Case Report

Study of the determinants of condom use among students at the lake Tanganyika University in Burundi. Cross-sectional analytical study

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Abstract

Background The question of sexual and reproductive health among the young generation remains one of the primary concerns to the health sectors of the regions in sub-Saharan Africa. It is this group that experiences biological, psychological, and social change that makes them highly susceptible to Sexually Transmitted Infections, HIV/AIDS, and unwanted pregnancies. It is the combination of these and other related problems that tends to make the young generation highly vulnerable: to early first sex, inadequate sex education, stigma attached to preventive practices, and inequitable distribution and access to preventive measures, which are mostly embodied by the use of condoms. Yet, the frequency of the use and the prevalence rate of the use of the condom remains paradoxically low among the highly vulnerable: This becomes even more important in a university setting since younger individuals are at an age where they are discovering their autonomy and are still exploring their sexuality. Despite condom effectiveness in inhibiting STIs, HIV/AIDS, and unplanned pregnancy, various obstacles exist that continue to interfere with consistent condom use. In this respect, it is necessary to identify determinants for condom use (or abstinence from using condoms) in order to adapt preventive policies to socio-cultural circumstances encountered by young generations in sub-Saharan Africa and especially in Burundi. **Methods:** Cross-sectional descriptive and analytical research was conducted in April 2025 at the University of Lake Tanganyika in Burundi. The target population consisted of 196 students who were chosen using non-probability convenience sampling because there was no nominative database available. Primarily, it was important to establish sociodemographic, sociocultural, behavioral, and cognitive variables contributing to the usage of condoms by university students. Participants responded to the questionnaire on sexual behavior, attitudes, and knowledge on sexual and reproductive health. The data was entered and analyzed using Microsoft Excel and the Statistical Package for the Social Sciences (SPSS) version 25. The statistical tests conducted used bivariate tests, analyzing odds ratios (OR) and confidence intervals (CI) of 95%, evaluating the strength and significance of relationship between the dependent and independent variables. The cut off for statistical significance was set at p-value < 0.05 **Results:** "Condom use prevalence was 44.4%. Important determinants were:"

- Place of upbringing (OR = 4.136; $p < 0.001$)
- Shame in buying condoms (OR = 3.009; $p < 0.001$)
- Knowledge of condom benefits (OR = 5.856; $p < 0.001$)
- Knowing someone who died from AIDS (OR = 4.741; $p < 0.001$.

Conclusion: There has been a need for improvement in the area of sexual health, learning, and communication. This is especially true for the purpose of overcoming the taboo that exists.

Keywords: condom use, sexual health, youth, HIV, STI, Burundi

1 Context

Youth sexual and reproductive health is a global public health priority, especially in sub-Saharan Africa, where morbidity and mortality indicators related to STIs, HIV/AIDS, and early pregnancies remain concerning [1, 2, 3, 4, 5]. Young people, especially students, often engage in sexual discovery without adequate tools to protect themselves. This situation is worsened by lack of sexual education, stigma surrounding contraceptive use, and low accessibility to protective methods [6].

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Universities represent places of socialization and transition to adulthood, whereby sexual behaviors develop under peer pressure, experimentation, and increasing autonomy. However, they rarely provide structured support for sexual health [7, 8, 9]. This situation is worsened by the inability of universities to provide suitable services, such as health centers or spaces for confidential dialogue. Negative social views of condoms-as a sign of distrust or promiscuity-make acceptance difficult, even in stable relationships [10].

This is important to understand in individual and collective logics so that specific prevention strategies, which respect local cultural dynamics, can be elaborated on.

The data in Burundi indicate that young people increasingly practice sexual activities at younger ages, which puts them at high risk of exposure to HIV/AIDS and other STIs. Condoms are available; however, their use remains low. This challenges public health professionals to appreciate the socio-cultural, economic, and cognitive factors for this observed trend. Therefore, this study empirically investigates the determinants of condom use among university students.

1.1 Conceptual framework

1.1.1. Sociodemographic factors.

- Age
- Origin (urban/rural)
- Sex

1.1.2. Sociocultural factors.

- Religion and culture
- Shame/taboos/stigmatization
- Rumors
- Social norms

1.1.3. Behavioral factors.

- Cost of condoms
- Availability of condoms
- Alcohol or drug use

1.1.4. Knowledge-related factors.

- Knowledge of condom benefits
- Knowledge of effectiveness
- Awareness of STI and HIV risks

2 Methods

2.1 Type, location, and study period

This was a cross-sectional analytical study conducted at the University of Lake Tanganyika, a higher education institution hosting students from diverse socio-cultural backgrounds. The cross-sectional design allows for a snapshot of the current situation and the exploration of potential associations between variables.

2.2 Population and Sampling

The study targeted students officially enrolled during the 2023–2024 academic year. A non-probabilistic convenience sampling method was used due to the absence of a nominative student registry. The sample size was determined using Schwartz's formula, with 196 participants, ensuring sufficient statistical power for an exploratory study.

2.3 Data Collection

Data were collected through a structured, face-to-face questionnaire covering sociodemographic, sociocultural, behavioral, and knowledge-related dimensions. Anonymity and confidentiality were ensured to promote honest responses.

2.4 Variables

- Dependent variable: Condom use (yes/no)
- Independent variables:
  - Sociodemographic: age, sex, origin
  - Sociocultural: religion, rumors, shame
  - Economic/behavioral: perceived cost, accessibility, alcohol use
  - Knowledge: definitions, benefits, indirect experiences (e.g., knowing someone who died of AIDS)

3 Results

3.1 Condom use

Use	Frequency	Percentage
Yes	87	44.4%
No	109	55.6%

Interpretation: Less than half of the students use condoms, which is concerning in a high-STI-prevalence context. This relatively low rate may be explained by lack of information, cultural barriers, or perceived lack of availability.

3.2 Sociodemographic characteristics

Variable	Category	Frequency	Percentage
Age	>21 yrs	112	57.1%
	≤21 yrs	84	42.9%
Place of origin	Urban	87	44.9%
	Rural	109	55.6%
Sex	Male	95	48.5%
	Female	101	51.5%

Interpretation: Most respondents are from rural areas. Contrary to common assumptions, students from urban areas use condoms less, possibly due to different cultural attitudes or a false sense of security.

3.3 Significant bivariate analysis

Factor	OR	95% CI	p-value
Urban vs rural origin	4.136	[2.270–7.535]	<0.001
Shame in buying condoms	3.009	[1.632–5.550]	<0.001
Knowledge of benefits	5.856	[3.048–11.250]	<0.001
Knowing AIDS-related death	4.741	[2.580–8.714]	<0.001

Interpretation: The most influential factor is knowledge of condom benefits (OR = 5.856), showing that good information is a powerful lever for protective practices. Shame triples the risk of non-use, reflecting the weight of social judgment. Knowing someone who died of AIDS seems to serve as an emotional catalyst for prevention.

4 Discussion

The study uncovers the alarming rate of condom non-use, amounting to 55.6%, which is a threat to students' sexual and reproductive health. These significant factors span cultural dimensions of shame, cognitive dimensions of knowledge, emotional dimensions of knowing someone with AIDS, and contextual dimensions of origin.

The urban students paradoxically use less condoms, and this calls for a qualitative explanation. It may be due to overexposure to information or perhaps a false sense of safety in exposure to information. Beliefs and taboos, especially among young women, are still negative and act as strong deterrents.

These findings agree with various studies conducted in Africa on the roles of social norms, stigma, and lack of parental and institutional communication in risky sexual behaviors.

5 Conclusion

Results from this study indicate that condom use among university youth remains insufficient and is influenced by multiple factors. For this reason, integrated intervention combining sexual health education, increased access to protection, and breaking of taboos becomes very essential.

6 Recommendations

- Strengthen sexuality education starting in secondary schools
- Promote a positive, non-judgmental approach to contraception
- Train peer educators within universities
- Ensure confidential and affordable access to condoms

Abbreviations

- STI: Sexually Transmitted Infection
- HIV: Human Immunodeficiency Virus
- AIDS: Acquired Immunodeficiency Syndrome
- OR: Odds Ratio
- CI: Confidence Interval
- SRH: Sexual and Reproductive Health

Declarations

Ethical approval

Authorization obtained from the University of Lake Tanganyika. Verbal consent obtained from each participant.

Informed consent

All participants agreed to participate.

Conflict of interest

The authors declare no conflict of interest.

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