



Sexually Transmitted Infections: An Observational Study on the Knowledge, Prevalence and Treatment Practices among Sex Workers in North-Central Nigeria

Rimamnunra Grace Nwunuji^{1*}, Utoo Priscilla Mwuese¹, Terkaa Terrumun Bitto¹, Okwori Adija Joyce², Augustine David Aondoakaa³, Osarieme Enahoro Omokhua⁴, Daniel Aondona David⁵, Okwori Peter Onoja⁶, Adajime Paul Terlumun¹, Nndunno Asheku Akwaras⁵, Laadi SwendeTerrumun²

1. Department of Epidemiology and Community Medicine, College of Health sciences, Benue State University, Makurdi, Benue State, Nigeria

2. Department of Obstetrics and Gynecology, Benue State University Teaching Hospital, Makurdi, Benue State, Nigeria

3. Department of Microbiology, Joseph Saarwuan Tarkaa University Makurdi, Benue State Nigeria.

4. Department of Family Medicine, Benue State University Teaching Hospital, Makurdi, Benue State, Nigeria

5. Department of Family Medicine, Federal Medical Center, Makurdi, Benue State, Nigeria

6. Department of Ophthalmology, College of Health sciences, Benue State University, Makurdi, Benue State, Nigeria

*For correspondence: Email: riyinrimam@gmail.com; Tel: 07030680151.

Department of Epidemiology and Community Medicine, College of health Sciences, Benue State University

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ABSTRACT

Sexually transmitted Infections (STIs) have been globally estimated to occur in over 40 million people and it constitutes a huge economic burden in developing countries. Exposure to STIs are occupational hazards for Sex workers therefore targeted interventions for this population can reduce the incidence and Prevalence.

Aim

This study aims at assessing STIs: Prevalence, knowledge and treatment practices among Sex workers in North-central Nigeria

Methods

This descriptive cross-sectional study (total population study) sought to assess the prevalence, knowledge and treatment practices of STIs among brothel male and female sex workers. Twenty-two consenting Male (8) and female (14) sex workers were surveyed using interviewer administered questionnaires.

Results

More than half of the respondents (72.7%) had knowledge of STIs whereas 27.3% were unaware. The self-reported prevalence of symptomatic sexually transmitted infections was 81.7%. About 13.6% of them sought treatment from a patent medicine vendor or health center while 31.8% used salt and water to treat STIs, 27.3% of them resorted

to herbal medication and 27.3% of them did nothing about their STI symptoms. Risky sexual practices mentioned by the respondents include, having more than one sex partner per time (40.9%), same sex practices (4.5%), anal sex (9.1%) and 86.4% were engaged in substance abuse. However, most respondents (81.9%) admitted to using condom to prevent STIs. A large percentage of the respondents (72.7%) wish to stop selling sex if they can be empowered or employed.

Conclusion

A significant number are still unaware of STIs therefore efforts to improve knowledge, encourage preventive as well as effective treatment practices must be made available alongside skill acquisition and empowerment for this group.

Keywords; Knowledge, North-central, Prevalence, Sexually Transmitted infection, Sex workers,

I. INTRODUCTION

Globally, over a million people acquire sexually transmitted infection (STI) daily and annually, there is an estimated 357 million new infections with one of the four STIs globally: chlamydia (131 million), gonorrhoea (78 million), syphilis (5.6 million) or trichomoniasis (143 million)¹. In Asia, the prevalence of STIs tends to be higher in urban areas as well as among unmarried



individuals and young adults, including female sex workers (FSWs) ². The high prevalence of HIV in Africa is linked to a high percentage of STIs that are untreated or inadequately treated ^{3,4}. Africa currently accounts for 20–35% of the global burden of curable and non-curable STIs ⁴. 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 Nigeria⁵. According to the Nigerian National HIV/AIDS and Reproductive Health Survey of 2007, most Nigerians are aware of STIs, but women possessed lower level of knowledge. In addition, more females reported symptoms compared to males⁶.

Also, the deteriorating economic situation in Nigeria has led to increased unemployment and poverty. These are factors that are known to promote sex work⁷. Sex work continues to drive existing STI epidemics while helping to seed new ones⁸. Previous studies reported a range of prevalence of curative STIs among the low-risk population to be 0%–18% ^{9,10} and 23% among sex workers ^{11,12}. The average national seroprevalence of HIV infection in among general population aged 15–49 years in Nigeria is 1.4%, with a higher prevalence among high-risk populations (sex workers, men who have sex with men, and drug users) ^{13,14}. The 2007 survey also revealed that brothel based female sex workers in Lagos had lower levels of knowledge compared to their peers in Cross rivers, Edo, FCT, Kano and Anambra states. Condom use at the last sexual intercourse with boyfriends and regular sex partners was much lower than condom use with clients and casual sex partners across the states¹⁵. Nevertheless, public health intervention such as regular health education on STIs is necessary because these sex workers are groups of people who have sexual relations with many partners and do not regularly use condoms ^{16,17}.

We, therefore, undertook this study to determine Prevalence, knowledge and treatment practices among Male and Female sex workers in North-central Nigeria to enhance safe sexual practices among them.

II. MATERIALS AND METHODS

Benue State, which is located in the North Central region of Nigeria, has a total population of 4,253,641 in 2006 census, with an average population density of 99 persons per km². This makes Benue the 9th most populous state in Nigeria. This study was conducted in Makurdi which doubles as the capital of the state and the headquarters of Makurdi LGA, while Gboko, Otukpo and Oju double as the local government and ethnic

headquarters (i.e for Tiv, Idoma, and Igede tribe) with the most common occupation as farming and civil service¹⁸.

The Local Government Area (Makurdi) where this study was conducted, is an urban community which has a population of about 1,454,000 was purposively selected for the study. This was because of the close proximity to the motor park, market, toll gate and an army cantonment which results in a high number of migrant populations, traders, long distance drivers, male and female sex workers. This descriptive cross-sectional study (total population study) sought to assess the prevalence, knowledge and treatment practices of STIs among brothel Male and female sex workers. The study population consisted of brothel based male and female sex workers in the selected area. Community mapping was conducted and the brothels in the area (10 in number) with resident male and female sex workers were identified. Consent was sought from the manager and the chairlady (Sex workers representative). The brothels agreed to participate in the survey however, only those who gave individual consent and those available were used. The total population sample of all the male and female sex workers available in the brothels (22 in number) was used for the survey. Attempts were made to reach all the sex workers in the brothels however, only the willing male and female sex workers above the age of 18 years participated in the study. Data was collected using a structured interviewer administered questionnaire. The names of the respondents or other identifying information were not included in the questionnaires. The knowledge section had 5 sexually transmitted infection symptoms for grading knowledge, namely lower abdominal pain, vaginal discharge, penile discharge, itching of the vagina, burning pain on urination and pain during sex. Questions were also asked on sexual practices, prevention and treatment of sexually transmitted infections. Three research assistants were trained and involved in data collection which took place on the 1st of December 2022.

ETHICAL CLEARANCE

The proposal was approved by the research and ethics committee of Benue State University Teaching Hospital, participation was voluntary and verbal informed consent was obtained from each of the respondents. Confidential data management was ensured, data obtained was entered and analyzed using SPSS version 25. Data analysis involved the use of frequency tables. All analysis was done at a



5% level of significance, while the p-value of significance was set at 0.05.

III. RESULTS

More female respondents (63.6%) participated in the study than the males (36.4%) and their ages ranged from 18 to 60 years although upto 40.9% were between the ages of 30-39 years and 68.2% were married (Table 1) More than half (72.7%) of the respondents had heard of STIs. Up to 43.0% could mention at least two ways by which human immunodeficiency virus (HIV) could be transmitted while a slightly higher number (46.1%) could mention at least two ways by which HIV transmission can be prevented. Only 36.5% knew that sexually transmitted infections can be prevented while 33.1% knew that STIs can be cured and 13.9% knew that STIs can be asymptomatic. All the respondents (100%) had experienced symptoms of STI before. (Table 2)

Regarding risky behaviors, less than half (40.9%) of the respondents had more than 2 sexual partners per time, 4.5% had same sex sexual partners, 9.1% engaged in anal sex, 86.4% engage in substance abuse and 72.7% are willing to discontinue the risky sexual behavior if empowered. (Table 3)

Table 1: The socio-demographic characteristics of the respondents

Variables	Frequency	Percentage (%)
Age		
<20 years	1	4.5
20-29 years	7	31.8
30-39 years	9	40.9
40-49 years	4	18.2
60 years and above	1	4.5
Total	22	100
Sex		
Male	8	36.4
Female	14	63.6
Total	22	100
Marital status		
Married	15	68.2
Single	4	18.2
Divorce	2	9.1
Widow/widower	1	4.5
Total	22	100
Religion		
Christian	16	72.7
Islam	4	18.2
Traditional	1	4.5
Others	1	4.5
Total	22	100



Educational qualification		
Post-graduate	1	4.5
Tertiary education	1	4.5
NCE	2	9.1
Secondary education	11	50.0
Primary education	41	8.2
No formal education	31	3.6
Occupation		
Civil servant	2	9.1
Farmer	1	4.5
Business	13	59.1
House wife	1	4.5
Applicant	1	4.5
Night jobs	41	8.2
Total	22	100

Table 2: Knowledge of STI and the practice of prevention among respondents

Variables	Frequency	Percentage (%)
Heard about sexually transmitted infections		
Yes	16	72.7
No	6	27.3
Total	22	100.0
Symptoms of STI experienced		
Discharge from the private part	7	31.8
Itching around the private part	5	22.7
Pain during urination	5	22.8
Pain during sex	1	4.5
None	4	18.2
Total	22	100.0
Preventive measures for STIs		
Condom use	18	81.9
Washing the private part immediately after sex	4	18.1
Total	22	100.0
Treatment of STIs		
Native medication	6	27.3
Salt and warm water	7	31.8
Drugs from the chemist	3	13.6
Do nothing about it	6	27.3
Total	22	100.0

Table 3; Risky sexual behavioral practices among respondents

Variables	Frequency	Percentage
Number of Sexual partners		
1	6	27.3
2	7	31.8
More than 2	9	40.9
Total	22	100.0
Sex with the same gender as yourself or the opposite gender		
The same gender	1	4.5
Opposite gender	21	95.5



Total	22	100.0
Engage in Anal sex		
Yes	2	9.1
No	20	90.9
Total	22	100.0
Reasons for risky sexualbehavior		
I get paid	11	50.0
I have no choice	4	18.2
others *	7	31.8
Total	22	100.0
Leisure/relaxation activity		
Alcoholic drinks	7	31.8
Tramadol	3	13.6
Cigarette	3	13.6
Others**	6	27.3
None	3	13.6
Total	22	100.0
Desire to discontinue risky behaviors		
Yes	16	72.7
No	6	27.3
Total	22	100.0

Others*-pleasure, safer and more preferable

Others**- Native medicine (agbor), listening to music

IV.

a result of inability to meet personal and family financial demands and for those with no formal education might be engaging in sex work due to lack of qualifications for high earning jobs. These findings disagree with a study carried out in India which reported that about 70 per cent of the FSWs were illiterates, nearly 50 per cent were currently married, 41 per cent of the FSWs had sex work as the sole source of income and more than 95 per cent of the FSWs heard of HIV, but about 99 per cent believed that HIV/AIDS cannot be prevented.²¹

The high level of knowledge of STI could be attributed to social media and increasing awareness campaigns. Another research conducted in Niger Delta reported findings less than our research on knowledge of STI. The high prevalence of STIs and HIV in the Niger Delta region has been associated with multiple sexual partner relationships, inadequate public healthcare systems, and high illiteracy levels and this was attributed to the lack of knowledge of the symptoms of STIs seen among pre-intervention respondents in this study.²²

Our study found self-reported prevalence of STIs was 81.7% despite the condom use which was equally high (81.9%) among our respondents although condom usage was not qualified in terms of consistency and correctness which may have accounted for the high prevalence despite condom use. This report differs from that which was

V. DISCUSSION

This study was conducted among male and female sex workers in a brothel and the females (72.7%) were found to be more than the males (27.3%) which could have been as a result of the unequal distribution at this particular brothel and females tends to be more vulnerable in terms of needs. This is in line with a report from the Union of International Associations (UIA)stating a higher prevalence of more female sex workers than males were partly due to the discrepancy between women's and men's earning: women earn an average of 60% (and often less) of what men earn. Studies have also revealed a high incidence of child sexual abuse in the life histories of these female sex workers further predisposing them to sexual promiscuity due to early sexual debut¹⁹.Globally there are a total of 52 million sex workers globally out of which 41.6 million are female prostitutes, while 10.4 million are male prostitutes. This suggests that 80% of the prostitutes around the world are females with an average age of female sex workers being 14 which agrees with our current research.²⁰ This current research showed that most of the respondents (68.2%) are married, 13.6% have no formal education whereas 18.2% had sex as the sole source of income and more than half of the respondents (72.7%) had knowledge of STIs. The high number of married persons engaging in sex work could be as



recorded globally that Condom use in the previous week was universally low among sex workers, especially among sex workers from the brothels (14%) and the prevalence rates of other STDs (chlamydia, gonorrhea, serological test for syphilis positive, and/or trichomoniasis) in female sex workers were 48% in brothels.²³

In 2019, the Joint United Nations Program on HIV/AIDS estimated a mean HIV prevalence of 36% among sex workers. The average reported prevalence of active syphilis among sex workers is 10.8% (range 5.8% to 30.3%) (WHO, GHO, 2020) of which is less than the findings in our study population.²⁴

On STI prevention practices, less than half (13.6%) of our respondents sought treatment from a Patent medicine vendor whereas 27.3% did nothing about their STI symptoms while over 50% of the respondents resorted to herbal medication, salt and water therapy among other measures which is probably due to lack of finances to access proper hospital care, ignorance and fear of stigmatization. This differs from the findings in research conducted in Thailand involving three hundred and twenty-three consenting female sex workers were surveyed using pre tested, interviewer administered questionnaires. The self-reported prevalence of symptomatic sexually transmitted infections was 36.5%. About half of those with sexually transmitted infections sought treatment in a hospital or health center while 32.5% from a patent medicine vendor.²⁵

About the risky behavioral practices, this study found that almost half (40.9%) of our respondents had more than one sexual partner, 9.1% engaged in anal sex, 4.5% had same sex partners and 86.4% engaged in drug abuse (tramadol, alcohol, cigarette and other substances). The involvement in these risky behaviors could be due to lack of knowledge on the complications that arise from this and sometimes caused by influence of these practices termed as “normal” at the brothels. Literature has shown a strong relationship between sex work and drug use in other countries, such as the United States of America²⁶⁻²⁸. Another study identified vulnerability and involving in sex work among 125 drug-using women. It has also been reported that most sex workers started sex to provide money for drugs. In addition, 44.6% of subjects were opiate users, and 55.4% were users of opiates and methamphetamine which agrees with our research findings.²⁹The practice of multiple sexual partners poses a lot of risk and serve as both a constant source of re-infection for sex workers and

as a transmission bridge to the general population³⁰⁻³¹

We discovered that 72.7% of our respondents were willing to give up sex work if they had better source of income and this was in agreement with the research that confirmed that the advent of many economic strengthening programs for FSWs are premised on observations that economic vulnerability and food insecurity can lead to riskier sexual transactions, including condomless and anal sex³²

VI. CONCLUSION

More than half of the respondents had knowledge of STIs with self-reported prevalence of symptomatic sexually transmitted infections was 81.7%. However, most respondents (81.9%) admitted to using condom to prevent STIs. Some of the respondents are engaged in risky behaviors such as substance abuse and multiple sexual partners. Almost all respondents (72.7%) wish to stop selling sex if they can be empowered or employed.

VII. RECOMMENDATION

It is important that the sex workers be empowered by knowledge (by Health workers) and vocational training (by Government and non-governmental organization) to enable them step into another line of business and reduce their risk of STI as shown by this study that 72.7% of the respondents are willing to try some other line of work

CONTRIBUTION OF AUTHORS

Rimamnunra G N: Conceptualization of the study, data collection, analysis, writing the manuscript.
Prof Mwuese Utoo, Terkaa Terrumun Bitto, Okwori Joyce, Aondoakaa David, Osarieme Enahoro Omokhua, Okwori Peter Onoja, Adajime Paul Terlumun, Nndunno Asheku Akwaras, Laadi Swende Terrumun : Conceptualization of the study, writing and approval of the final version for publication.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest in the study.

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