Premarital sex and condom use among trainee healthcare workers: an exploratory study of selected healthcare training institutions in Enugu State, Nigeria

Obinna Ositadimma Oleribe 1,4, Obehi Hilda Okojie 2, Nicholas Jonathan Burstow 3, Simon David Taylor-Robinson 3

1 Excellence and Friends Management Care Centre (EFMC), Dutse Abuja FCT, Nigeria; 2 Department of Community Medicine, University of Benin, Benin City, Edo State, Nigeria; 3 Liver Unit, Department of Surgery and Cancer, St Mary's Hospital Campus, Imperial College London, Praed Street, London, W2 1NY, United Kingdom

& Corresponding author: Obinna Ositadimma Oleribe, Excellence and Friends Management Care Centre (EFMC), Dutse Abuja FCT, Nigeria

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Abstract

Introduction: To assess the prevalence and causes of premarital sex and condom use among trainee healthcare workers in selected healthcare institutions in Enugu State, Nigeria; and to proffer solution to challenges identified. Methods: We used a mixed study approach with qualitative and quantitative components. Informed consent was obtained from participants and data collected using self-administered structured questionnaires. Epi info® was used for data analysis. Results: A total of 362 respondents (309 unmarried) from four healthcare training institutions participated in the study. Among unmarried respondents, 141 (45.8%) were sexually active. Premarital sex was more common among Pentecostals and sexual activity increased with age (r=0.78; p <0.05). Premarital sexual activity was more common among males and trainee nurses (p <0.005). Although knowledge of condom use was high, actual use was poor (20.1%), with lowest rates among females, Catholics and age-group 30-35 years. Breakages, high failure rates and reduced sexual satisfaction were cited as major factors responsible for poor use. Use of non-specific terms such as “casual sex” and “casual or regular sex partners” hindered consistent, correct condom use. Conclusion: There is a significant gap between knowledge of and actual use of condoms, despite high premarital sexual activity amongst healthcare workers. Furthermore, non-specific terminologies hinders appropriate condom usage. We propose the term: Committed Spousal Partner (CSP) defined as “a sexual partner who commits to fidelity (one sexual partner per time) and whose current HIV status is known through medical testing and is properly documented” in place of all non-specific terminology.

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Introduction

Human immune deficiency virus (HIV) infection with resultant acquired immune deficiency syndrome (AIDS) is one of the few diseases almost entirely preventable through simple measures. Despite this, close to 40 years after the discovery of HIV in the 1980s, the disease is still spreading. Sexual intercourse (including men having sex with men) has remained a major source of transmission of HIV across the world [1], as has unprotected premarital sex and sex with sex workers. Peer pressure and the broadcast media also contribute, instigating adolescents into risky behavior and illicit substance use, while facilitating the spread of disease [2]. Premarital sex among students is a common phenomenon [3-6] and is of particular importance because adolescent and young adults between 15-24 years of age account for a vast proportion of newly acquired sexually transmitted diseases [7]. Another facilitator of the spread of sexually transmitted diseases is the improper, sporadic, or lack of use of condoms, which may be due to a number of factors, including: pressure from male partners not to use protection, alcohol consumption prior to sexual intercourse increasing risk-taking behaviour, need for money forcing women into becoming sex workers and rape [8]. In a study of sexually active locals from Java, Indonesia, 60% did not take any action to prevent sexually-transmitted diseases (STD) or pregnancy during their last sexual encounter [9]. Other studies have shown that condom use varies with geographical location [10] and is low with regular partners, even amongst high-risk populations like injecting drug users [9]. Healthcare workers should be knowledgeable of HIV and have a favorable attitude towards its prevention [11]. Although there have been studies on premarital sex and condom usage among students [3-6], none has specifically focused on students in medical and allied healthcare professions. The objective of this study was to assess the prevalence of premarital sex and the use of condoms among trainee healthcare workers in selected healthcare institutions in Enugu State, southeastern Nigeria. It was also designed to document their level(s) and appropriateness of condom use. To achieve these objectives, three research questions were used: (1) What is the prevalence of premarital sex among students in selected institutions of higher learning?; (2) What is the prevalence of condom use during premarital sex among students in the selected institutions of higher learning?; (3) How effective is the current condom use campaign in Nigeria?

Methods

A mixed study approach in which qualitative content was imbedded in a quantitative study technique using a cross-sectional study design was conducted in selected healthcare training institutions in Enugu, Nigeria. Participants were trainees in these selected healthcare training institutions. The study population comprised undergraduates in schools of: basic nursing; post-graduate nursing; midwifery; and the Institute of Medical Laboratory Science, all affiliated to the University of Nigeria Teaching Hospital, Enugu. A total sample size of 362 against the minimal sample size of 264 calculated using standard technique was used. A cluster sampling technique was used to enlist participants into the study, surveying all students from randomly selected classes. For the School of Postgraduate Nursing, which only had one class, all students in the class at the time of survey were included in the study. Data collection was carried out over a period of four weeks, with the last group of students sampled on World AIDS day (December 1st 2016). Research permission was obtained from the University of Benin. We also received consent from the participating institutions and participants before their inclusion in the survey. A pre-tested Self-Administered Questionnaire (SAQ) was used for data collection. Epi info® (https://www.cdc.gov/epiinfo) and MS Excel were used for data analysis.

Ethical approval: This article is a cross sectional study and does not contain any studies with human participants or animals performed by any of the authors.

Results

A total of 362 respondents from the four healthcare training institutions were enlisted in the study. Of these 362, 361 respondents returned their self-administered questionnaires, giving a response rate of 99.7%. However, some questionnaires were not completed fully (Table 1). The majority of participants were drawn from the School of Nursing (Figure 1). Of the 361 participants, 308 (85.1%) were unmarried. Close to 80% of all participants were females (247, 79.9%). The mean age of participants was 24.41 ± 5.6 years, and the majority identified as Catholic (173, 58.6%). Radio was the main source of reproductive and sexual health information.
Knowledge of HIV/AIDS and condoms: A total of 298 participants (96.4%) knew that AIDS is an infection, while 277 (89.6%) knew that HIV is a virus. The highest level of knowledge was found among postgraduate nurses and midwives (100%), while levels of knowledge were lower among students of the Institute of Medical Laboratory Science (94.6%) and first year basic nursing students (94.6%). Wrong responses given included: "AIDS is a curse", "HIV is an infection" and "HIV means Higher Immune Vaccine". The level of knowledge between the different participating schools were not significantly different at 95% CI (X² = 0.52; p>0.05) All participants had heard of condoms, but only 290 (93.8%) had previously seen one. While all midwives and postgraduate nursing students had previously seen condoms, rates of 80.3% were reported in first year nursing students. Generally, more of the sexually active participants had seen a condom before, but this difference was not statistically significant (p>0.05).

Attitude to HIV/AIDS and condoms: One hundred and ten (35.6%) respondents believed that they were at risk of HIV. More of the sexually active participants accepted they were at risk of HIV infection than the non-sexually active (36.6% vs. 23.4%, respectively) (X = 7.44, P<0.01). Fifty-eight (18.8%) respondents reported that they would have sex (with or without condoms) if they were HIV positive. This was reported as being in order to satisfy their sexual needs, as sex was seen as a basic human right that needed to be satisfied by 22 (57.9%) of respondents. Thirty-three (56.9%) respondents reported that they would have sex if HIV was status positive, either to satisfy their desires or that of their partner(s) or spouse. Other reasons are listed in Table 2.

To support her desire to have sex with or without a condom, one respondent said: "There is nothing else to prevent transmission". Another said: "I am still a human being". Of all those who would have sex with a positive HIV status, 42 (72.4%) reported that they would use a condom for every sexual encounter; and 10% reported that they would have sex only with HIV positive individuals. Sexually active respondents were significantly more likely to report that they would have sex with HIV positive partner(s) than those who were not. ((56, 28.9% vs. 11, 6.6%, respectively). X² = 29.46, P<0.005). Two hundred and one (65%) respondents believed that condom awareness campaigns and condom usage have affected the spread of HIV, with 98 (48.8%) claiming that the effects have been positive (Table 2). Concerning condoms, some participants said: "it made fornication and adultery become rampant", "it has enhanced the spread of HIV and AIDS by making people carefree about sex", "it makes our boys and girls engage in casual sex", "Many people go into prostitution because there is condom availability".

Sexual and condom use, practice and behavior: Of the unmarried respondents, 141 (45.8%) were sexually active. Males were significantly more likely to be sexually active than females (68.8% vs. 40.4%, respectively, X²=13.18, p<0.005). The highest proportion of sexual activity in unmarried respondents was seen in postgraduate nursing students (91.7%) (Figure 2). Interschool differences in sexual activity were not statistically significant, except between trainee nurses and medical laboratory science students (X²=14.4, P<0.005). Increased age was associated with increased levels of sexual activity (r=0.78, t=2.16, P<0.05) (Table 3). Premarital sex was more common among Pentecostal Christian adherents, but this difference was not statistically significant. Over 80% (113) of sexually active respondents had ever used a condom, with the lowest usage rates in first year basic and postgraduate nursing students. All had heard of condoms and over 93% had seen a condom. More males than females used condoms (84.8% vs. 81.0%, respectively) but this difference was not significant. Of those who had ever used condoms, 86 (76.1%) used a condom during their last sexual activity, and 39 (34.5%) use a condom during every sexual encounter. Sixty-one percent and 27.7% of sexually active singles used condoms in their last encounter and during every sexual activity, respectively. Institutional analyses revealed that only 22% of the Enugu Institute of Medical Laboratory School students and 27% of postgraduate nursing students used condoms during every sexual encounter.

Reasons for sexual activities, effectiveness of condom and ease of use: The majority of participants had sex to satisfy personal desires (238, 77%). Most used condoms to prevent infections (218, 59.9%), but cited "tearing" as a major cause of condom ineffectiveness (80, 25.9%) and the belief that one's partner was safe was cited as a hindrance to the use of condoms (Table 4). Participants had several complaints against the use of condoms including: that they were easy to forget when aroused (143), troublesome to use (119), had reduced sensation (93), opposition from sexual partners (87), general unavailability (60), breakage and bursting (55), interruption of pleasure (49), embarrassment to buy (44) or that their usage brought with it suspicion of respondent infidelity (36). Other reasons cited included condoms being: uncomfortable (27), irritating (22), brought with them a requirement for being careful (16), that condoms often...
Discussion

There was a significant difference between levels of premarital sexual activity of trainee nurses, when compared with medical laboratory trainees. Male trainees were more sexually active than females. Despite high premarital sexual activity amongst surveyed healthcare workers, condom use was poor. Although knowledge of condom use was high, actual and consistent use was poor, resulting in a gap between knowledge of condom usage and actual practice. This finding is similar to studies from across the world. For instance, in an Indian study, nearly half of respondents (48.4%) used condoms inconsistently even amongst female sex workers and those engaging in anal sex with other men [12]. A study in Singapore reported consistent condom use with paid or casual partners of 39.6% and 36.2% for vaginal and oral sex, respectively [13].

Another study designed to examine prevalence and determinants of condom use among female undergraduates at 16 university campuses in China revealed 18.1% having sexual intercourse, with 19.8% having used a condom in their first sexual encounter [5]. In that study, 30% of those having intercourse reported never, seldom or sometimes using condoms in the past 12 months [5]. A Canadian study using a national sample of 653 Canadian university students reported higher condom usage amongst men than women (55.4% and 42.3%, respectively) [14], similar to the findings of this study. Being over 25 years of age, not a manual laborer and the perception that the respondent might be at risk of HIV, were factors that positively affected condom usage [12, 13]. Also in the Canadian study, female students who had sex with a more committed partner had slightly lower odds of reporting condom use at last penile vaginal intercourse [14]. A Philippine study revealed that 42% of the study population did not always use condoms [15], assertions echoed in other studies [16]. These findings, similar to the findings of this study, show that although premarital sex rates are high, condom use is poor, even among healthcare students. Poor condom use is worsened by the use of non-specific terms like "casual sex" and "casual or regular-sex partners". As these words are poorly defined, there is a need for a more specific terminology that explicitly specifies what is needed for safer sex among unmarried sexually active people.

Conclusion

We found substantial gaps between knowledge, attitude and practice, revealing considerable unmet needs for family live education. This significant gap exists between the knowledge of and actual use of condoms, despite high premarital-sexual activity amongst surveyed trainees. Use of non-specific terms such as casual-sex, casual and regular-sex partners hindered appropriate use of condoms. This should be replaced. We propose the use of Committed Spousal Partner (CSP) in place of all non-specific and poorly defined terms. We define a CSP as: "a sexual partner who commits to fidelity (one sexual partner per time) and whose current HIV status is known through medical testing and is properly documented". As these words are poorly documented. A committed spousal partner's status can change to non-committed spousal partner when any of these conditions are violated. To achieve CSP, there is the need to support sexually active unmarried people to know their HIV status, offer counseling to couples and advocate for improved and consistent use of condoms where HIV status is unknown (i.e. when the partner is not a CSP). Furthermore, there is the need to actively program to close the gap between knowledge and practice among trainee healthcare workers. Anthropological studies should be commission to identify sociological factors that may influence knowledge and practice.

What is known about this topic

- Premarital sex is on the increase across the world including within healthcare training institutions;
- Comprehensive sex and reproductive life education prevents unwanted pregnancies, infections including HIV and AIDS, and other sex related health challenges;
• With the advent of HIV/AIDS, use of condoms with casual sex partners is one of the core preventive messages along with abstinence and faithfulness to one’s sex partner in the ABC of Prevention.

What this study adds

• Poor condom use is seen even among healthcare workers, including those in medical school and health training institutions;
• “Casual sex partner” is an ill-defined term. We propose the use of Committed Spousal Partner (CSP) in place of all non-specific and poorly defined terms. We define a CSP as: "a sexual partner who commits to fidelity (one sexual partner per time) and whose current HIV status is known through medical testing and is properly documented." A committed spousal partner's status can change to non-committed spousal partner when any of these conditions are violated.

Competing interests

The authors declare no competing interests.

Authors’ contributions

Obinna Ositadimma Oleribe conceived, designed the study with Obehi Hilda Okojie supervision. Obinna Ositadimma Oleribe developed the data collection tools and acquired the data with Obehi Hilda Okojie supervision. Obinna Ositadimma Oleribe and Nicholas Jonathan Burchow analysed and interpreted the data. Obinna Ositadimma Oleribe, Obehi Hilda Okojie and Simon David Taylor-Robinson developed the manuscripts through several versions. All authors were involved in revising and finalizing the manuscript. All authors have approved the version to be published.

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### Table 1: Demographic characteristics of participants

| Age Group | Frequency | Percentage (%) |
|-----------|-----------|----------------|
| 15 - 19   | 39        | 12.7           |
| 20 - 24   | 189       | 61.4           |
| 25 - 29   | 65        | 21.1           |
| 30 - 34   | 13        | 4.2            |
| 35 - 39   | 2         | 0.6            |
| > 40      | 0         | 0.0            |
| Total     | 308       | 100.0          |

| Religion  | Frequency | Percentage (%) |
|-----------|-----------|----------------|
| Catholic  | 173       | 58.6           |
| Anglican  | 68        | 23.1           |
| Pentecostal| 41        | 13.9           |
| Muslim    | 1         | 0.3            |
| Other denominations | 12 | 4.1 |
| Total     | 295       | 100.0          |

| Sources of Information | Frequency | Percentage (%) |
|------------------------|-----------|----------------|
| Radio                  | 245       | 79.29          |
| Television             | 206       | 66.67          |
| Teachers               | 216       | 69.90          |
| Health workers         | 254       | 82.20          |
| Friends                | 194       | 62.78          |
| Others (e.g. siblings’ parents’ internet, books seminars etc.) | 47 | 15.21 |
Table 2: Reasons why people desire to have sex and the impacts of the condom campaign on HIV prevention

| Reasons why people with HIV still desire to conceive | Frequency | Percentage (%) |
|-----------------------------------------------------|-----------|----------------|
| Right to procreation                                | 25        | 34.7           |
| God’s commandment to multiply                       | 9         | 12.5           |
| To maintain family lineage                          | 11        | 15.3           |
| Fulfill womanhood                                   | 27        | 37.5           |
| Total                                               | 72        | 100.0          |

| Common positive impacts of the Condom Campaign on HIV prevention and control | Frequency | Percentage (%) |
|------------------------------------------------------------------------------|-----------|----------------|
| Increased awareness of the disease                                           | 34        | 34.7           |
| Increased condoms availability                                               | 31        | 31.6           |
| Increased condom use                                                          | 23        | 23.5           |
| Increased peoples’ fear of the disease                                       | 10        | 10.2           |
| Total                                                                         | 98        | 100.0          |

| Common negative impacts of the Condom Campaign on HIV prevention and control | Frequency | Percentage (%) |
|------------------------------------------------------------------------------|-----------|----------------|
| Increased sexual laxity                                                      | 38        | 36.9           |
| Increased moral decadence                                                    | 27        | 26.2           |
| Increased cheap sex                                                          | 26        | 25.2           |
| Carefree attitude about sex/prostitution                                     | 12        | 11.7           |
| Total                                                                         | 103       | 100.0          |
**Table 3:** Proportion of respondents who were sexually active and use condoms by age and religious group

### Sexually active by age

| Age (Years) | Frequency | Proportion |
|-------------|-----------|------------|
| 15-19       | 9         | 0.23       |
| 20-24       | 82        | 0.43       |
| 25-29       | 39        | 0.6        |
| 30-34       | 9         | 0.69       |
| 35-39       | 2         | 1          |
| **Total**   | **141**   | **100**    |

### Sexually active by religion

| Religious group | Frequency | Proportion |
|-----------------|-----------|------------|
| Catholic        | 76        | 0.44       |
| Anglican        | 28        | 0.41       |
| Pentecostal     | 20        | 0.49       |
| Muslim          | 1         | 1          |
| Others          | 7         | 0.58       |
| **Total**       | **132**   | **100**    |

### Use condom by age

| Age (Years) | Frequency | Proportion |
|-------------|-----------|------------|
| 15-19       | 6         | 0.67       |
| 20-24       | 70        | 0.85       |
| 25-29       | 30        | 0.77       |
| 30-34       | 5         | 0.56       |
| 35-39       | 2         | 1          |
| **Total**   | **113**   | **100**    |

### Use condom by religion

| Religious groups | Frequency | Proportion |
|------------------|-----------|------------|
| Catholic         | 58        | 0.76       |
| Anglican         | 24        | 0.86       |
| Pentecostals     | 16        | 0.8        |
| Others           | 7         | 0.88       |
| **Total**        | **105**   | **100**    |
| Reasons                        | Frequency | Percentage (%) |
|-------------------------------|-----------|----------------|
| To satisfy personal desires   | 238       | 77.0           |
| To satisfy partners           | 184       | 59.5           |
| To sustain relationship       | 152       | 49.2           |
| To enhance finances           | 121       | 39.2           |
| To make children              | 110       | 35.6           |
| To satisfy curiosity          | 17        | 5.5            |
| No reason                     | 37        | 12.0           |

**Why people use Condoms**

| Reasons                        | Frequency | Percentage |
|-------------------------------|-----------|------------|
| To prevent pregnancy          | 185       | 59.9       |
| To prevent infection          | 218       | 70.6       |
| To prevent HIV/AIDS           | 150       | 48.5       |
| Others (e.g. To feel safe)    | 5         | 1.6        |

**Why Condoms are ineffective**

| Problems                       | Frequency | Percentage |
|-------------------------------|-----------|------------|
| Tear                          | 80        | 25.9       |
| Irregular use                 | 76        | 24.6       |
| Inconsistent use              | 69        | 22.3       |
| Poor quality                  | 58        | 18.8       |
| Holes in condoms              | 47        | 15.2       |

**Beliefs hindering use of condoms**

| Beliefs                        | Frequency | Percentage |
|-------------------------------|-----------|------------|
| Meant for prostitutes         | 44        | 14.2       |
| Do not need one               | 115       | 37.2       |
| Cannot get infected           | 69        | 22.3       |
| Knew that their partner(s) were safe or uninfected | 198 | 64.1 |
| Protect self by other means   | 34        | 11.0       |
| Not at risk of HIV infection  | 19        | 6.1        |
### Table 5: Effectiveness of condoms against HIV infection, pregnancy and other infections

| Sexual activity                           | Yes | No  | \( X^2 \) | p-Value |
|-------------------------------------------|-----|-----|-----------|---------|
| HIV/AIDS                                  | 84  | 32  | 22.03     | <0.005  |
| Pregnancy                                 | 137 | 77  | 22.35     | <0.005  |
| Infections (other STIS)                   | 116 | 57  | 23.69     | <0.005  |

**Figure 1**: study participants by discipline
Figure 2: Proportion of respondents who were sexually active by discipline