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■ Original Research Article

# Knowledge of Sexually Transmitted Infections and Barriers to Seeking Health Services Among Commercial Sex Workers in Ibadan North LGA, Ibadan, Oyo State.

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## Abstract

**Background**: Sexually transmitted infections is an important epidemic of public health significance, especially among female commercial sex workers (FCSW), due to its associated symptoms and complications.
**Objectives:** To determine knowledge of sexually transmitted infections (STIs) and the health seeking behaviour among FCSW in Ibadan North Local Government Area (LGA). **Method:** A cross-sectional study using self-administered questionnaires distributed to 131 FCSW in Ibadan North LGA by trained research personnel. Data was analysed using IBM SPSS version 23.0. Descriptive statistics and tests of associations were done, with statistical significance set at $p<0.05$. **Results:** One hundred and twenty-nine respondents (98.5%) were aware of STIs and the majority (69.8%) got their information from hospitals and health workers. Only 43 respondents (36.8%) had good health seeking behaviour. Associations with good health seeking behaviours were being in the age group 18-25 years ($p<0.001$), single ($p<0.001$), non-Christian religion ($p<0.001$), having secondary level of education ($p<0.001$), combining sex worker with trading ($p<0.001$). and work experience as a FCSW of less than 5 years ($p=0.001$). Multivariate logistic regression showed that respondents with less than junior secondary education were 16 times less likely to have good health seeking behaviour (OR=0.062; 95%CI=0.004-0.992) while those who were both sex workers and traders were about 37 times more likely to have good health seeking (OR=37.250; 95%CI=6.006-231.039). **Conclusion:** This study revealed that the health seeking behaviour of FCSW in Ibadan is poor and most resort to self-medication. Therefore, there is need to develop interventions that will help them in accessing affordable health facility when necessary.

**Keywords:** Sexually transmitted infections, health seeking behaviour, commercial sex workers, health care.

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## INTRODUCTION

Sexually transmitted infections (STIs), excluding Human Immunodeficiency Virus (HIV) infections, are the second commonest cause of healthy life years lost by women in the reproductive age.[1] They are often asymptomatic, commonly acquired through sexual contact but occasionally by direct contact or perinatally and causes long term morbidity in affected individuals.[1,2] Complications of untreated/improperly treated STIs include protracted urogenital infections leading to male and

female infertility, abortions, ectopic pregnancies, stillbirths, chronic lower abdominal pain and cervical cancer. [2]

Globally, the incidence of STI continue to increase and an estimated 374 million new cases occur yearly, and with vast majority occurring in developing countries.[1,3] In developing countries, the increase in the incidence of STIs is attributed to change in attitudes towards sex and sexual behaviour, increasing urbanization, modernization, internal displacement, travel and education which has led to increased sexual activity, especially among young people. [1,4,5]

In recent years there have been considerable advances in the field of STIs, fueled largely by the HIV epidemic, but also by increased recognition of the range and severity of complications that follows these infections and the development of new case-management approaches. [6]

STIs rank among the five top diseases for which Nigerians seek medical attention and the major STIs are ranked among the ten most reported notifiable diseases in Nigeria.[7,8] Studies have shown that although most Nigerians are aware of STIs, but many demonstrated lower level of knowledge. [9]

STIs disproportionately affects mostly young people and commercial sex workers (CSW) constitute one of the high-risk groups for STIs. Many CSWs come from disadvantaged backgrounds, poorly educated and lack the skills and resources for other types of formal or non-formal employment, have numerous sex partners and often engage in unprotected sex and other forms of sexual acts that increases the risk of acquiring STIs. [10,11] This underlying vulnerability is more often due to gender-based inequality, insufficient STIs information, and prevention strategies, limited access to health and other social services because of stigmatization and marginalization.[12,13]

Therefore, controlling the spread of STIs among this vulnerable group ought to be a top priority and assessing factors that contribute to their poor health seeking behaviours is pivotal in informing practice, policy and design appropriate interventions. Therefore, the aim of this study is to assess the level of knowledge of STI symptoms and identify perceived barriers to seeking STIs services among CSWs in Ibadan North Local Government Area

## METHODOLOGY

This was a descriptive cross-sectional study carried out in Ibadan North Local Government Area (LGA), Ibadan, Oyo State. Oyo State was formed in 1976 from Western State, is homogenous, mainly inhabited by the Yoruba ethnic group who are primarily agrarian but have a predilection for living in high-density urban centres. Oyo state has a total of 33 local government areas; Ibadan North LGA being one of them was founded in 1991 and has 12 wards in total and covers a landmass of 132,500 square kilometres with a population density of 2,626 persons per square kilometre. Using a growth rate of 3.2% from 2006 census, the 2010 estimated population for the Local Government area is put at 347,998.[14,15] The area consists of a mixture of highly sophisticated educated elitist populace and low class uneducated one, the former being more than the latter.

This study was conducted among one hundred and thirty, street and brothel-based commercial sex workers in Ibadan. The sample size was estimated using the formula for cross-sectional studies and adding 10% attrition loss. The estimated prevalence rate of 8% for women who reported having STIs in the 2013 NDHS report was used. Written informed consent was obtained from all participants. The inclusion criteria were street and brothel- based female sex workers who were above 18 years while non-consenting eligible participants were excluded from the study.

The purpose of the study was explained to all potential participants. Their freedom to withdraw or refuse was not in question, as there was no dependent relationship between the investigator and the participants. All information obtained from the participant was kept strictly confidential. This was relatively easy, as the questionnaires were anonymous and self-administered. All precautions were taken to ensure that the process of administering the questionnaire was done in privacy.

The survey instrument was a pretested anonymous, self-administered questionnaire, containing both closed- and open-ended questions, with four sections. The sections assessed the socio-demographic data, the pre-existing knowledge of STIs, the health seeking behaviour and factors associated with health seeking behaviour among the participants.

A snowball sample was used to recruit information-rich key informants. A participation program was drafted, thereafter stakeholders were approached and asked for contacts. Contacts were gained and asked to participate.

Data analysis was done using IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp. Descriptive statistics such as mean, standard deviation, and frequency was performed and inferential statistics such as ANOVA, Chi-

square and Regression were performed. Level of statistical significance set at $p < 0.05$. Ethical approval was obtained from the Oyo State Research Ethical Review Committee, Ministry of Health Secretariat, Ibadan, Oyo State.

## RESULTS

Almost half of the respondents (45.0%) were in the age group 26-35 years and fifty-five respondents (42.0%) had less than secondary level of education. Many of the respondents were Christians (73.3%), Single (63.4%), had spent five years and less engaged in sex work (71.0%) while a little over half of the respondents (51.9%) were traders. One hundred and twenty respondents (98.5%) were aware of STIs and majority (69.8%) reported hospitals or health workers as the commonest source of information on STIs. (69.8%). (Table 1)

Table 1: Socio-demographic characteristics and awareness of STIs among the respondents.

| Variable | Frequency (N=131) | Percentage (%) |
|---|---|---|
| **Age (years)** | | |
| 18-25 | 35 | 26.7 |
| 26-35 | 59 | 45.1 |
| 36-45 | 35 | 36.7 |
| 46-55 | 2 | 1.5 |
| **Educational level** | | |
| None | 44 | 3.1 |
| Pre-School | 1 | 0.8 |
| Primary | 54 | 41.2 |
| Junior Secondary | 39 | 29.8 |
| Senior Secondary/Vocational | 27 | 20.6 |
| Tertiary | 4 | 3.0 |
| No response | 2 | 1.5 |
| **Occupation** | | |
| CSW and trading | 68 | 59.9 |
| CSW only | 63 | 49.1 |
| **Religion** | | |
| Christians | 96 | 73.3 |
| Muslim | 1 | 0.8 |
| Traditionalist | 2 | 1.5 |
| Others | 32 | 24.4 |
| **Marital Status** | | |
| Single | 83 | 63.4 |
| Married | 1 | 0.8 |
| Separated/Divorced | 43 | 32.8 |
| Others | 2 | 1.5 |
| No response | 2 | 1.5 |
| **Length of time in community (years)** | | |
| 1-5 | 101 | 77.1 |
| 6-10 | 29 | 22.1 |
| >10 | 1 | 0.8 |
| **Length of time in commercial sex work (years)** | | |
| <5 | 93 | 71.0 |
| 5-9 | 35 | 26.7 |
| >10 | 3 | 1.5 |
| No response | 1 | 0.8 |
| **Number of children** | | |
| 0 | 44 | 33.6 |
| 1-3 | 81 | 61.8 |
| ≥4 | 5 | 3.8 |
| No response | 1 | 0.8 |
| **Ever heard of STIs** | | |
| Yes | 129 | 98.5 |
| No | 2 | 1.5 |
| **STI information source (n=129)** | | |
| Public talks/Seminars | 34 | 26.4 |
| Hospital/Health workers | 92 | 69.8 |
| Friends/Relations | 3 | 2.3 |
| Others | 2 | 1.5 |
| **Respondents Category** | | |
| Seaters | 87 | 66.5 |
| Roamers | 16 | 12.2 |
| Both | 26 | 19.8 |
| No Response | 2 | 1.5 |

**Other religions include atheist and pagans*

Table 2 shows the knowledge of the mode of transmission and common complaints of STIs. All respondents knew that STIs were transmitted via unprotected sexual intercourse however only 11(8.4%) and 9(6.9%) respondents were aware that STIs can be transmitted from mother to child and through needles and syringes, respectively.

Table 2: Knowledge of mode of transmission and common complaints of STIs among respondents.

| Variable | Yes n (%) | No n (%) | Unsure n (%) |
|---|---|---|---|
| **Mode of transmission** | | | |
| Needles & syringes | 9(6.9) | 116(88.5) | 6(4.6) |
| Blood & blood products | 15(11.5) | 108(82.4) | 8(6.1) |
| Sharing of utensils | 2(1.5) | 129(98.5) | 0(0.0) |
| Unprotected sex | 131(100.0) | 0(0.0) | 0(0.0) |
| Mother to child | 11(8.4) | 61(46.6) | 59(45.0) |
| Sharing of toilets | 85(64.9) | 44(33.6) | 2(1.5) |
| Exposure to cough or sneeze | 1(0.8) | 130(99.2) | 0(0.0) |
| **Common complaints of STI** | | | |
| Lower abdominal pain | 5(3.8) | 29(22.1) | 100(74.1) |
| Swelling around the genitals | 20(15.4) | 106(80.8) | 5(3.8) |
| Body rash | 15(11.5) | 105(80.2) | 11(8.3) |
| Ulcers around the genitals | 7(5.3) | 103(78.6) | 21(16.1) |
| Discharge | 1(0.8) | 9(6.9) | 121(92.4) |
| Burning pain while micturating | 6(4.6) | 19(14.5) | 106(80.9) |
| Weight loss | 6(4.6) | 117(89.3) | 8(6.1) |

Table 3: Health seeking behaviour among respondents.

| Variable | Frequency (n) | Percentage (%) |
|---|---|---|
| **Health seeking behaviour** | | |
| Good | 43 | 32.8 |
| Bad | 88 | 67.2 |
| **First line choice of health care** | | |
| Herbalist | 30 | 22.9 |
| Hospital or clinic | 43 | 32.8 |
| Self-medication | 51 | 38.9 |
| Over the counter medication | 7 | 5.3 |
| Consult a friend | 0 | 0.0 |
| **Decision on choice of healthcare** | | |
| Friends | 1 | 0.8 |
| Head of brothel | 0 | 0.0 |
| Individual choice | 129 | 98.4 |
| No response | 1 | 0.8 |

Table 4: Reasons for respondent choice of health seeking behaviour.

| Variable | Health seeking behaviour | | | |
|---|---|---|---|---|
| | Consult a friend n (%) | Hospital or clinic n (%) | Self-medication n (%) | Herbalist n (%) |
| Accessibility | 0 (0.0) | 40 (30.5) | 58 (44.3) | 30 (22.9) |
| Affordability | 1 (0.8) | 38 (29.0) | 58 (44.3) | 30 (22.9) |
| Availability | 0 (0.0) | 41 (31.3) | 58 (44.3) | 30 (22.9) |
| Efficacy | 0 (0.0) | 48 (36.6) | 44 (33.6) | 31 (23.7) |
| Time | 1 (0.8) | 37 (28.2) | 58 (44.3) | 31 (23.7) |

All respondents sort for some form of care in the event of an illness, however only 32.8% had good health care seeking behaviour by seeking care at a government hospital/private clinic. Most respondents (38.9%) resort to self-medication as the first line of action when ill. Nearly all the respondents (98.5%) personally took the decision on where to seek health care when ill (Table 3).

Table 5: Associations between respondents' socio-demographic and selected characteristics with health seeking behaviour among the study respondents.

| Variable | Health Seeking Behaviour Good N (%) | Poor N (%) | Total N (%) | Chi square | p-value |
|---|---|---|---|---|---|
| **Age (years)** | | | | | |
| 18-25 | 28 (80.0) | 7 (20.0) | 35 (100) | 49.75 | <0.001 |
| 26-35 | 12 (20.3) | 47 (79.7) | 59 (100) | | |
| 36+ | 3 (8.1) | 34 (91.4) | 37 (100) | | |
| **Educational level** | | | | | |
| Less than junior secondary | 24 (40.7) | 35(59.3) | 59 (100) | 18.88 | <0.001 |
| Junior secondary | 2 (5.1) | 37 (94.9) | 39 (100) | | |
| Secondary/technical/vocational | 15 (48.4) | 16 (51.6) | 31 (100) | | |
| **Occupation** | | | | | |
| Sex worker and trader | 37 (54.4) | 31 (45.6) | 68 (100) | 29.88 | <0.001 |
| Sex worker | 6 (9.5) | 57 (90.5) | 63 (100) | | |
| **Religion** | | | | | |
| Christianity | 14 (14.6) | 82 (85.4) | 96 (100) | 54.22 | <0.001 |
| Others | 29 (82.9) | 35 (17.1) | 35 (100) | | |
| **Marital status** | | | | | |
| Single | 37 (44.6) | 46 (55.4) | 83 (100) | 14.19 | <0.001 |
| Others | 6 (12.5) | 42 (87.5) | 48 (100) | | |
| **Respondents' category** | | | | | |
| Seaters | 36 (41.4) | 51 (58.6) | 87 (100) | 9.70 | 0.008 |
| Roamers | 3 (18.8) | 13 (81.2) | 16 (100) | | |
| Both | 3 (11.5) | 23 (88.5) | 26 (100) | | |
| **Length of time in community (years)** | | | | | |
| <=5 | 41 (40.6) | 60 (59.4) | 101 (100) | 12.07 | 0.001 |
| >5 | 2 (6.7) | 28 (93.3) | 30 (100) | | |
| **Respondents with children** | | | | | |
| Yes | 13 (15.1) | 73 (84.9) | 86 (100) | 37.03 | <0.001 |
| No | 30 (68.2) | 14 (31.8) | 44 (100) | | |
| **Ever heard of STIs** | | | | | |
| Yes | 41 (31.8) | 88 (68.2) | 129 (100) | - | - |
| No | 2 (100) | 0 | 2 (100) | | |

Table 6: Logistic regression output of respondents' health seeking behaviour on selected variables.

| Variable | OR | 95% CI | p-value |
|---|---|---|---|
| **Age (years)** | | | |
| 18-25 | 5.373 | 0.207-139.762 | 0.312 |
| 26-35 | 4.157 | 0.316-54.691 | 0.279 |
| 36+ (Ref) | | | |
| **Educational level** | | | |
| None/preschool/primary | 0.062 | 0.004-0.992 | 0.049 |
| Junior secondary | 0.087 | 0.009-0.822 | 0.033 |
| Secondary/technical/vocational (Ref) | | | |
| **Occupation** | | | |
| Sex worker and trader | 37.250 | 6.006-231.039 | <0.001 |
| Sex worker (Ref) | | | |
| ***Religion** | | | |
| Christianity | 0.026 | 0.003-0.268 | 0.002 |
| Others (Ref) | | | |
| **Marital status** | | | |
| Single | 1.594 | 0.240-10.601 | 0.630 |
| Others (Ref) | | | |
| **Respondents' category** | | | |
| Seaters | 1.004 | 0.095-10.601 | 0.998 |
| Roamers | 1.051 | 0.073-15.080 | 0.971 |
| Both (Ref) | | | |
| ****Length of time in community (years)** | 4.680 | 0.146 | 149.953 |
| ≤5 | | | |
| >5 (Ref) | | | |
| **Do you have children?** | | | |
| Yes | 0.277 | 0.039-1.966 | 0.277 |
| No (Ref) | | | |

*Sex workers are highly mobile and will move from one area to another during their trade because they lose customers when stationary in a place. This affects their length of time in a community. **The predominance of Christians in the community may influence the report of this study. It will not reflect what happens elsewhere in the country.

Table 4 show the reasons for respondents' choice of health seeking behaviour. Fifty-eight respondents (44.3%) practices self-medication due to its accessibility, affordability, availability and time. The medications were obtained from private pharmaceutic stores or drug vendors.

The statistically significant association with good health seeking behaviours were being in the age group 18-25 years (p<0.001), single (p<0.001), non-Christian religion (p<0.001), having secondary level of education (p<0.01) and combining sex worker with trading (p<0.001). Additionally, other significant associations were being seaters (p=0.008) and those with work experience as a CSW of less than 5 years (p=0.001). (Table 5)

Variables significant on the chi square test were put into a multivariate logistic regression model. After adjusting for confounding factors, significant predictors of respondent's health seeking behaviour include educational level, occupation, and religion. Respondents with less than junior secondary education were 16 times less likely to have good health seeking behaviour compared to those with secondary/technical/vocational education (OR=0.062; 95%CI=0.004-0.992). Also, respondents with junior secondary education were 11 times less likely to have good health seeking behaviour compared to those with secondary/technical/vocational education (OR=0.087; 95%CI=0.009-0.822). Respondents who were both sex workers and traders were about 37 times more likely to have good health seeking behaviour compared to those who were only sex workers (OR=37.250; 95%CI=6.006-231.039). Christians were about 38 times less likely to have good health seeking behaviour compared to those who practiced other religions (OR=0.026; 95%CI=0.003-0.268). (Table 6).

## DISCUSSION

### Sociodemographic characteristics of respondents.

The sociodemographic characteristics of the respondents who participated in this study revealed that majority of the respondents were within the age range of 26-35 years with the mean age of 29 years. This is slightly higher than the mean age of 25.8 ±

3.74 years reported about a decade ago among similar population in Ibadan. [16] This may be that improved education and rehabilitation of FCSW into the society is causing more younger people to look for alternative jobs. Other researchers have documented a much lower age range of 17-22 years but with variations in where the studies were conducted, which might have been responsible for these differences. [17]

Finding from this study also established that only 0.8% of the study respondents did not have formal education while the rest of the respondents had formal education ranging from primary to tertiary education. This is dissimilar to findings from a study on the prevalence of STI among FCSW where about 36.7% of the respondents did not have any formal education.[18] The reason for the increased level of education found in this study could be ascribed to the value placed on education in this part of the country and the world. The policy of free primary education of the government and low employment status in this region could also be responsible for this finding.

The study also established that majority of the sex workers incorporated trading with their profession while others solely depended on the sex profession as their main source of income. The marital status of the sex workers suggested that respondents that are still single are more into the sex business compared to their counterparts that are married or divorced. However, another study reported a different observation where many of the sex workers in their study were either divorced or have been separated from their husband.[19] This may be related to the variation in the age of marriage across different cultures, coupled with the influence of religion and traditional practices.

**Knowledge of respondents on sexually transmitted infection (STI)**.

Knowledge of sexually transmitted infections is very essential in minimizing the prevalence, decreasing infection rates, promoting early diagnosis, and facilitating adherence to treatment.[20] The findings of this study suggest that many participants (98.5%) have heard about STIs, which seems to agree with a study in 2011 which noted that 90% of the study participants were aware of STIs [21] Over two-third of the study participants reported to have heard about sexually transmitted infections from the hospitals or from the health workers.

Knowledge of respondents regarding mode of transmission of sexually transmitted infections revealed that all the respondents knew that sexual intercourse is the main transmission pathway of STIs, which also favourably compares with a similar study reported by Amu et al. where some 92.9% of the respondents knew that sexual intercourse is the major cause of STIs. [22,23] Surprisingly, some 64.9% of the respondents indicated that STIs could be contracted through sharing of toilets with others. This shows that there still exists among the participants misconceptions about the mode of transmission and there is the need to further educate FCSWs. In our study, participants were able to identify the common complaints in people with STIs.

**Health conditions experienced and symptoms among respondents.**

The information from the study revealed that the common health conditions mostly reported by the respondents were malaria and candidiasis unlike previous studies which reported gonorrhoea and syphilis as the most common health conditions mostly encountered by respondents. [7,21] The reason for the difference observed in this study could be ascribed to the nature of the environment where this study was carried out. Malaria seems to be the most prevalent health condition in this area and most people will first ascribe any febrile illness to it, not necessarily that malaria is a sexually transmitted infection. The study also reported vagina discharge and painful urination as the most common symptoms experienced by the respondents which is similar to previous studies. [24]

**Health seeking behaviour among respondents.**

This study revealed that all respondents sort some form of care in the event of an illness, but only 32.8% had good health care seeking behaviour by seeking care at a hospital/clinic with almost all of the respondents indicating that they made a choice of the hospital they received treatment on their own. Some significant number of respondents prefers self-medication rather than attending or visiting a government approved health centre. A study on healthcare-seeking preferences of patients with sexually transmitted infection suggested that 36.8% of the female respondents had inappropriate health seeking behaviour unlike the 97.2% of inappropriate health seeking behaviour reported in this study. [25] The likely reason for the increased inappropriate health seeking behaviour could be as a result of respondents' preference for self-medication as a result of its accessibility, affordability and availability which in variably

reduces their dependence and reliance on government approved health centres.

**Association between respondents' health seeking behaviour and selected characteristics**.

The finding of this study revealed that sociodemographic characteristics such as age, educational level, occupation, religion and marital status were all found to be significantly associated with the respondents' health seeking behaviour ($p < 0.05$). Similar study on care seeking behaviour and barriers to accessing services for sexually transmitted infections revealed that some sociodemographic characteristics such as age and educational status were not found statistically significant with health seeking behaviour of respondents.[26] Furthermore, this study also found a statistical significant association between health seeking behaviour of respondents and other variables such as respondents' category, length of time spent in community, length of time spent in work, and presence of children. This is similar to findings from another study which found a significant association between number of years spent in work and the health seeking behaviour of the study participants. [26]

Finding from the logistic regression model of the study revealed that respondents with less than junior secondary education were less likely to have good health seeking behaviour compared to those with senior secondary/technical/vocational education, on the other hand respondents with junior secondary education were also less likely to have good health seeking behaviour compared to those with senior secondary/technical/vocational education. This shows that level of education an individual attains has a great contribution in the health seeking behaviour of such an individual. This agrees with the submission that knowledge and attitudes are learned response sets and can therefore be modified or changed through education. [27]

Respondents who were both sex workers and traders are more likely to have good health seeking behaviour compared to those who were only sex workers. Christians were found to be less likely to have good health seeking behaviour compared to those who practiced other religions. The reason could be attributed to their religious belief in healing without medicine, which is often referred to as "spiritual healing".

**Limitations**

The study dealt with a highly stigmatized group that is not easily willing to share their experiences, though study participants were assured of anonymity throughout the study phases to gain informed consent before their participation. However, this might have affected their responses despite all our efforts.

## CONCLUSION

This study has identified that sex workers in Ibadan North LGA have good knowledge of STIs, however it also documented that the health seeking behaviour of FSWs is poor and most disapprove of public health care facilities and prefer other alternatives such as self-medicate from drug stores and drug peddlers for their health care. There is therefore the need to develop interventions that will help them in confidently accessing affordable health facility, when necessary, without prejudice.

*Conflict of Interest:* There is no conflict of interest.

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## REFERENCES

1. UNFPA, UN & WHO. Sexual and reproductive health of young people in Asia and the Pacific. 2015.
2. Van Gerwen OT, Muzny CA, Marrazzo JM. Sexually transmitted infections and female reproductive health. *Nature Microbiology*. 2022;7(8):1116–1126.
3. Newman L, Rowley J, Hoorn S et al. Global Estimates of the Prevalence and Incidence of Four Curable Sexually Transmitted Infections in 2012 Based on Systematic Review and Global Reporting. *PLoS ONE*. 2015; 10(12): 1- 17.
4. Nwadike VU, Olusanya O, Anaedobe GC, Kalu I, Ojide KC. Patterns of sexually transmitted infections in patients presenting in special treatment clinic in Ibadan south western Nigeria. *Pan African Medical Journal* 2015; 21: 1-5.
5. Oharume IM. Knowledge, sexual behaviours and risk perception of sexually transmitted infections among students of the polytechnic, Ibadan, Oyo State. *Afr Health Sci* 220; 20: 39–44.
6. Hayes R, Watson-Jones D, Celum C, Van De Wijgert J, Wasserheit J. Treatment of sexually transmitted infections for HIV prevention: End of the road or new beginning? *AIDS* 2010; 24(4): 1-19.
7. Oluwole EO, Oyekanmi OD, Ogunyemi DO, Osanyin GE. Knowledge, attitude and preventive practices of sexually transmitted infections among unmarried youths in an urban community in Lagos State, Nigeria. *Afr J Prim Health Care Fam Med* 2020; 12:1–7.

8. Sekoni AO, Odukoya OO, Onajole AT, Odeyemi KA. Sexually transmitted infections: Prevalence, knowledge and treatment practices among female sex workers in a cosmopolitan City in Nigeria. *Afr J Reprod Health* 2013; 17:94–102.
9. Morhason-Bello IO, Fagbamigbe AF. Association between Knowledge of Sexually Transmitted Infections and Sources of the Previous Point of Care among Nigerians: Findings from Three National HIV and AIDS Reproductive Health Surveys. *Int J Reprod Med. 2020;* 6481479: 1–11.
10. Shannon CL, Klausner JD. The growing epidemic of sexually transmitted infections in adolescents: A neglected population. *Current Opinion in Pediatrics* 2018; 30:137–143.
11. Gogineni V, Waselewski M, Jamison C et al. The future of STI screening and treatment for youth: a National Survey of youth perspectives and intentions. *BMC Public Health* 2021; 21:1-8.
12. Adeyemi EO. Gender inequities in sexually transmitted infections: Implications for HIV infection and control in Lagos State, Nigeria. *Infect Dis Rep* 2011; 3:30–36.
13. Garcia PJ, Miranda A, Gupta S. The role of sexually transmitted infections (STI) prevention and control programs in reducing gender, sexual and STI-related stigma. E Clinical Medicine 2021; 33: 1-2.
14. Fourchard L. The case of Ibadan, Nigeria. www.ucl.ac.uk/dpu-projects/Global_Report/pdfs/Ibadan.pdf 2003. Accessed on April 28, 2023.
15. Oyo State Government. Ibadan. https://oyostate.gov.ng/ Accessed on March 31, 2023.
16. Fayemiwo SA, Odaibo G, Oni A et al. Genital ulcer diseases among HIV-infected female commercial sex workers in Ibadan, Nigeria. *Afr J Med Med Sci*. 2011;40: 39–46.
17. Ajayi BB, Ajayi O, Hamidu I et al. Seroprevalence of some sexually transmitted infections among antenatal attendees in university of Maiduguri teaching hospital, Maiduguri-Nigeria. *Ann Biol Res* 2013; 4: 141–145.
18. Vuylsteke B, Semde G, Sika L et al. HIV and STI prevalence among female sex workers in côte d'ivoire: Why targeted prevention programs should be continued and strengthened. *PLoS One* 2012;7(3): 1-8.
19. Ahsan Ullah AKM, Ahsan Ullah, B. Prostitution in Bangladesh: An Empirical Profile of Sex Workers. *Journal of International Women's Studies* 2005; 7: 11-122.
20. Taylor MM, Frasure-Williams J, Burnett P, Park IU. Interventions to improve sexually transmitted disease screening in clinic-based settings. *J Sex Transm Dis* 2016; 43: S28–S41.
21. Samkange-Zeeb FN, Spallek L, Zeeb H. Awareness and knowledge of sexually transmitted diseases (STDs) among school-going adolescents in Europe: A systematic review of published literature. *BMC Public Health* 2011; 11: 1-12.
22. Amu EO, Adegun PT. Awareness and Knowledge of Sexually Transmitted Infections among Secondary School Adolescents in Ado Ekiti, South Western Nigeria. *J Sex Transm Dis* 2015, 1–7.
23. Folasayo AT, Oluwasegun A, Samsudin S et al. Assessing the knowledge level, attitudes, risky behaviors and preventive practices on sexually transmitted diseases among university students as future healthcare providers in the central zone of Malaysia: A cross-sectional study. *Int J Environ Res Public Health* 2017; 14: 1-14.
24. Unemo M, Bradshaw C, Hocking J et al. Sexually transmitted infections: challenges ahead. *The Lancet* 2017;17: 235–279.
25. Jayapalan, S. Healthcare-seeking preferences of patients with sexually transmitted infection attending a tertiary care center in South Kerala. *Indian J Sex Transm Dis* 2016; 37: 157–161.
26. Phrasisombath K, Thomsen S, Sychareun V, Faxelid E. Care seeking behaviour and barriers to accessing services for sexually transmitted infections among female sex workers in Laos: A cross-sectional study. *BMC Health Serv Res* 2012;12: 1-9.
27. Sakha MA, Kazerooni P, Lari M et al. Effect of an educational intervention on knowledge, attitudes and preventive behaviours related to HIV and sexually transmitted infections in female sex workers in southern Iran: a quasi-experimental study. *Int J STD AIDS* 2013;24: 727–735.