

# Determinants of Risky Sexual Behaviour among Inmates in Katsina Correctional Service: A Mixed Methods Study

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**How to cite this paper:** Usman, A., Armiya'u, A.Y. and Iliyasu, Z. (2021) Determinants of Risky Sexual Behaviour among Inmates in Katsina Correctional Service: A Mixed Methods Study. *Advances in Sexual Medicine*, 11, 17-37.

<https://doi.org/10.4236/asm.2021.112002>

**Received:** January 4, 2021

**Accepted:** April 6, 2021

**Published:** April 9, 2021

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## Abstract

**Background:** Incarceration does not vitiate sexual desire. Therefore, sexual activities occur behind bars, regardless of the stringent rules in correctional institutions. However, little has been documented about risky sexual behaviors, determinants, and experiences among inmates of correctional institutions in Katsina State, Nigeria. The study determined the sexual practices, prevalence, and determinants of risky sexual behaviors among prison inmates in Katsina. **Methodology:** A descriptive cross-sectional design with concurrent mixed methods of data collection was used to interview 216 inmates using a semi-structured questionnaire supplemented with 22 in-depth interviews. **Result:** Most (94%) respondents were male, almost half (44.4%) had secondary education, more than half (55.1%) were engaged in business or trading before incarceration, and the majority (75.9%) were awaiting trial. Nearly all inmates (98.6%) reported having sexual desire. Drug use (80.1%) and unprotected sex (79.2%) were quite common but sexual violence was low (7.4%). The number of sexual partners of respondents remained a significant predictor of sexual activity. Inmates who had one (1) or no sexual partner were 64% less likely to engage in risky sexual activity within the confines of the prison (AOR = 0.36, 95% CI = 0.20 – 0.63, p = 0.01). Qualitative interviews revealed the denial of occurrence of sexual activity in prison despite sexual desire felt by inmates; loneliness, poverty, and curiosity as motives for sexual relations; denial of occurrence of sexual violence in prison; and drug use and use of unsterilized sharps as risky sexual behaviors. **Conclusion:** Despite the disciplinary action meted out on inmates, prisoners still engaged in a range of risky sexual behaviors. Conjugal visitations for married inmates could be considered to reduce sexually deviant and risky alternatives of relieving sexual desire among prisoners.

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## Keywords

Inmates, Correctional Service, Sexual Practices, Mixed Method, Nigeria

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## 1. Introduction

In Nigeria, just like in many other parts of the world, the increase in crime rate and prison population is an important public issue. Prisoners are usually forgotten or excluded from population surveys of sexual behavior sometimes due to the difficulty in accessing them for study. Yet prisoners are a high-risk group for sexual ill-health [1]. They are mostly drawn from the most disadvantaged groups in society: they are more likely to be unemployed, they have less education and lower incomes than others and many suffer from minor intellectual disabilities and-or mental illness. Prison itself, is a dangerous place for people's sexual health. In prison, much of the sex that occurs is not voluntary. Sexual assault in prisons can lead to serious physical injury as well as the risk of sexually transmitted diseases including HIV-AIDS. Younger prisoners (aged 18 - 25) and those who are small, slightly built are at higher risk of being assaulted [1].

A review of available data on the gender composition of incarcerated inmates reveals that the majority of inmates and prison staff are males [2]. The predominantly male environment leads to engagement in homosexuality and other risky behaviors. Even though most inmates would have engaged in risky sexual behaviors before incarceration, being imprisoned puts them at a greater disadvantage [3] [4].

In Nigerian prisons, less than 4% of total admissions are females with the majority serving short-term prison terms and 50% of them are between the ages of 20 and 50 years [5]. Discrimination against women persists in prisons. They experience violence and abuse akin to that found in male facilities [2]. They are particularly vulnerable to physical and psychological abuse by prison guards whether in female or mixed prisons.

Most inmates are aged within the sexually active group of the population. This, coupled with excess free time makes the prison environment conducive for various forms of risky behaviors like sharing needles among intravenous drug users and unprotected sex with sex being the primary form of entertainment [6]. Sexual behaviors during incarceration have not been widely documented but there are limitations concerning high-risk behaviors in jail systems [7] [8] [9].

A few surveys of prisoners' health have been performed but there is little or no documented research of sexual activities, risky sexual behaviors, and the determinants of such behaviors among inmates in Africa such as in Zambia, and South Africa. There are some surveys of sexual behavior in parts of Nigeria, though most of them concentrate on HIV risks and do not explore the sexual lives of prisoners in the same way as the major national sex surveys do for people living outside prison. This is akin to what has been done in the Southern part of

Nigeria and some parts of Northern Nigeria like in Kano and Kaduna States. However, no similar studies were conducted in Katsina State. The study was carried out in Central prison Katsina because of the heterogeneity of the prison population and ease of sampling. It, thus, sought to explore sexual behavior and factors associated with risky sexual behaviors, the reasons and experiences of inmates with respect to sexual activity and risky behaviors within the confines of prison as well as factors that underlie their sexual preferences and make recommendations for preventing it. It is hoped that information from this study will give insight on the plight of prisons especially related to their sexual behaviors and choices, and the intervention policymakers and health planners can offer in addressing the reproductive health needs of prisoners. It is also expected to increase the database of the subject matter especially with respect to the peculiarity of the ethnicity and religion in Northern Nigeria.

## 2. Methodology

### *Study Location*

The study was conducted in Katsina Central Correctional facility, one of the eleven prisons in the state, because of its heterogeneity in that it contains inmates of both sexes and varied sentences as it is located in a metropolitan town. It serves both males and females with a capacity of about 400 but this has been stretched to more than 1500 inmates in recent times [10].

### *Study Design*

The study is descriptive cross-sectional in design and employed a concurrent mixed methods of data collection.

### *Study Population*

The study population comprised of all inmates who have been in prison for at least a month in Katsina Correctional service.

### *Inclusion Criteria*

- 1) A prison inmate, male and female, who had been in prison for at least a month.
- 2) A prison inmate who provided voluntary informed consent to participate in the study.

### *Exclusion Criteria*

- 1) Any mentally unstable inmate or one who was on treatment for psychiatric disorders.
- 2) Inmates who were very sick and/or were on admission in the prison clinic.

### *Sample Size Determination for Quantitative Study*

The sample size for the quantitative aspect was calculated using the Fisher's formula for descriptive cross-sectional studies [11].

$$n = \frac{Z^2 pq}{d^2}$$

where:

- 1)  $n$  = Minimum sample size for the study;

2)  $Z$  = Standard normal deviate corresponding to the probability of type I error ( $\alpha$ ) at 5%

=1.96;

3)  $p$  = Prevalence of sexual activity among prison inmates (14.9%) obtained from a previous study [12]

=0.149  $\approx$  0.15;

4)  $q$  = Complementary probability which is  $1 - p$

= $1 - 0.15 = 0.85$ ;

5)  $d$  = Degree of precision of 5%.

Therefore

$$n = \frac{1.96^2 \times 0.15 \times 0.85}{0.05^2} = 196.$$

10% was added to the minimum sample size to account for non-response; hence a total of 216 eligible respondents were recruited into the study.

**Qualitative Study:** Participants for in-depth interview (IDI) were purposively selected. An in-depth interview with inmates to a point of saturation was carried out. The findings were organized into three themes:

- 1) Sexual practices and choices;
- 2) Risky sexual behaviours;
- 3) Sexual violence.

#### **Data Collection Methods**

The study employed both quantitative and qualitative (concurrent) mixed methods of data collection.

#### **Study collection Instruments**

**Quantitative Data:** An interviewer administered, pre-tested, semi-structured questionnaire adapted from a study in New South Wales [13] and modified to suit the objectives of this study was used to collect data from eligible respondents.

The questionnaire had 4 sections and sought information on:

- 1) Socio-demographic characteristics of inmates;
- 2) Sexual activity by inmates;
- 3) Risky sexual behaviours;
- 4) Sexual violence.

**Qualitative Data:** For the qualitative data, a total of 22 in-depth interviews (IDIs) were conducted. Each session involved a moderator, a note taker, a recorder and a single participant. The researcher moderated the discussion using the IDI guide. Consent was obtained before the commencement of the interview.

#### **Data Analysis**

**Quantitative Data:** All data were entered into a Microsoft excel sheet and rechecked to avoid entry errors. The data was cleaned prior to analysis. When necessary, the questionnaire was resorted back for verification of inconsistent or missing data. Data was analysed using IBM Statistical Package for Social Sciences software (SPSS) Version 20 after verification and consistency checks.

Frequency distributions of variables were presented in tables and charts. Chi square test and Fischer's exact-test were used for comparisons of variables as appropriate. Factors that were statistically significant at bivariate level and those with ( $p \leq 0.10$ ) were entered into a logistic regression model and analyzed to adjust for confounding. A probability level of  $\leq 0.05$  was considered as significant for all tests of significance.

**Qualitative Data:** Thematic framework analysis was used to summarize data. Common themes were extracted from notes and recordings taken from the twenty-two IDIs. All IDIs were conducted in Hausa then transcribed and translated into English literarily to the nearest meaning. A narrative format was used for reporting the findings.

**Ethical Approval:** Ethical approval for the study was obtained from the Katsina State Health Research Ethical Review Committee (HREC) approval number MOH/ADM/SUB/1152/1/262.

### 3. Result

#### *RESULT OF QUANTITATIVE DATA*

##### **Socio-demographic Characteristics of inmates in Katsina Correctional Service**

The age of the respondents ranged from 17 - 85 years with a mean age ( $\pm$  Standard Deviation, SD) of  $31.5 \pm 10.9$  years. Most (94%) of the respondents are males. Majority (91.2%) of the respondents were Muslims, of the Hausa tribe (82.9%) and married (50.9%). About half of the respondents (44.4%) had secondary level of education while a quarter (25.9%) had only Qur'anic education. Less than a quarter (22.7%) of them had tertiary education. Most respondents (55.1%) were into trading or business while over a third (39.8%) were unemployed (**Table 1**).

##### **Sexual Practices and Choices of Inmates at Katsina Correctional Service**

**Table 2** depicts the sexual experiences of inmates within the confines of the central prison in Katsina metropolis. Two hundred and thirteen inmates (98.6%) admitted to feeling sexual desire with 83.3% of them for women, 20% for men and 16% for both men and women. Less than half (44.4%) of the inmates confessed to feeling sexual desire by watching the nakedness of others and one-third (38%) by masturbation. About two-third of inmates admitted to satisfying their desires by watching the nakedness of others (38.7%) and masturbating (37.8%). A fraction of inmates (6.1%, 14 out of 216) admitted to multiple methods of satisfying themselves. Substantial proportions (42.1%) of inmates were aroused in prison by watching the nakedness of others. It is the most common method (25.5%) of getting aroused followed by sexual talks (13.4%). The motives for sexual relations within the confines of prison ranged from curiosity (18.1%), to loneliness (17.1%) and coercion (0.9%) (**Table 2**).

##### **Risky Sexual Behaviours among Inmates in Katsina Correctional Service**

**Table 4** depicts a summary of risky behaviours amongst inmates. Drug use

**Table 1.** Socio-demographic characteristics of inmates in Katsina correctional service.

Socio-demographic Characteristics	Frequency (n)	Percentage (%)
<b>Age (Years)</b>		
Mean Age $\pm$ SD	31.5 $\pm$ 10.9	
<24	55	25.5
25 - 34	97	44.9
35 - 44	38	17.6
45 - 54	17	7.8
>55	9	4.2
<b>Gender</b>		
Male	203	94
Female	13	6
<b>Religion</b>		
Islam	197	91.2
Christianity	19	8.8
<b>Tribe</b>		
Hausa	179	82.9
Fulani	16	7.4
Others*	21	9.7
<b>Marital Status</b>		
Married	110	50.9
Single	91	42.1
Widowed/Divorced	15	7
<b>Level of Education</b>		
Quranic	56	25.9
Primary	12	5.6
Secondary	96	44.4
Tertiary*	49	22.7
Adult Education	3	1.4
<b>Occupation</b>		
Civil servants	11	5.1
Trading/Business*	119	55.1
Unemployed	86	39.8

Key\*: Others = Ibo, Yoruba, Berom, Igbira, Kanuri; Trading/Business = Farmers, Welders, Carpenters, Masonry, Drivers, Electricians, Plumbers, Herdsmen, Labourers, Petty Traders; Tertiary Education = Diploma, Undergraduate degree, Postgraduate degree.

**Table 2.** Summary of sexual experiences of inmates in Katsina correctional service.

Sexual variable	Frequency (n)	Percentage (%)
<b>Feeling sexual desire</b>		
Yes	213	98.6
<b>Sexual desire with whom</b>		
Both men and women	16	7.4
Men	20	9.3
Women	180	83.3
<b>Mode of sexual desire</b>		
Celibacy	26	12
Consensual sex	1	0.5
Exposing nakedness to others	10	4.6
Masturbation	82	38
Touching of genitals	1	0.5
Watching nakedness of others	96	44.4
<b>Mode of satisfaction</b>		
Anal sex	5	2.2
Celibacy	26	11.3
Mutual anal insertion	1	0.4
Masturbation	87	37.8
Putting fingers in anus	3	1.3
Masturbation, anal sex	2	1.0
Masturbation, anal sex, oral sex, putting fingers in anus	1	0.4
Masturbation, oral sex	2	1.0
Masturbation, putting fingers in anus	1	0.4
Touching of genitals	10	4.3
Watching nakedness of others	89	38.7
Watching nakedness of others, anal sex	1	0.4
Watching nakedness of others, fingers in anus	1	0.4
Watching nakedness of others, masturbation	1	0.4

**Table 3.** Summary of sexual experiences of inmates in prison continued.

<b>Arousal</b>		
Yes	125	42.1
No	91	57.9
<b>How they got aroused?</b>		
Sexual talks	29	13.4
Watching others naked	55	25.5
Sexual thoughts	27	12.5

**Continued**

Looking at others	2	0.9
Seeing women in clinic	1	0.5
Wet dreams	1	0.5
Nil	100	46.3
Touching each other	1	0.5
<b>Motive for sexual relations within the prison</b>		
Celibacy	1	0.5
Coercion	2	0.9
Curiosity	39	18.1
Economic Manipulation	6	2.8
Loneliness	37	17.1
Nil	127	58.8
Peer Pressure	4	1.9

**Table 4.** Summary of risky sexual behaviours.

Variable	Frequency (n)	Percentage (%)
<b>Drug use</b>		
Yes	173	80.1
No	43	19.9
<b>Time of drug use</b>		
Before Imprisonment	154	71.3
In prison	1	0.5
Both	19	8.8
Nil	42	19.4
<b>Type of drug used</b>		
Oral	150	69.4
Injectables	5	2.3
Both	19	8.8
Nil	42	19.4
<b>Use of new syringe</b>		
Yes	16	7.4
No	2	0.9
Not applicable	198	91.7
<b>Needle sharing</b>		
Yes	2	0.9
No	214	99.1
<b>Use of unsterilized sharps</b>		
Yes	201	93.1
No	15	6.9



## Continued

<b>Unprotected oral, anal and/or vaginal sex</b>		
Yes	171	79.2
No	45	20.8
<b>Commercial sex</b>		
Yes	28	13
No	188	87
<b>Sexual partners</b>		
Regular partner	55	25.5
Casual Partner	114	52.8
Both	3	1.4
Not Applicable	44	20.4
<b>Sexual contact with STI-infected inmate</b>		
Yes	1	0.5
No	215	99.5
<b>HIV status of inmates</b>		
Positive	1	0.5
Negative	215	99.5

among inmates was quite common (80.1%) with 71.3% of them using it before imprisonment and 1 inmate confessed to using drugs within the confines of prison. Almost two-thirds (69.4%) of drug use was via oral route, 2.3% via injectables and 8.8% via both routes. Majority of inmates neither had access to a syringe (91.7%) nor shared needles (93.1%). Greater than thirds (79.2%) of inmates admitted to having unprotected oral, anal and/or vaginal sex before imprisonment with only 13% of them using a commercial sex worker and 52.8% with a casual partner. Almost all inmates (99.5%) did not have contact with other inmates that had sexually transmitted infections. Only 1 inmate acknowledged been HIV positive, one-eighth (12.5%) of inmates acknowledged having more than two sexual partners and only 1 inmate had the liberty of using a sex toy (Table 4).

#### Sexual Violence

Figure 1 depicts a summary of forms of sexual violence among within the confines of central prison of Katsina. Sixteen out of two hundred and sixteen inmates agreed to have been touched in a threatening manner by other inmate (s) and forced to touch their own genitals. Anal and oral sex accounted for 2.8% (6 out of 216 inmates) and 0.9% (2 out of 216 inmates) respectively. Two inmates (0.9%) participated in sexual acts for protection while 4 out of 216 inmates inserted fingers and/or objects into someone's anus by force (Figure 1).

#### Predictors of Sexual Activity and Risky Sexual Behaviour (Table 6)

At bivariate level analysis, sexual activity was significantly associated ( $p < 0.05$ ) with age range and number of sexual partners.

**Table 5.** Summary of risky sexual behaviours contd.

<b>Number of sexual partners</b>		
None	52	24.1
1	79	36.6
2	58	26.8
>2	27	12.5
<b>Use of sex toys</b>		
No	215	99.5
Yes	1	0.5

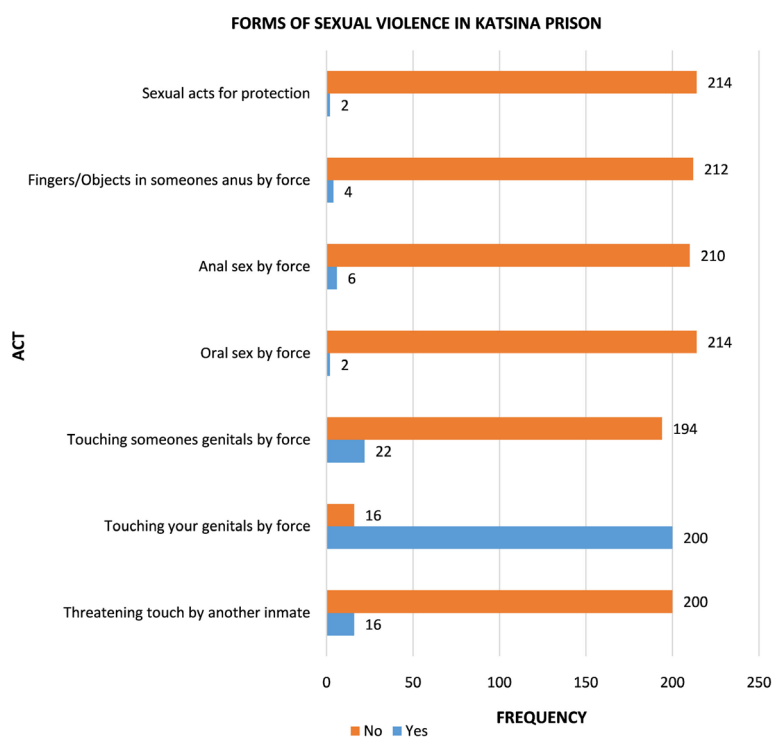
**Table 6.** Predictors of sexual activity and risky sexual behaviour (Bivariate analysis).

<b>Sexual activity</b>					
<b>VARIABLES</b>	<b>Non-penetrative sex (%)</b>	<b>Penetrative sex (%)</b>	<b>Total (%)</b>	$\chi^2$	<b>p-value</b>
<b>Age Group (Years)</b>					
<35	120 (73.6)	43 (26.4)	163 (75.5)		
≥36	30 (56.6)	23 (43.4)	53 (24.5)	4.69	0.03*
<b>Gender</b>					
Male	195 (96.1)	8 (3.9)	203 (93.9)		
Female	12 (92.3)	1 (7.7)	13 (6.1)		0.43†
<b>Ethnic Group</b>					
Hausa/Fulani	186 (95.4)	9 (4.6)	195 (90.3)		
Non-Hausa/Fulani	21 (100)	0 (0)	21 (9.7)		0.63†
<b>Religion</b>					
Islam	188 (95.4)	9 (4.6)	197 (91.2)		
Christianity	19 (100)	0 (0)	19 (8.8)		1.00†
<b>Marital status</b>					
Currently single	106 (95.5)	5 (4.5)	111 (51.4)		
Currently married	101 (96.2)	4 (3.8)	105 (48.6)		1.00†
<b>Level of Education</b>					
Formal	154 (96.2)	6 (3.8)	56 (25.9)		
Informal	53 (94.6)	3 (5.4)	160 (74.1)		0.70†
<b>Occupation</b>					
Employed	125 (96.2)	5 (3.8)	130 (60.2)		
Unemployed	82 (95.3)	4 (4.7)	86 (39.8)		0.74†
<b>Drug Use</b>					
Yes	164 (94.8)	9 (5.2)	173 (80.1)		
No	43 (100)	0 (0)	43 (19.9)		0.21†

## Continued

<b>Unsterilized sharps</b>				
Yes	192 (95.5)	9 (4.5)	205 (94.9)	
No	15 (100)	0 (0)	15 (5.1)	1.00 <sup>†</sup>
<b>Unprotected Oral, Anal or Vaginal Sex</b>				
Yes	161 (94.7)	9 (5.3)	170 (78.7)	
No	46 (100)	0 (0)	46 (21.3)	0.21 <sup>†</sup>
<b>Commercial Sex</b>				
Yes	27 (96.4)	1 (3.6)	188 (87.1)	
No	180 (95.7)	8 (4.3)	28 (12.9)	1.00 <sup>†</sup>
<b>Number of Sexual Partners</b>				
0 - 1	49 (62.1)	30 (37.9)	79 (36.6)	
≥2	60 (43.8)	77 (565.2)	137 (63.4)	5.95 0.01*
<b>Reported HIV Status</b>				
Positive	1 (100)	0 (0)	1 (0.5)	
Negative	206 (95.8)	9 (4.2)	215 (99.5)	1.00 <sup>†</sup>
<b>Use of Sex Toys</b>				
Yes	1 (100)	0 (0)	1 (0.5)	
No	206 (95.8)	9 (4.2)	215 (99.5)	1.00 <sup>†</sup>

<sup>†</sup>Fishers exact, \*statistically significant.



**Figure 1.** Bar chart depicting forms of sexual violence in prison.

Two (2) factors with a p-value of <0.05 (Age and Number of sexual partners) were further subjected to multivariate analysis to adjust for confounding as shown in **Table 7**.

After adjusting for covariates (Age and Number of sexual partners), the number of sexual partners of respondents remained a significant predictor of sexual activity. Inmates who had one (1) or no sexual partner were 64% less likely to engage in risky sexual activity within the confines of the prison (AOR = 0.36, 95% CI = 0.20 – 0.63, p = 0.01).

### **RESULT OF QUALITATIVE DATA**

#### **Results of In-Depth Interviews**

##### **Sexual Orientation of Inmates**

*“I like my God-given sexual orientation as a man” (35 years, male).*

##### **Sexual Desires**

Sexual desires were felt by almost all inmates. A discussant said:

*“If a person is walking in front of me, I feel desire by looking at his backside or frontside” (24 years, male).*

But on the contrary, another discussant said:

*“... No sexual desires as far as I am in prison” (41-year-old male).*

##### **Sexual Activity**

With regards to sexual activity, some of the inmates denied the presence of sexual activity in prison, like three inmates said:

*“In fact, I can only say that the prisoners are not sexually active because I have not set eyes on any for the best of my knowledge” (28 years, male).*

*“I don’t know because I have never seen any” (26 years, female).*

*“There is no way for prisoners to practice sexual intercourse because there is law in prison and men’s section is different from women section, and there is security” (25 years, female).*

While others agreed to sexual activity occurring in prison:

*“... Some inmates are sexually active while they are in captivity and they are always attracted to their fellow men. Sometimes, they are involved in anal sex” (36 years, male).*

*“Many prisoners are sexually active and many of them deal with their desires by engaging in homosexual” (35 years, male).*

**Table 7.** Predictors of sexual activity and risky sexual behaviour (Multivariable analysis).

Variable	Sexual Activity	Crude OR	Adjusted OR (95% CI)	p-value
<b>Age</b>				
<35	163 (75.5)	0.26	1.30 (0.72 - 2.34)	0.38
≥35	53 (24.5)	1		
<b>Number of Sexual partners</b>				
0 - 1	79 (36.6)	1.03	0.36 (0.20 - 0.63)	0.01*
≥2	137 (63.4)	1		

\*Statistically significant.

*“You should know that partaking in homosexuality is a big offence in prison” (36 years, male).*

All the women spoken to during the IDI agreed to being celibate but had different ways of satisfying themselves as reported by some:

*“We have no contact with men in this prison. Even our security guards are females” (25 years, female).*

*“Lesbianism is frowned upon in prison. I pray or touch myself” (26 years, female).*

*“I don’t get satisfied even if I touch my intimate part to come” (30 years, female).*

Another discussant condemned forms of satisfying sexual desires by saying:

*“Putting fingers in anus is dirtiness” (48 years, male).*

Motives for sexual relations within the confines of the four walls of prison was discussed with reasons being loneliness, poverty, curiosity, etc, as elucidated by some discussants:

*“There are many uneducated, lack of self-control, covetousness” (29 years, male).*

*“The factors are loneliness, curiosity, sexual urge, lack of money” (53 years, male).*

*“The reason why some prisoners involve in sexual practice is illiteracy, likeness of money and poverty” (33 years, male).*

Another was so eloquent that:

*“Prisoners involve themselves in immoral sex mainly because of overstaying in confinement without their spouse or girlfriend to have legitimate sex with. They cannot control their sexual emotion. Therefore, they conceive evil and partake in anal sex with their fellow men around them” (58 years, male).*

### ***Risky Sexual Behaviours***

Discussants were asked about risky sexual behaviour. One discussant identified them as:

*“... immoral sexual acts that can cause disease among inmates” (41 years, male).*

Another defined it as:

*“... habits that are illegal means of having sex with a partner like oral or anal sex. The consequences could be disastrous because you may contact sexually transmitted disease and the commonest type of this behaviour is anal sex.” (58 years, male).*

A discussant refuted that risky sexual behaviour was common in the prison:

*“... is not common in prison” (25 years, female).*

None of the inmates considered drugs and sharing of unsterilized sharps as a risky behavior:

*“I didn’t know that using drugs and sharing of razor blades is a high-risk behaviour” (21 years, male).*

Other discussants said:

*“Getting drugs inside of prison is very hard because everything that is brought*

*from home is checked very well. Even cooked food must be tasted by the person that brought it talk less of getting drugs” (28 years, male).*

*“If you are caught with any drugs apart from the one given to you in clinic, you will be in deep trouble and will be punished” (24 years, male).*

#### **Sexual Violence**

All the interviewed inmates except one, vehemently denied the presence of sexual violence in prison. One said:

*“If you see the punishment of homosexuality when someone is caught, you will never allow yourself to do it or be caught” (21 years, male).*

The one exception said:

*“I touch other inmates genital forcefully so as to calm down my desire” (33 years, male).*

## **4. Discussion**

Sexual activity inside prison occurs with utmost secrecy and low levels of disclosure and openness on the subject amongst inmates, more especially to outsiders [12]. The four most common means by which inmates in the index study express their sexual desire were touching of genitals (self or others), masturbation, celibacy and exposing their nakedness to others. This is similar to what was found in other studies across Nigeria [14]-[19]. The options for satisfying this desire were majorly by watching the nakedness of others followed by masturbation, celibacy and touching of others. This is in keeping with what was found in the Kano study [14]. Homosexuality was rare in this study as reported by inmates in the study *“Lesbianism is frowned upon in prison. I pray or touch myself” (26 years, female).* *“You should know that partaking in homosexuality is a big offence in prison” (36 years, male).* This may be attributable to the fact that many inmates were unwilling to admit to such behaviour for fear of disciplinary action as homosexuality is criminal offence in Nigeria and carries an additional 14 years jail term unlike in many Western countries where it is legal. Various studies, some of which are from Scottish prisons and Arthur road jail India, also reported a low rate of homosexuality which they attributed to non-acceptance of homosexuality in prison population and limited opportunity for sexual activity in prison [9] [18] [19] [20]. However, some studies in Nigerian prisons revealed homosexuality as the commonest sexual practice [6] [17] [21] also reported in our study *“Many prisoners are sexually active and many of them deal with their desires by engaging in homosexual” (35 years, male).*

Sex is currency in prison and a crucial component of the intricate systems of power [22]. The motives for sexual relations majorly ranged from loneliness, curiosity and coercion. More than half of the inmates in this study did not admit to any motive while a 58 year old inmate responded by saying *“Prisoners involve themselves in immoral sex mainly because of overstaying in confinement without their spouse or girlfriend to have legitimate sex with. They cannot control their sexual emotion. Therefore, they conceive evil and partake in anal sex with*

*their fellow men around them* (58 years, male). This may be because sex is a complex private activity. In 1999, Foreman reported transactional sex occurring in prison [23]. Local and international studies also concurred [18] [24] [25] [26] [27].

Prisoners engage in a range of sexual risk behaviours. There are few studies on risky sexual behaviours in prison. Most of these studies reported a low prevalence except for studies based around MSM [28]. Sexual risk behaviours were found to be low in the index study "... is not common in prison" (25 years, female) reported by an inmate. This is because sexual activity in a prison setting is always between same sex individuals. As such, it is possible that the prevalence of such activities in the context of prison are usually higher than reported. Several studies also reported low levels—Jamaica 0% [27], Togo 0.3% [29] Iran 0.6% [30], USA 0.7% - 1.1% [32]. In contrast, high levels were reported in some parts of USA (53%) [31] and Spain (34.7%) [32].

Substance use patterns vary by geographical location and economic conditions of countries as well as race and gender of prisoners [19] [33] [34]. In this study, more than three-quarters of the respondents admitted to using drugs, with majority using it before imprisonment and using the oral route. High levels of drug use before imprisonment were recorded in numerous studies [32]. However, low levels were also noted in various studies [27] [35] [36] [37]. Again, drug use was found to be low in studies across the African regions, some parts of Asia and Europe [38] [39] [40] [41] as in index study "*If you are caught with any drugs apart from the one given to you in clinic, you will be in deep trouble and will be punished*" (24 years, male). This may be attributed to unavailability of access to drugs within the confines of prison "*Getting drugs inside of prison is very hard because everything that is brought from home is checked very well. Even cooked food must be tasted by the person that brought it talk less of getting drugs*" (28 years, male). Research conducted amongst inmates in Nigeria and South Africa indicated low levels of injectable drug use in prisons, where marijuana was found to be the most popular and readily available substance [19] [42].

Using unsterilized sharps was quite high in index study. This is possibly due to inaccessibility to such in prison. Previous studies reported similar trends [17] [21]. The act of needle sharing was also very low in index study. A combined study across Queensland and New South Wales revealed low levels of needle sharing, however, a higher level was reported in 3 Australian studies [43] [44]. The high level noted may be because majority of inmates were younger and more likely to be involved in such risky behaviours without their knowledge as reported by an inmate "*I didn't know that using drugs and sharing of razor blades is a high-risk behaviour*" (21 years, male).

Inmates belong to a group that have a tendency for risk taking behaviours and face a high risk of getting infected with sexually transmitted diseases including HIV [45] [46]. Sexual contact with an inmate having a sexually transmitted infection (STI) is not a common finding among participants (n = 1) in index

study. This may be because sexual relations are prohibited in prison and only occur in secret as reported here “*There is no way for prisoners to practice sexual intercourse because there is law in prison and men’s section is different from women section, and there is security*” (25 years, female). This contrasts with what was found among inmates in other countries even though the prevalence of these infections were reported to be five times higher than rates found in the general populations [19] [47] [48] [49] [50].

Most persons entering correctional facilities have a pre-incarceration history of high-risk sexual behaviours that involve sex with female partners. About one-third of inmates in index study reported having 2 or more sexual partners prior to incarceration. Studies in prisons spread across USA among men revealed that almost three-fourths of the men reported multiple sex partners [52]. Other studies from Quebec City, Canada; and Osun and Lagos States, Nigeria show similar findings [17] [21] [52].

Unprotected sex prior to incarceration was the norm in this study. This trend is also seen in several studies [17] [51] [53]. This may be attributed to the co-presence of other risky behaviours that mar judgement, thus, allowing them to engage in such behaviours. Another possible explanation is that they choose sex partners who are likely to engage in sexual behaviours similar to their own.

Sexual assault was low in index study. This may be attributed to the consequences of being caught and trickiness of sexual activity in prison an inmate said “*If you see the punishment of homosexuality when someone is caught, you will never allow yourself to do it or be caught*” (21 years, male). Similar trends were reported across the globe [21] [5] [17] [54] [55] [56] [57] [58]. Sexual victimization includes a range of behaviours from sexually abusive conduct to non-consensual sexual assaults and has a variety of severe public health consequences [59] [60]. It may be by coercion, manipulation and compliance. Coercion is the act of forcing another party to act in an involuntary manner by use of intimidation, threats or some form of force or pressure this was reported by an inmate in our study “*I touch other inmates’ genital forcefully so as to calm down my desire*” (33 years, male). Manipulation is done for power and reward while compliance occurs to get protection or out of fear [61].

There was a significant association between age of inmates and sexual activity. Inmates that were 35 years and above were more likely to engage in sexual activity in prison. This contrasts with the findings from Kano, Nigeria where inmate’s age was not associated with sexual activity [14]. There was also a significant association between number of sexual partners prior to incarceration and sexual activity in prison. Inmates who had one partner or none were 64% less likely to engage in sexual activity within the confines of prison. This is similar to a study in Ogbomoso, Oyo State Nigeria where 34.7% of respondents had sexual relation with one regular partner or none [21]. This contrasts with what was found in a multicenter pilot study of European prisons and other similar studies across the globe where more than half of the inmates declared they had multiple sex partners [62] [63] [64]. The study had limitations. First, falsification of informa-



tion by inmates out of fear of retribution by prison officials could have introduced social desirability bias. Secondly, a study at a single Correctional service facility requires caution when extrapolating the findings across Nigeria.

## 5. Conclusion

Despite the disciplinary action meted out on inmates, prisoners still engaged in a range of risky sexual behaviors. Conjugal visitations for married inmates could be considered to reduce sexually deviant and risky alternatives of relieving sexual desire among prisoners.

## Acknowledgements

The staff and inmates of Katsina Correctional service facility.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

## Author Contribution

A. U conceived of the idea and A.Y.A and I.Z verified the literature search. A. U, A. Y. A and I.Z. supervised the findings of this work. All authors discussed the results and contributed to the final manuscript.

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