are studies that have documented types of clients entertained by brothel-based FSWs and condom use in India.^[34,35] But the present study has explored the association between FSWs attitude towards condom use and types of clients entertained. A higher percentage of FSWs cohabitating with regular partners for 1years-5 years were having a positive attitude reflects security in such relations to be the reason underneath. But whether this is

transferring to condom use in intimate relationships is a matter of concern. FSW with positive attitude negotiating condom use with high rates to clients is a mark of empowerment that needs to be studied further. To sum up, there are diverse factors of age, literacy status, native, marital status, relationships with a regular partner and with different types of clients that are associated directly or indirectly with the attitudes of FSWs. This is a formative work that needs to be studied further for the establishment of clear linkages.

Conclusion

Condom use is vital in the control of HIV/AIDS, especially among FSWs. This study identified attitudes, influencing elements and its impact on condom use. The non-availability of a cultural equivalent, valid and reliable tool led to designing of a scale that sufficed the need of the study. An 18 item reliable scale was developed with an inter-rater validity and a requisite Cronbach's Alpha. The scale has the potential to improvise reliability and validity that can be used for further research use. Majority scored positive attitudes towards condom use. However, voiced out unhappiness about the loss of business with the insistence of condom use. A significant association was found between marital status, types of clients entertained and attitude towards condom use. Characteristics of FSWs with positive attitudes included native of FSWs, entertaining three types of clients, relationship with a regular partner for more than a decade, and those soliciting high charges. Majority with positive attitudes were using condoms with occasional clients. All these aspects need to be further corroborated with more studies.

Contributors

MG conceived and designed the study, DM contributed equally in the development of the scale.

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Declaration of Competing Interest

We all declare that we have no conflict of interest.

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