

Sexual and Reproductive Health Behaviours among University Students in Namibia as Risk Factors in Acquiring HIV Infection

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Abstract

Background: Having multiple sexual partners is an important risk factor in acquiring HIV infection. It is also considered as one of the confounding factors in studies that implicated the use hormonal contraceptive as risk factor in HIV/STIs acquisition. Namibia is one of the countries in Africa with high HIV prevalence. With increasing burden of HIV infection among the youth globally, with about 31% of new HIV infection in 2008; occurring among people within the age 15-24. The need to understand the association between contraceptive use especially hormonal contraceptive and multiple sexual partners is important. More so that there are no studies on contraceptive use amongst young men and women in Namibia which is considered to be highly sexually active group, and especially on the association between contraception and multiple sexual partners (especially concurrent). The latter of which is considered to be a major perpetuating factor for HIV transmission, there is need to explore more on this area. Hence, the need to determine sexual and reproductive health behaviours among university students in Namibia as risk factors in acquiring HIV infection. **Methods:** Data was collected using questionnaires for quantitative cross-sectional survey among students in classes selected through simple random sampling in each stratum (University Campus). Relationship between independent variables (method of contraception, relationship status, misconceptions about the role of contraceptives in preventing STIs/HIV, transactional sex, HIV/STIs Risk perception) and dependent variable (multiple sexual partners) was measured using multivariate model of logistic regression analysis. **Result:** Condom (70.7%) was the most common birth control method used in the most recent vaginal sex, followed by withdrawal (20.6%) and 7.2% used birth control pills. Significant association was found between the use of birth control pills and multiple sexual partners, but there was no association between condom use and multiple sexual partners. **Conclusion:** Discussions on safe sexual behaviour and dual contraceptive should form important part of family planning counselling process, particularly when dealing with young people. This may aid reduction of HIV/STIs infection rate among the youth.

Keywords: Contraception, Safe sexual behavior, Students, Multiple sexual partners, HIV/STIs, Youth

1.0 Introduction and Background

Sexual health can be described as a state of sexuality related well-being, which goes beyond just steering clear of disease, dysfunction or infirmity. It covers physical, mental and social components of health (Wellings, Mitchell & Collumbien, 2012; WHO, 2006). Sexual health requires a safe and respectful approach to sexuality and sexual relationships; this involves exercising one's right to pleasurable and safe sexual experiences without coercion, discrimination and violence (Wellings, Mitchell & Collumbien, 2012; WHO, 2006). Sexual health is evident when individuals or a group of people could freely and responsibly express their sexuality to foster interpersonal and societal harmony (Sunil & Pillai, 2010). Reproductive health is defined as a state of complete physical, mental and social well-being, not merely absence of diseases or infirmity, in all matters related to the reproductive system and to its functions and processes (WHO, 2006; Sunil & Pillai, 2010). Due to the direct and indirect interlink of the concepts of sexual health and reproductive health, the term sexual and reproductive health is commonly used when dealing with sexuality and sexual relations (Wingood, Ralph & DiClemente, 2002; WHO, 2010a; WHO, 2011) Sexual health was initially considered as a component of reproductive health in the Programme of Action of the International Conference on Population and Development (ICPD) in 1994 until recently when sexual health was given recognition as a broader concept. Sexual health encompasses more than reproductive health since most sexual activity is not directly associated with reproduction (Wellings, Mitchell & Collumbien, 2012; WHO, 2006; Wingood, Ralph & DiClemente, 2002; WHO, 2010a; WHO, 2011). Whereas, sexual ill-health ranges from sexual dysfunction to sexually transmitted infections (STIs) (including HIV) and it also includes reproductive health consequences of unsafe sexual activities like unintended pregnancy, early childbirth, unsafe abortion and reproductive tracts infections (RTIs) (Wellings, Mitchell & Collumbien, 2012; WHO, 2006).

In Namibia, the fertility rate among young women aged 15-19 was relatively high at 72 reported births per 1,000 women. The prevalence of early childbearing (having a child before reaching 18) among 20-24 year

old women was as high as 39% among the poorest Namibian and 10% among their richer counterpart (MOHSS& Macro International Inc, 2008; World Bank, 2011; WHO, 2009a; WHO, 2010b). Pregnancy and child-birth related deaths are the leading cause of death among 15-19 years old girls, with about 70,000 deaths and nearly two millions left with chronic illness or disabilities (Rowbottom, 2007; UKaid, 2010; UNICEF, 2008). Africa has the highest risk of death from unsafe abortion, with estimation of 650 deaths per 100,000 unsafe abortion and 46% of these deaths occurred among young women less than 24 years in age Sunil & Pillai, 2010; Paul et al, 2009; WHO, 2007; WHO, 2009b). The global trends of new HIV infection rate among young people aged 15-24 between 2008 (40% of all new HIV infection)(Lyimo, 2013; UN, 2012) and 2010 (42% of all new HIV infection)(Okonofua, 2014; UNICEF, 2012) showed that the susceptibility of young people to HIV infection and is on the increase (Okonofua, 2014; UNICEF, 2012). Similarly, about 31% of the new HIV infections in Namibia in 2008 were young people age 15 - 24 out of which 68% are young women (MOHSS, 2010). This report indicates that young women were more susceptible to HIV infection than the men.

Namibia is one of the Southern African countries located at the South-Western Africa, with 37% of the population are under 15 years of age (MOHSS, 2010; Ministry of Health and Social Services (MOHSS), 2010; Ministry of Health and Social Services (MOHSS), 2014). Namibia is a middle income country but has one of the most skewed incomes per capital in the world. Two thirds of Namibian population live in the rural areas and constitute 70% of the poor population. Twenty Seven percent (27.6%) of the population are poor and 37% unemployed (MOHSS& Macro International Inc, 2008). Recent findings of a study conducted by Heffron et al (2011) in nearly 4,000 HIV sero-discordant couples in seven African countries are suggestive of the fact that there is an increased risk of HIV acquisition/transmission among women using injectable hormonal contraceptives, and their partners. However, these results have been disputed by other studies conducted elsewhere(Myer, 2007; Wawer & Gray, 2012). There is a school of thought suggesting that the observed association between contraceptive use and increased risk of HIV infection is due to some confounding factors like having multiple sexual partners(CDC, 1999). This is further compounded by the fact that high risk sexual behaviour tend to correlate other factors such as alcohol abuse, use of illicit drugs, marital status etc(Richter et al, 1993; Valois et al, 1999; WHO 2009a). In Namibia, like most African countries, about half of women use contraceptives (46.6%) and injectable hormonal contraceptives is the predominant method, with other methods such as condom use being low (MOHSS& Macro International Inc, 2008; WHO, 2009a). The pattern and contraceptive use among Namibian University Students (19 – 25 years) who are considered to be a highly sexually active group (Lawoyin & Kanthula, 2010) in relation to the number of sexual partner is not understood. There has been no documentation on this in Namibia. In addition, the association between contraceptive use and having multiple sexual partners as a risk factor in acquiring HIV infection is not known. Therefore, sexual and reproductive health behaviours among university students' in Namibia was carried out to ascertain risk factors in acquiring HIV infection.

2.0 Materials and Methods

2.1 Study Design

Quantitative methodology was used in the conduct of this study; the research was a cross-sectional survey among Namibian University students' to establish the association between contraceptive use and the likelihood of having multiple sexual partners. The dependent variable (dVs) was having multiple sexual partners; while independent variables (idVs) were contraceptive use and method of contraception.

2.2 Sample Size, Frame and Population

The population studied consists of undergraduate students in three campuses of the only University in Namibia (University of Namibia (UNAM)) in Oshana Region, Northern part of Namibia. Majority of the students are within the age group of 19-25years.

Using Confidence level=95%, and the prevalence of contraceptive use among sexually active young women in Namibia which is 52 % (Indongo, 2007). Sample size = $Z^2_{1-\alpha/2} P (1-P)/d^2$ where, n = sample size, $Z^2_{1-\alpha/2}$ = confidence interval 95% CI= 1.96, P= estimated proportion= 52%, d= desired precision = 0.05 (Aday & Cornelius, 2006).[32] Therefore, $n = 1.96^2 \times .52(1-.52)/.05^2$, $n = 384$ and considering 10% attrition sample size of 422 was used for the study.

Stratified and simple random sampling was used by dividing the sample size into strata based on the campuses in Oshana Region. A contact session with the lecturers and students was arranged to give the details of the study. Then, each student in the randomly selected classes was given a combined participant information sheet and questionnaires. Those who consented to participate in the study answered the questionnaires while others returned theirs.

Ethical approval was obtained from the University of Liverpool Research Ethics Committee and the Biomedical Research Ethics Committee (BREC) in the Ministry of Health and Social Services, Namibia.

2.3 Participants

The inclusion criteria for participation were 19 - 25 years old students of the University of Namibia campuses in Oshana Region. Students above 25year or below 19year of age were excluded from the study. Most students at the University fall within the age group of 19 - 25years. It was expected that good percentage of students in this age group will be sexually active(Lawoyin & Kanthula, 2010).

2.4 Procedures

The data collection tool (questionnaires) was adapted from the ACHA-NCHA questionnaires on sexual behaviour, perceptions, and contraception with alpha scores for sex-related behaviours = 0.67 (Sang, Sally & Helen, 2011). This was pretested on 12 students of University of Namibia under study, and slight adjustments was made on alternatives/possible answers based on the need during analysis prior to data collection. Data was collected over 3 weeks from October 29 to November 16, 2012.

2.5 Data analysis

IBM-SPSS (Statistical Package for Social Science) version 20 was used for the analysis. Descriptive statistics and cross tabulations were calculated to display the socio-demographic distribution of the participants and characterize sexual behaviour.

3.0 Results

3.1 Sexual and Reproductive Health Behaviours

The pie chart shows the distribution of sexual behaviours of students in the last 30 days. Significant percentages of students were sexually active within the last 30 days. About a third of the students reported having vaginal sex within the last 30 days (34.2%; 111/322), followed by oral sex 11.5% (34/296) and only 2% (6/289) reported having anal sex within the same period.

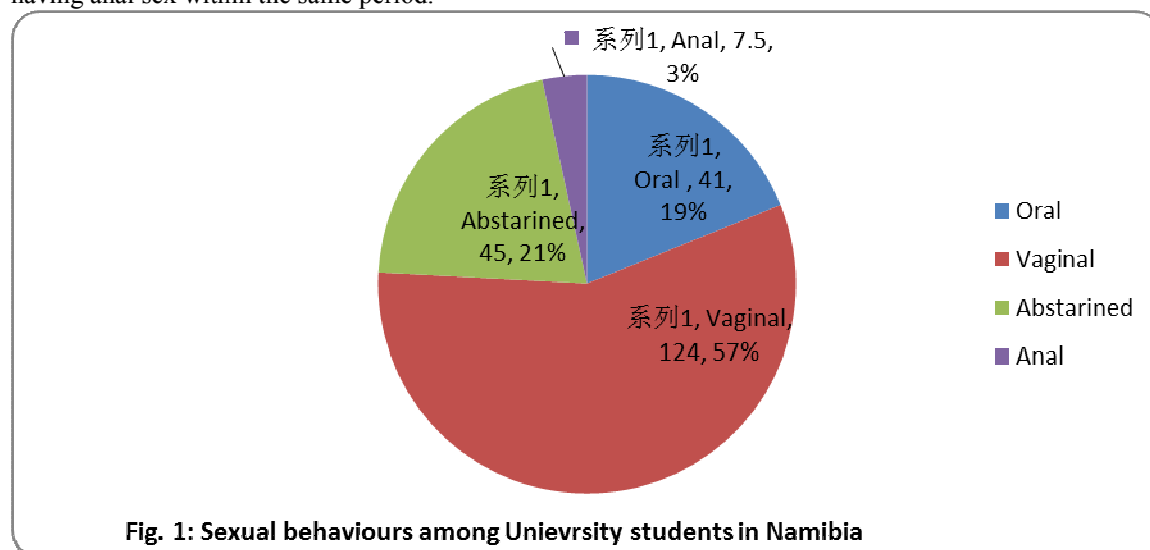
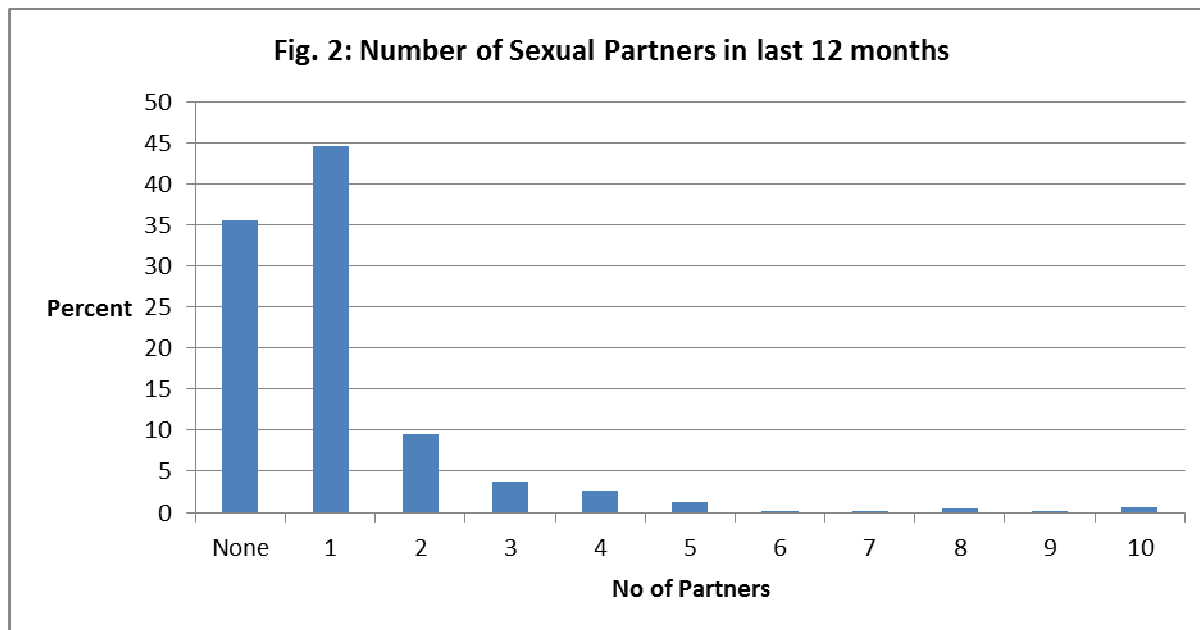


Fig. 1: Sexual behaviours among Unievrstity students in Namibia



About fourteen percent (45/323) of the students also reported engaging in transactional sex within the last 12 months. Fig. 2 shows that most of the respondents in this study reported having one sexual partner within the last 12 months (44.6%; 148/332), followed by those without sexual partners (35.2%; 117/332) and 20.2% (67/332) have had 2 or more sexual partners within the same period of time. Indicating that among those with sexual partners, 68.8% (148/215) have 1 sexual partner while 31.1% (67/215) have had multiple sexual partners (2 or more sexual partners) within the last 12 months.

Table 1: Frequency of condom use during vaginal sex within last 30 days

Behaviour	Number of time	Percentage (%)
Never	4	2.3
Often	59	33.5
Always	113	64.2

Among sexually active students, the percentage of students or their partners that used condom within the last 30 days is shown on table 1, about 64.2% (113/176) reported using condom always, while, only 2.3% (4/176) reported they never use condom during vaginal sex within the last 30 days. The frequency of vaginal sex within the past 30 days is shown on table 2, never did recorded 38.2%, have had vaginal sex ones or more times recorded 34.5%, have not done sex activity had the least.

Table 2: Frequency of vaginal sex within past 30 days

Behaviour	number (N = 322)	percentage (%)
Never did this sexual activity	123	38.2
Have not done this activity during the last 30	88	27.3
Did this 1 or more times	111	34.5

3.2 Significant Association between Birth Control Pills and Multiple Sexual partners

Chi-squared analysis between the use of birth control pills by students or their partners and multiple sexual partners also showed significant association (p=0.002) (Table 3).

Table 3: Cross-tabulation and Chi-Squared Analysis between 'Birth Control Pills' and 'Multiple Sexual Partners' among Namibian University Students Age 19-25, 2012.

3a Cross-tabulations comparing Birth Control pills and Multiple Sexual Partners

		Birth control pills		Total
		No	Yes	
No of Partners	01	137	3	140
	02 or more	54	8	62
Total		191	11	202

3b Chi-squared test between Birth Control pills and Multiple Sexual Partners

	Value	Degree of Freedom	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.663 ^a	1	0.002

Multiple logistic regression equation was applied to control for all the factors that had significant

associations with having multiple sexual partners in univariate analysis. Students or their partners who used withdrawal as birth control method in the last vaginal intercourse ($p=0.002$; odds ratio [OR] = 0.188 ; 95% CI = 0.064 – 0.550) were less likely to have multiple sexual partners, students who reported they or their partners use of birth control pills as birth control method for most recent act of vaginal intercourse ($p= 0.016$; odds ratio [OR] = 7.945; 95% CI = 1.470 – 42.956) were more likely to have multiple sexual partners. This analysis has shown the independent association of each independent variable on having multiple sexual partners.

Therefore, considering the common contraceptive methods (condoms, withdrawal and birth control pills) for the most recent act of vaginal intercourse among Namibian University students aged 19-25. There was no enough evidence to reject the null hypothesis that condom use was not associated with having multiple sexual partners. However there was enough evidence to reject the null hypothesis that the use of withdrawal and birth control pills were not associated with having multiple sexual partners.

4.0 Discussion

Sexual health of young people contributes majorly to their general state of health and more importantly the health of the society. This depends on the ability of young people to delay pregnancy or prevent unwanted pregnancy as well as prevention of STIs. This ability depends on the level of contraceptive use among the young people which impact on young people health and well-being. Contraception is considered to be a major tool to achieve a good sexual and reproductive health because of its health related benefit i.e. improving maternal health and reducing maternal mortality. In addition to this, contraception plays a vital role in the eradication of extreme poverty (Babigumira et al, 2015; Cleland et al, 2006; Van Lunsen, Van Dalen & Laan, 2006). However, many factors, including socio-economic and demographic factors, have been documented to affect sexual health of young people either through their direct influence on their sexual behaviour or indirect influence through contraceptive use (Richter et al, 1993; Sunil & Pillai, 2010; Valois et al, 1999; WHO, 2009b).

The aim of this study is to determine the prevalence of contraception, methods of contraception and risky sexual behaviours like multiple sexual partners among Namibian University students aged 19-25 and examine the association between contraceptive use and number of sexual partners. The study analysed some of the known factors influencing contraceptive use and sexual behaviour among young people and the roles of these factors in examining for the association between contraceptive use and number of sexual partners. This is of interest because of increasing incidence of HIV infection among young people. Some socio-demographic variables like sexual orientations; full- or part-time status, ethnicity; international student status and number of children were also studied.

The prevalence of contraceptive use for birth control in the most recent vaginal intercourse among the sexually active students or their partners was high. Majority of sexually active students reported the use of condom during the last vaginal intercourse. The prevalence of the use of modern contraceptive among the students is higher than that of older women (52%) as was documented by Indongo (2007). This finding is in tandem with the reports of MOHSS and Macro International Inc (2008); Dei et al (2004); Klomegah (1999); which showed that young women who have completed at least secondary school education has higher tendency to use contraceptive than those who have not been to school. The rate of condom use observed in this study is also within the range reported in a study conducted by early researchers in Namibia among youth 15 - 24 of age (Chandan et al, 2008).

As a matter of fact, having multiple sexual partners is an important risk factor in acquiring HIV infection. Multiple sexual partners was also considered as one of the confounding factor in studies that implicated hormonal contraceptive as risk factor of HIV and other STI acquisition (Baeten et al, 2007; CDC, 1999; Hunter & Mati, 1991). There is a disproportionately high HIV infection rate among young people globally. This is evident in Namibia with increasing burden of HIV infection among youth, in 2008 about 31% of new HIV infection was reported among people of age range 15 – 24 years (MOHSS, 2010). This trend is likely to continue unabated, considering significant percentage of students or their partners depending on withdrawal method as birth control, understanding association between contraceptive use, especially hormonal contraceptive and multiple sexual partners and disparity in the knowledge and use of condom by the students or their partners as effective method in prevention of STIs and HIV transmission. There is therefore, the need for Namibia's National Policy for Reproductive Health to revitalize Adolescent Friendly Health Services (AFHS) (Bhave & Galagali, 2013) that have been neglected for a very long time. The guiding principles of the National Policy on Adolescent Friendly Health Services that was initiated in 2002 on reproductive health is a basic human right for every Namibians and Namibians should have equal and equitable access to Reproductive Health services whenever required (Ministry of Education, 2008). The findings from this study might be a wake-up call to put in more efforts towards creating supportive and conducive environments by reproductive health provider that understand the sexual health needs and issues of young people and their involvement in sexual health services. Through this, more attention will be paid on safe sexual behaviour and dual contraception (using two methods of contraception simultaneously to ensure adequate prevention of unplanned pregnancies and STI) as important

aspects of contraceptive counselling among the youth, which could lead to decline in rate of HIV infection among young adults thereby putting Namibia on the way to achieving MDG 6.

Survey is a popular research methodology because it is effective in investigating associations within a short time from a fairly large population of interest at a relative low cost. However using close-ended questions in this study might have encouraged guessing leading to a misrepresentation of the knowledge and practices of the students (Morrow et al, 2011). Also associations established in this study cannot be used for determining causality in that it cannot discern which event led to the other event since the first event could not be identified through the study (Bruce, Pope & Stanistreet, 2008).

The survey result may not be generalizable for all tertiary school students in Namibia because the study was carried out in the Northern part of the country where the white and the mixed are not well represented although black is the majority in Namibia (black 87.5%, white 6%, mixed 6.5%) (Indexmundi, 2012). It will also be difficult to generalize the result for young people in Namibia since education, an important factor influencing sexual behaviour and contraception was not used in the analysis because the respondents fall within the same level of education. The study is also limited to heterosexual students since the size of gay/lesbian and bisexual groups were too small for analysis. The general response rate was good (87%) (IAR, 2011), this would have mitigated the effect of non-response bias in the study.

However, combining male and female responses for gender specific contraception like withdrawal, birth control pills and condom could exacerbate recall bias (influence of responder's memory on the response) (Bruce, Pope & Stanistreet, 2008). Recall bias will be more evident in responses that were given on behalf of the responder's partners. Self-reporting when dealing with sensitive subjects like the one considered in this study could also lead to information bias (the tendency of having social desirable responses, a form of response bias is high (Paulhus, 1991). These two forms of bias could have influence the result of this study and affect its validity.

5.0 Conclusions and Recommendations

5.1 Conclusion

The results from the analysis of this study establish the fact that, condom is the most common contraceptive use among the students and there seems to be a good orientation on the contraceptive use among the tertiary students. No association was found between the use of condom and having multiple sexual partners. Although birth control pill was the third most common birth control method among the student there was a strong positive association between birth control pills and having multiple sexual partners. It is evident that young people will benefit from contraceptive counseling with emphasis on safe sexual behaviour and dual contraceptive use in order to reduce HIV/STIs infection rate among them.

5.2 Recommendations for Further Study

This study was limited to the University students in Northern campuses of University of Namibia. Therefore, education, an important factor influencing sexual behaviour and contraception was not included in the analysis of this study since all the respondent were within the same level of education. The findings of this study is limited to the young people with education level above secondary school. Wider population could be covered with similar study, which will give a generalizable result.

Meanwhile, similar study can be conducted in the Southern campuses of University of Namibia, white and mixed Namibian are likely to be better represented in such study.

Studying the level of Utilization of available Adolescent Friendly Health Services can also give an idea of the accessibility of reproductive services to the young people in the Namibia.

Qualitative study will give an in-depth understanding of the relationship between birth control pills and multiple sexual partners. This type of study will be answering questions on causality by explaining 'why' and 'how' the relationship was established. The roles of alcohol use and male gender in this association can be better understood through the qualitative study.

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7.0 Competing Interests

The authors do not have a direct financial relationship with the commercial identity mentioned in this paper.

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