

Original Research Article

SEXUAL PRACTICES OF FEMALE SEX WORKERS IN IBADAN, NIGERIA

ABSTRACT

Female Sex Workers (FSWs) are highly at risk to sexually transmitted infection considering the factors associated with the nature of their work (multiple sex partners, violence, and drug use). Some of the contributing factors to HIV problem in Oyo state include promiscuity and multiple sexual partners which is related to sex worker's working condition. This study assessed sexual practices of female sex workers in Ibadan, Nigeria.

A three-stage sampling method was used, where two Local Government Areas (L.G.A) (Ibadan-North and Ibadan North-West LGAs) were purposively selected because of the heavy presence of sex workers in these LGAs in stage one. In stage two the brothels in the two LGAs were stratified into four clusters namely Kara at Bodija, Ekotedo, Queen Cinema and Mokola clusters and in stage three all consenting respondents in all the clusters were recruited and interviewed. A total of 205 female sex workers were recruited and interviewed from the four clusters. Data were collected using an interviewer-administered semi-structured questionnaire to document respondents' sexual practices. Data were analysed using descriptive statistics and Chi-square test.

The mean age was 27.0 ± 4.52 years. A majority (44.4%) of the respondents had secondary school certificate, (70.7%) were Christians while (5.9%) were currently married. Few (1.5%) of the respondents had never used condom, (37.6%) of respondents had sometimes used condom and 42.0% reported using condom most of the time. Many (47.3%) of the respondents sometimes drink alcoholic beverages prior to or during sexual intercourse, 6.3% use cocaine or another drug prior to or during intercourse most of the times and only 15.6% always avoid sexual intercourse when they have sores or irritation in their genitals.

Consistency in condom use should be encouraged among female sex workers and interventions targeted at reducing alcohol intake should be planned and implemented.

Key words: Female sex workers, HIV-AIDS, Sexual practice, Brothel-based

INTRODUCTION

31 The high prevalence of HIV among female sex workers (FSWs) is one of the major factors in
32 the spread of the disease epidemic (UNAIDS, 2008). Female sex workers are highly at risk to
33 sexually transmitted infection considering the factors associated with the nature of their work
34 (multiple sex partner, violence, drug use) (Spice, 2007). A female sex worker in Lagos was
35 among the first set of individuals diagnosed with HIV/AIDS in Nigeria and 24.5% of FSWs
36 in Nigeria are living with HIV (Abdulsalam and Tekena, 2006; NACA, 2015).

37 The level of exposure of a female sex worker to HIV/AIDS is determined by her sexual
38 practice, thus a female sex worker who practices safe sex has a lower level of risk compared
39 to one who practices unsafe sex. Safe sex is described as sexual contact that doesn't involve
40 the exchange of fluids (semen, vagina fluid, blood) between partners which is properly
41 achieved majorly by the consistent use of a condom (Better Health Channel, 2014).
42 According to the Centre for Disease Control (CDC) (2016), the use of condoms consistently
43 and correctly is a safe sexual practice, which is very effective and efficient at preventing
44 STI's including HIV.

45 Studies have shown that women who practice unsafe sexual behaviours do so because of
46 several factors. Bukenya et al (2013) reported in their study in Kampala that 40.0% of
47 participants were not consistently using condoms with paying clients. Irene and Aikhole
48 (2016) however, reported that some of the contributing factors to HIV prevalence in Oyo
49 state includes promiscuity and multiple sexual partners which is related to sex workers
50 working condition. Furthermore, it was also reported that it is a social norm for some female
51 sex workers not to use condom with their boyfriends who in most cases are their regular sex
52 partners. However, unprotected sex could happen with paying clients due to the influence of
53 drugs, alcohol, and being offered large sums of money (Onyango et al., 2012; Adelekan et al.,
54 2014; Ankomah et al., 2011; Umar et al., 2002).

55 Ankomah et al (2011) stated that customers of sex workers are always the king when it comes
56 to negotiating condom use because they determine the amount of money given to the sex
57 workers. Likewise, in a study among Brothel-based Female Sex Workers in Osogbo,
58 Southwest-Nigeria, Adelekan et al (2014) reported that even though some FSWs had never
59 tested positive for HIV and few had ever been treated for STI more than once. However, they
60 acknowledged having multiple sexual partners and were willing to have male clients who do
61 not wear a condom in exchange for more money.

62 Meanwhile, HIV prevalence among the general population in Nigeria has been declining
63 from its peak of 5.8% in 2001 to 4.1% in 2011 (FMoH, 2010). However, the prevalence
64 among brothel-based sex workers has shown no sign of **decline** (Ankomah et al., 2011).
65 Furthermore, Okafor et al (2017) reported that the prevalence of HIV amongst Brothel-based
66 female sex workers in Nigeria was significantly higher than its prevalence among Non
67 **Brothel-based** Female Sex Workers (21.0% vs. 15.5%). Also, in an attempt to understand the
68 sexual practices of sex workers in Ibadan, a study among commercial sex workers in 21
69 brothels in Ibadan municipal was conducted about a decade ago and revealed that relatively,
70 respondents always insisted on condom use before sex with their clients but a few of them
71 (1.4%) often do not, and of those who asked clients to use condoms, 69.5% of them would
72 refuse sex without condoms, 16.6% would do nothing and have sex without condoms while
73 4.4% would charge extra money (Umar et al., 2002). Hence, this study is therefore designed
74 to determine the current sexual practices of **brothel-based** FSWs in Ibadan, Nigeria.

75 **METHODOLOGY**

76 **Study Design and Scope**

77 This is a descriptive cross-sectional study. The scope of the study was delimited to sexual
78 practices of **brothel-based** female sex workers in Ibadan, Nigeria.

79 **Study Area**

80 The study area for this project was Ibadan, Nigeria. The population of Ibadan as at 2007 was
81 estimated to be 3,847,472. Ibadan municipality is divided into 11 Local Government Areas
82 (LGAs). The inner core areas form the old part of the city, inhabited, for the most part, by
83 people with a low level of education. These areas are highly congested and overcrowded,
84 have few and poor roads, limited amenities, and many public health problems. The suburban
85 periphery is described as the elite area, containing modern low-density residential estates,
86 occupied by professionals and other high-income groups (Arulogun et al., 2012).

87 **Study Population**

88 The study population are brothel-based FSWs in Ibadan metropolis, Nigeria.

89 **Sample size Determination**

90 The sample size was calculated using the formula

$$91 n = z^2 pq / d^2 \quad (\text{Lwanga and Lemeshow, 1991})$$

92 n = sample size

93 z = the standard normal deviation which corresponds to the 95% confidence level (1.96)
94 p = estimate of key proportion (92.9% or 0.929). Percentage of sex workers reporting the use
95 of a condom with their most recent client (Nigeria 2014 GARPR Report, 2014)

96 q = $1-p$ ($1-0.929= 0.071$)

97 d = degree of accuracy desired (0.05)

98 $n = \frac{1.96^2 \times 0.929 \times 0.071}{0.05^2}$

99 0.05^2

100 = 101.355

101 The sample size was increased to 250 for generalization of findings.

102 $n = 250$

103 **Sampling Procedure**

104 A total of 250 sex workers were recruited for this study through a three-stage sampling
105 technique.

106 Stage 1: Two LGAs were purposively selected because of heavy presence of sex workers in
107 these LGAs. The selected LGAs are Ibadan-North and Ibadan North-West.

108 Stage 2: The brothels in the two LGAs were stratified into four clusters namely Kara at
109 Bodija, Ekotedo, Queen Cinema and Mokola clusters.

110 Stage 3. All consenting respondents in all the clusters were interviewed.

111 **Method for data collection**

112 A quantitative method of data collection was adopted for this study.

113 **The Questionnaire**

114 An interviewer-administered questionnaire was used to obtain the necessary information from
115 the respondents. The questionnaire was developed by the researchers based on literature
116 reviewed together with input from health promotion specialists in the Faculty of Public
117 Health, University of Ibadan. The questionnaire was used to collect information on the socio-
118 demographic data of the respondents and sexual practice and was administered by the
119 research assistants.

120 **Pretest of Instrument**

121 The questionnaire was pre-tested to enable the researchers to make final adjustments and to
122 find out how reliable and consistent the questions were. The Cronbach's Alpha Model
123 technique was employed to measure the reliability of the instrument. This involves
124 administering the questionnaire once to 10% (25 questionnaires) of FSWs in Osogbo which

125 has similar characteristics with the study population and consequently the coefficient
126 reliability was calculated using SPSS computer software and correlation coefficient of 0.84
127 was gotten for the instrument.

128 **Data Collection Process**

129 Five (5) research assistants (Male=2 and Female=3) were recruited to assist the researchers in
130 collecting data for the study. Two of the research assistants have a master of public health
131 degree while the remaining three have a bachelor degree in health and health-related
132 disciplines. Training was conducted for the research assistants to ensure that they have
133 adequate understanding of the instruments' prior to commencement of data collection. The
134 training focused on the objectives and importance of the study, sampling process, how to
135 secure respondents informed consent, basic interviewing skills and how to review
136 questionnaires to ensure completeness. The research assistants went to all the brothels that
137 were used for this study together with the researchers. The research assistants were
138 responsible for collecting data for the study. The data were collected within the period of 17
139 days. Consent of all the respondents was obtained before the interview and the objectives of
140 the study were explained to them.

141 **Data Management, Analysis and Presentation**

142 The completed copies of the questionnaire were serially numbered for control and recall
143 purposes. Data collected was checked for completeness and accuracy on a daily basis. The
144 data collected was collated, screened, and entered into computer. The Statistical Package for
145 Social Science (SPSS) version 21 was used for the analysis of the data. Descriptive statistics
146 was used. Frequencies were generated and cross-tabulation of some variables.

147 **Ethical Consideration**

148 Informed consent was also obtained from the respondents by giving them informed consent
149 forms to fill according to their ability to read and write. The informed consent form spelt out
150 the title of the study, the purpose of the study, justification for doing the study as well as the
151 benefit that will be derived from the end of the study. Participation in the study was voluntary
152 and there was no criticism of respondents who refuse to participate or wish to withdraw from
153 the study. No identifier like respondents name or address was written on the questionnaire so
154 as to keep the information given by each respondent confidential.

155 **RESULTS**

156 **Socio-Demographic Characteristics**

157 A total of 205 respondents completed the questionnaire with a response rate of 82.0%. The
 158 mean age of the respondents was 27.0±4.5 years. Most (70.7%) of the respondents were
 159 Christians and 5.9% were currently married. Most (62.4%) of the respondents did not have a
 160 parent alive and 43.9% are living alone. Many (44.4%) of the respondents had a secondary
 161 school certificate and 33.7% did not have a good relationship with their parents. (Table 1)

162 **Table 1: Socio-Demographic Characteristics**

Demographics	Frequency n (%)
Religion	
Islam	52 (25.4)
Christianity	145 (70.7)
Others	8 (3.9)
Ethnicity	
Yoruba	81 (39.5)
Igbo	71 (34.6)
Hausa	23 (11.2)
Edo	19 (9.3)
Others	11 (5.4)
Ever been married	
Yes	67 (32.7)
No	138 (67.3)
Current Marital status	
Single	134 (65.4)
Married	12 (5.9)
Living with someone as if you are married	4 (2.0)
Separated	34 (16.6)
Divorced	13 (6.3)
Widowed	8 (3.9)

Living with	
Family	32 (15.6)
Alone	90 (43.9)
Friends	72 (35.1)
Partner	11 (5.4)
Level of education	
Illiterate	13 (6.3)
Primary Education	34 (16.6)
Secondary Education	91 (44.4)
OND/NCE	57 (27.8)
HND/First Degree	7 (3.4)
Post graduate	3 (1.5)

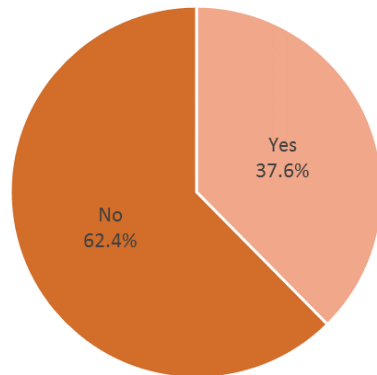
163

164 **Key:**


165 **OND – Ordinary National Diploma**

166 **NCE - Nigeria Certificate in Education**

167 **HND - Higher National Diploma**



168

Yes  **No** 

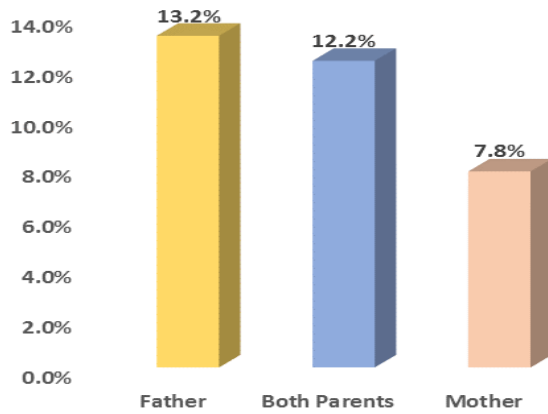
169

Fig 1: Respondents with deceased parents

170

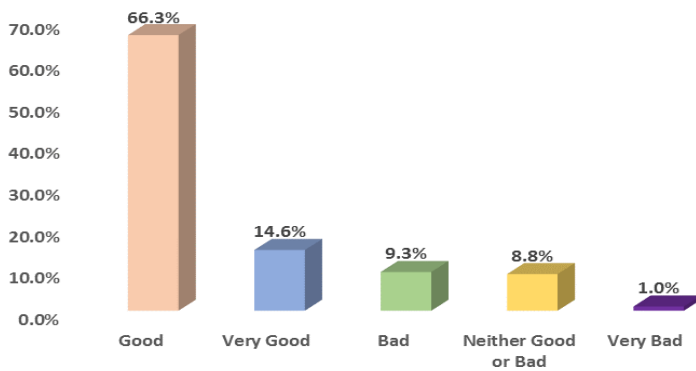
171

172



173

174 **Fig 2: Parents of respondents' not alive**



175

176 **Fig 3: Respondents' relationship with parents**

177

178 **Respondent's Sexual practice**

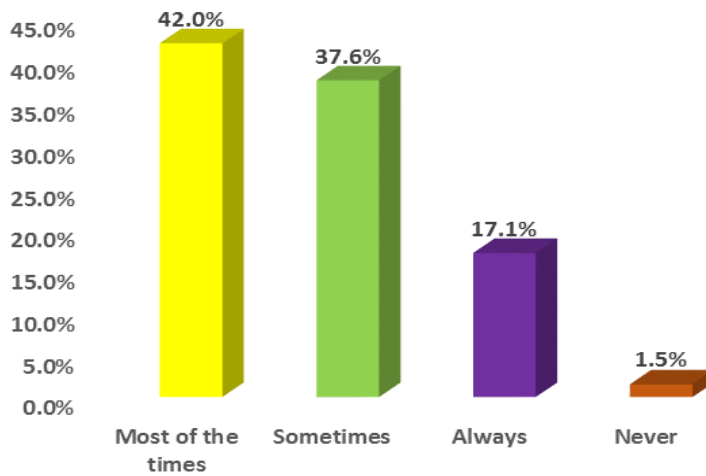
179 Almost all (99.0%) the respondents had ever used a condom. Most (78.5%) of the
180 respondents did not use condom at their first sexual experience. The reasons adduced
181 included not having a condom on hand (41.5%), could not get one (14.6%), and did not feel it
182 was necessary (9.8%). Most of the respondents reported using condom (69.8%) among other
183 means to prevent pregnancy during their last sexual intercourse. Also, the use of emergency
184 contraceptives was (17.1%) and interrupting sexual act (withdrawal) was (12.7%). In the last
185 one week, less than half (42.0%) reported using condom most of the time, sometimes
186 (37.6%), always (17.1%) and never (1.5%) (Fig 4). On the issue of HIV prevention, most
187 (85.9%) of the respondents reported using a condom to protect themselves (52.7%), while

188 some do regular clinical check-ups (31.2%), a few avoid certain types of men (29.3%) and
 189 fewer partners (7.3%). (Fig 5)

190 **Table 2: Respondent's sexual risk practices**

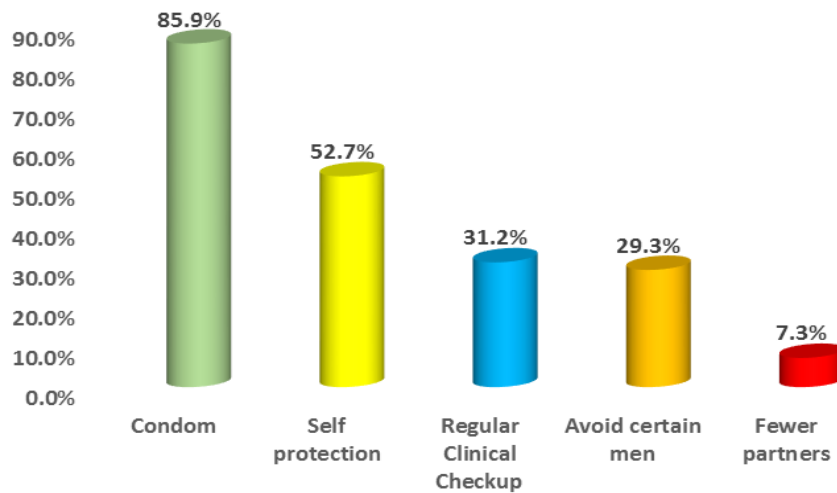
Sexual Practice	Yes (%)	No (%)
Ever used condom?	203 (99.0)	2 (1.0)
Condom used at first sexual intercourse	42 (20.5)	161 (78.5)
Reasons for not using condom at first sexual intercourse*		
Didn't have one at hand	85 (41.5)	94 (45.9)
A wish to become pregnant	2 (1.0)	176 (85.9)
Couldn't obtain one	30 (14.6)	148 (72.2)
Didn't like to use condom	2 (1.0)	175 (85.4)
Didn't think is necessary	20 (9.8)	140 (68.3)
Reasons for using condom at first sexual intercourse*		
To be protected against pregnancy	45 (22.0)	153 (74.6)
Not to be infected with a disease	22 (10.7)	176 (85.9)
Not to be infected with HIV	22 (10.7)	175 (85.4)
Condom use at last sexual intercourse		
Condom used at last sexual intercourse	147 (71.7)	54 (26.3)
*Reasons for using condom at last sexual intercourse		
To be protected against pregnancy	110 (53.7)	90 (43.9)
Not to be infected with a disease	104 (50.7)	97 (47.3)
Not to be infected with HIV	117 (57.1)	84 (41.0)
Pregnancy prevention at last sexual Intercourse		
183 (89.3)	16 (7.8)	
*Method of avoiding pregnancy		
Douche vagina with water	18 (8.8)	177 (86.3)
Count dangerous days in menstrual cycle	15 (7.3)	179 (87.3)
Interrupt sexual act (withdraw)	26 (12.7)	165 (80.5)
Condom	143 (69.8)	47 (22.9)
Emergency contraceptives (postinor)	35 (17.1)	158 (77.1)
Family planning	17 (8.3)	175 (85.4)
Protection from contracting HIV		
139 (67.8)	19 (9.3)	

191 *Multiple responses



192

193 **Fig 4: Respondents' use of condoms in the last one week**



194

195 **Fig 5: Respondents means of prevention against AIDS**

196 **Respondents Degree of Sexual risk Practice**

197 Few (3.9%) of the respondents never insisted on condom use when having sexual intercourse,
 198 6.3% use cocaine or another drug prior to or during intercourse most of the time and 18.5%
 199 never avoid sexual intercourse when they have sores or irritation in their genitals. Half
 200 (50.2%) of the respondents sometimes refuse to have sexual intercourse if a client insists on
 201 sexual intercourse without a condom, 5.4% always have anal sex without condom and 3.9%
 202 always drink alcoholic beverages prior to or during sexual intercourse (Table 3)

203

204 Table 3: Respondents degree of sexual practices

Sexual Practices	Never (%)	Sometimes (%)	Most of The Time (%)	Always (%)
Insist on condom use when having sexual intercourse.	8 (3.9)	129 (62.9)	44 (21.5)	15 (7.3)
Use cocaine or other drugs prior to or during sexual intercourse.	119 (58.0)	63 (30.7)	13 (6.3)	2 (1.0)
Avoid sexual intercourse when sores or irritation are in genital area.	38 (18.5)	96 (46.8)	31 (15.1)	32 (15.6)
Insist on examining sexual partner for sores, cuts, or abrasions in the genital area.	54 (26.3)	93 (45.4)	43 (21.0)	8 (3.9)
Disagree with information that partner/client presents on safer sex practices, state point of view.	48 (23.4)	104 (50.7)	40 (19.5)	9 (4.4)
If swept away in the passion of the moment, sexual intercourse is done without using a condom	22 (10.7)	121 (59.0)	55 (26.8)	0 (0)
If partner/ client insists on sexual intercourse without a condom, sexual intercourse is refused	35 (17.1)	103 (50.2)	55 (26.8)	6 (2.9)
It is difficult to discuss sexual issues with clients/ sexual partners	43 (21.0)	85 (41.5)	52 (25.4)	13 (6.3)
Initiates the topic of safer sex with potential sexual partner	46 (22.4)	104 (50.7)	30 (14.6)	10 (4.9)
Engage in anal intercourse without using a condom	79 (38.5)	75 (36.6)	34 (16.6)	11 (5.4)

205

206

207 **DISCUSSION**

208 Many of the respondents were currently single. This is similar to findings of studies by
 209 (Adelekan et al., 2014; Roxburgh et al., 2005; Andrew et al., 2015) where it was also reported
 210 that majority of their respondents were single. Many of the respondents had secondary school
 211 certificate corroborating findings in a similar study by Adelekan et al (2014).

212 Many of the respondents did not make use of condom at first intercourse because there was
213 no condom at hand while more than half of the respondents reported the use of condom as at
214 the last time they had sex so as to prevent diseases and pregnancy. The availability and
215 accessibility of condom at first sexual intercourse could have been lower than the availability
216 and accessibility of condom at last sexual intercourse, this may be as a result of improved
217 level of awareness and perception of the risk involved in having sex without a condom. The
218 use of condom to avoid pregnancy was more than its use to prevent HIV at first sexual
219 intercourse but at last sexual intercourse, many of the respondents made use of condom to
220 prevent themselves from HIV than to avoid pregnancy. This showed that the level of
221 awareness on risks of HIV has improved.

222 The respondents could have used cocaine and other drugs to become bold, to negotiate with
223 clients confidently, and to be strong in bed with clients (Adelekan et al., 2014). Also,
224 practice of anal sex without condoms by a few of the female sex workers and non-avoiding of
225 sexual intercourse when sores or irritation are in the genital areas of Female Sex Workers
226 predisposes them to poor and unsafe sexual practices. Although, many of the respondents
227 sometimes insist on the use of condom, the observable inconsistency could be because some
228 customers wonder if a sex worker is infected with a disease if she insists on the use of
229 condom and some female sex workers do not insist on condom use with their boyfriends or
230 regular sex partners (Basuki et al., 2002). Lim et al., 2015 also reported low consistency in
231 the use of condom among its participants, most especially with their regular partners which
232 correlated with low knowledge on sexual and reproductive health. Moreso, the inconsistency
233 in condom use could be as a result of clients offering to pay more, respect for boyfriends,
234 boyfriends that claim to be STI's free and alcohol intake or substance abuse prior to sex
235 (Population Council. 2015; Onyango et al., 2012; Adelekan et al., 2014; Ankomah et al.,
236 2011; Umar et al., 2002;).

237 Many of the respondents sometimes drink alcoholic beverages prior to or during sexual
238 intercourse. This is in line with studies by Verma et al (2010) and Heravian et al (2012)
239 which reported more than half of their respondents' consumption of alcohol before sex. This
240 also corroborates Mbonye et al (2016) study which reported high consumption of alcohol
241 among its respondents due to emotional and economic needs and at times their clients
242 encourage the consumption of the alcohol which ends up aiding unsafe sexual practice and
243 unprotected sex as the participants were intoxicated and won't remember to make use of
244 condom (Zhang et al., 2012).

245 **CONCLUSION**

246 This study revealed a low consistency in the use of condom which is an unsafe sexual
247 practice since using condom consistently helps to achieve safer sexual practices. The intake
248 of alcohol before or during sexual activity among female sex workers, if addressed will help
249 reduce unprotected sexual practices among **brothel-based sexual** workers. Interventions
250 targeted at sensitisation and health education on the health consequences of alcohol and the
251 role it plays in unsafe sexual practices should be done.

252 Even though many of the respondents have never engaged in anal sex, majority of them
253 sometimes refused to have sex if client refuses to use condom. Thus, confirming that some of
254 the female sex workers value their health and wellbeing more than the money that will be
255 paid to them.

256 **REFERENCES**

- 257 1. UNAIDS. 2008. 2008 Report on the global AIDS epidemic. Geneva: UNAIDS.
258 Available:
259 [http://www.unaids.org/en/dataanalysis/knowyourepidemic/epidemiology/publications/
260 2008reportontheglobalaidsepidemic/](http://www.unaids.org/en/dataanalysis/knowyourepidemic/epidemiology/publications/2008reportontheglobalaidsepidemic/)
- 261 2. Spice, W. 2007. Management of sex workers and other high-risk
262 groups. *Occupational medicine*, 57(5), 322-328. doi: 10.1093/occmed/kqm045
- 263 3. Abdulsalami, N. and Tekena, O.H., 2006. The epidemiology of HIV/AIDS in
264 Nigeria. *AIDS in Nigeria: A Nation on the Threshold*. Available from
265 <http://www.apin.harvard.edu/Chapter2.pdf//>
- 266 4. NACA 2015 Global Aids Response Country Progress Report. Available from
267 [http://www.unaids.org/sites/default/files/country/documents/NGA_narrative_report_2
268 015.pdf//](http://www.unaids.org/sites/default/files/country/documents/NGA_narrative_report_2015.pdf//)
- 269 5. Better Health Channel 2014. Safe sex. Available from
270 <https://www.betterhealth.vic.gov.au/health/healthyliving/safe-sex>
- 271 6. CDC. 2016. Condom Fact Sheet In Brief. Available from
272 <https://www.cdc.gov/condomeffectiveness/index.html>
- 273 7. Bukenya, J., Vandepitte, J., Kwikiriza, M., Weiss, H.A., Hayes, R. and Grosskurth,
274 H., 2013. Condom use among female sex workers in Uganda. *AIDS care*, 25(6),
275 pp.767-774.
- 276 8. Irene, O.F. and Aikhole, A.E., 2016. HIV/AIDS in Oyo State, Nigeria: analysis of
277 spatial pattern of prevalence and policy implication for government. *African Research*
278 *Review*, 10(5), pp.30-51. Available from
279 <https://www.ajol.info/index.php/afrev/article/view/145240>
- 280 9. Onyango, M.A., Adu-Sarkodie, Y., Agyarko-Poku, T., Asafo, M.K., Sylvester, J.,
281 Wondergem, P., Green, K., Wambugu, S., Brennan, A.T. and Beard, J., 2015. "It's All
282 About Making a Life": Poverty, HIV, Violence, and Other Vulnerabilities Faced by

- 283 Young Female Sex Workers in Kumasi, Ghana. *JAIDS Journal of Acquired Immune*
284 *Deficiency Syndromes*, 68, pp.S131-S137.
- 285 10. Adelekan, A. L., Omoregie, P. I., and Edoni, E. R. 2014. Sexual Practices of Female
286 Sex Workers Who Inject Drugs in Osogbo, Nigeria. *International Scholarly Research*
287 *Notices*. 2014.
288 Available from <http://dx.doi.org/10.1155/2014/103128/>
- 289 11. Ankomah, A., Omoregie, G., Akinyemi, Z., Anyanti, J., Ladipo, O. and Adebayo, S.,
290 2011. HIV-related risk perception among female sex workers in Nigeria. *HIV/AIDS*
291 *(Auckland, NZ)*, 3, p.93. doi: 10.2147/HIV.S23081 Available from
292 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3218705/>
- 293 12. Umar, U.S., Adekunle, A.O. and Bakare, R.A., 2001. Pattern of condom use among
294 commercial sex workers in Ibadan, Nigeria. *African journal of medicine and medical*
295 *sciences*, 30(4), pp.285-290. Available from
296 [https://www.researchgate.net/publication/9080188_Pattern_of_condom_use_among_c](https://www.researchgate.net/publication/9080188_Pattern_of_condom_use_among_commercial_sex_workers_in_Ibadan_Nigeria)
297 [ommercial_sex_workers_in_Ibadan_Nigeria](https://www.researchgate.net/publication/9080188_Pattern_of_condom_use_among_commercial_sex_workers_in_Ibadan_Nigeria)
- 298 13. Federal Ministry of Health. 2010 national HIV seroprevalence sentinel survey among
299 pregnant women attending antenatal clinics in Nigeria. Abuja, Nigeria: Department of
300 Public Health; 2011.
- 301 14. Okafor, U.O., Crutzen, R., Ifeanyi, O., Adebajo, S. and Borne, H., 2017. HIV
302 prevalence and high-risk behaviour of young brothel and non-brothel based female
303 sex workers in Nigeria. *BMC research notes*, 10(1), p.380.
- 304 15. Arulogun, O. S., Adelekan, A. L. and Olaseha, I. O., 2012. 'Are Women Dying from
305 Pregnancy Related Issues?': Perceptions of Local Government Legislators in Ibadan
306 Nigeria on Maternal Mortality and Strategies for its Reduction. *International Journal*
307 *of Collaborative Research on Internal Medicine & Public Health*. Vol. 4 No. 2
308 (February 2012)
- 309 16. National Agency for the Control of AIDS (NACA). GLOBAL AIDS RESPONSE
310 Country progress report Nigeria GARPR 2015. Federal Republic of Nigeria
- 311 17. Roxburgh, A., Degenhardt, L., Larance, B. and Copeland, J., 2005. Mental health,
312 drug use and risk among female street-based sex workers in greater Sydney. *Sydney:*
313 *National Drug and Alcohol Research Centre*.
- 314 18. Andrews, C.H., Fixelid, E., Sychaerun, V. and Phrasisombath, K., 2015.
315 Determinants of consistent condom use among female sex workers in Savannakhet,
316 Lao PDR. *BMC women's health*, 15(1), p.63.
- 317 19. Basuki, E., Wolffers, I., Devillé, W., Erlaini, N., Luhpuri, D., Hargono, R., Maskuri,
318 N., Suesen, N. and Beelen, N.V., 2002. Reasons for not using condoms among female
319 sex workers in Indonesia. *AIDS education and prevention*, 14(2), pp.102-116.

- 320 20. Lim, M.S., Zhang, X.D., Kennedy, E., Li, Y., Yang, Y., Li, L., Li, Y.X., Temmerman,
321 M. and Luchters, S., 2015. Sexual and reproductive health knowledge, contraception
322 uptake, and factors associated with unmet need for modern contraception among
323 adolescent female sex workers in China. *PloS one*, *10*(1), p.e0115435.
- 324 21. Population Council. 2015. Sexual and reproductive health among young female sex
325 workers in Bangladesh brothels—Baseline findings from Link Up,” Link Up Study
326 Brief. Washington, DC: Population Council. Available
327 at https://www.popcouncil.org/uploads/pdfs/2015HIV_BangladeshFSWbrief.pdf
- 328 22. Verma, R.K., Saggurti, N., Singh, A.K. and Swain, S.N., 2010. Alcohol and sexual
329 risk behavior among migrant female sex workers and male workers in districts with
330 high in-migration from four high HIV prevalence states in India. *AIDS and*
331 *Behavior*, *14*(1), pp.31-39.
- 332 23. Heravian, A., Solomon, R., Krishnan, G., Vasudevan, C.K., Krishnan, A.K., Osmand,
333 T. and Ekstrand, M.L., 2012. Alcohol consumption patterns and sexual risk behavior
334 among female sex workers in two South Indian communities. *International Journal of*
335 *Drug Policy*, *23*(6), pp.498-504.
- 336 24. Mbonye, M., Siu, G.E., Kiwanuka, T. and Seeley, J., 2016. Relationship dynamics
337 and sexual risk behaviour of male partners of female sex workers in Kampala,
338 Uganda. *African journal of AIDS research*, *15*(2), pp.149-155.
- 339 25. Zhang, X.D., Temmerman, M., Li, Y., Luo, W. and Luchters, S., 2012.
340 Vulnerabilities, health needs and predictors of high-risk sexual behaviour among
341 female adolescent sex workers in Kunming, China. *Sex Transm Infect*, pp.sextrans-
342 2012.
- 343 26. Lwanga, S.K., Lemeshow, S. and World Health Organization, 1991. Sample size
344 determination in health studies: a practical manual.