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Patterns and Determinants of Consistent Condom Use Among Cameroonian Soldiers

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Abstract

Background: Despite numerous health promotion interventions lately conducted, the human immunodeficiency virus (HIV) remains a major cause of morbidity and mortality in sub-Saharan Africa. It is reported that military personnel have a higher prevalence of HIV, compared with the general population. Condom use remains a cheap, easy-to-use, and effective device to prevent the spread of HIV. Growing evidence, however, suggests its underuse among the military personnel.
Methods: The current cross sectional study included 325 consenting male and female soldiers from 8 different battalions. Characteristics of the study participants were summarized using frequencies and proportions. Associations between the studied variables were investigated using the Chi-square test of independency; P values < 0.05 were considered statistically significant. Results were presented in the form of tables and graphs. Data analysis was conducted using SPSS version 20.0.
Results: Only 28% of the participants used condom during the last unsafe sexual contact. Over 85% of them reported that condoms were always available. Half (50%) of the participants were ashamed to buy condoms. The most commonly reasons for not using condoms were drunkenness (37.5%), trust in the sexual partner (26.5%), tobacco smoking (11.1%), not interested to use a condom (8.9%), and dislike/refusal of condom use by the partner. Main reasons of inconsistent use of condoms included drunkenness, shyness to buy condoms and unavailability in the respective battalions. Trust in sex partners, condom use/sex related stigma, and alcohol abuse were the major determinants of inconsistent condom use during unsafe sexual relations among Cameroonian soldiers.
Conclusions: Unprotected sexual practice amongst Cameroonian soldiers was high. Despite the reported high availability of condoms (85%), only 28% of the study respondents used condoms during their last sexual intercourse with different partners. Consistent condom use was sub-optimal among Cameroonian military staff.

Keywords: HIV, Soldiers, Condom Use, Cameroon

1. Background

Despite numerous health promotion interventions recently carried out in low and medium income countries, human immunodeficiency virus (HIV) infection and transmission remain a major cause of morbidity and mortality (1). Sub-Saharan Africa (SSA) carries the greatest burden due to HIV and acquired immune deficiency syndrome (AIDS). For instance, in 2010, about 70% of new HIV infections were from SSA; the region was also the home of over 68% of all people living with HIV (2). The prevalence of HIV/AIDS in Cameroon decreased significantly, but still far beyond targets. With an actual prevalence of 5.5% (3), one of the highest in Central Africa, health promotion interventions are carried out throughout the years to curb its spread. Condoms are cheap, easy-to-use, and effective to prevent the spread of HIV and other sexually transmitted infections (STIs) (3). Evidence from South Africa demonstrated the effectiveness of mass condom use in reducing the national HIV incidence occurred from 2000 to 2008 (4). Military staff generally has a greater risk of exposure to STIs including HIV, compared with the general population. The prevalence of STIs is about 2 to 5 times higher among military personnel than the general population (5). The situation could be even worse during war or unrest (5-7).

Central Africa at this point of time is within political unrest and conflicts. Cameroonian soldiers are permanently implicated with the peace keeping process in and out of the country. Recently, the policy of the ministry of defense is to increase the proportion of young sol-

diers. Therefore, it is necessary to increase the acceptability, together with proper and consistent use of condoms as much as possible to avoid new contaminations and reduce disease spread. In China, wrong perceptions about the disease, socioeconomic status (income and level of education), and trust were the main factors that affected the frequency, consistency, and effectiveness of condom use (8). Based on the the relationship between communication and HIV/AIDS prevalence, it is reported that the properties of particular communities effectively improved self-efficacy, consistency, and use of condoms in Malawi (9). Reports from Botswana and Paraguay indicated that only 14% of military staff uses condoms during casual sexual encounters (10, 11). There was almost no literature on the factors influencing condom use among Cameroonian soldiers. The reasons why condoms are not systematically used in unsafe sexual relations, especially in this high risk population, could be of utmost importance to shape health promotion and HIV prevention interventions within this target group.

2. Methods

The current cross sectional study included 325 consenting male and female soldiers from 8 different battalions working in the first and second combined military regions of Cameroon. The study was conducted from 01 October to 21 November in 2015. The inclusion criteria were age $\geq$ 18 years and intercourse experience. First, the study goals were explained to the participants, and then, pre-tested and validated self-administered questionnaires were used to collect data with based on the sociodemographic characteristics, condom use frequency, sexual behavior history, knowledge about condom use, and HIV transmission, attitudes, intentions to use condoms, and their self-efficacy with regards to the use of condoms. The current study defined unsafe sex as unprotected intercourse with a casual partner, or unprotected sex with a permanent partner with unknown HIV serostatus. The questionnaire used for the current study have 4 main sections: First, the sociodemographic characteristics of the respondents; the second section mainly focus on condom use with 15 sub questions, evaluating availability and use of condoms, number of times having safe and risky sexual relations, sources of condoms and circumstances as well as frequency of condom use. The third section evaluates the knowledge on condom use as well as HIV transmission. The last section evaluates the intentionality of actual and future condom use, in addition to the self-efficacy aspects of its use. Based on the assumption that the military staff behaviors regarding sexuality and condom use were different from those of the general population, the study adapted a questionnaire to fit the study context and objectives, based on the earlier versions by Tran et al. (10) and Laguna-Torres et al. (11). The questionnaire was piloted on a sample of 10 soldiers from 2 different battalions in the central region of the country, and was finally validated after research team discussions.

All participants read and signed a consent form before filling-out the questionnaire. Ethical approval was obtained from the national ethics committee and the administrative authorizations from the various battalion chiefs before the study. Characteristics of the study participants were summarized using frequencies and proportions. Associations between the study variables were investigated using the Chi-square test of independency; P values < 0.05 were considered statistically significant. Results were presented in the form of tables and graphs. Data analysis was conducted by SPSS version 20.0.

2.1. Ethics Approval

Ethical clearance was obtained from the national ethics committee, Cameroon. All participants consented to the collection of health data.

3. Results

Among the 335 prospective participants approached for the study, 325 participants responded; a response rate of 97%. Most of the respondents (71%) were male. The mean age of the participants was 26.7 years (SD $\pm$ 11). Only 16% of the study participants were 30 years old or above. Over 62% of the respondents were rank and file soldiers, and officers represented only 8% of the current study sample. Most of the participants were Christians (76%) and 68% of them had attained at least the secondary level of education. Seventy-five percent of them consumed alcohol and 53% smoked. The sociodemographic characteristics of the participants are summarized in Table 1. Over 60% of them reported always using condoms during risky sexual contacts, and about 2% declared they never used condoms (Table 1).

More than half (51%) of the participants had sex with a casual partner. Only 28% of the participants used condom during the last unsafe sexual contact (casual). There was no statistical difference between the consistence of condom use and age ($P < 0.78$). However, sub-officers were more likely not to use condoms during their last sexual contact, compared with the other rank and file soldiers and officers ($P < 0.01$) (Table 2).

Over 85% of them reported that condoms were always available. Most respondents (70%) believed that condoms were affordable. Distance to the closest source of condoms was considered acceptable to 65% of the participants. Participants were asked about their feelings while they went

Table 1. Sociodemographic Characteristics

Variable	Category	No. (%)
Age	≤ 30	272 (83.7)
	> 30	53 (16.3)
Gender	Male	230 (70.8)
	Female	95 (29.2)
Marital status	Single	201 (61.8)
	Married	112 (34.5)
	Divorced	7 (2.2)
	Widow(er)	5 (1.5)
Religion	Christian	247 (76.0)
	Muslim	61 (18.8)
	Other	17 (5.2)
Rank	Field soldier	130 (40.0)
	Sub-officer	170 (52.3)
	Officer	25 (7.7)
Level of Education	Primary	61 (18.8)
	Secondary	221 (68.0)
	University degree	43 (13.2)
Smoking		173 (53.2)
Alcohol		244 (75.1)

Table 2. Condom Use in the Most Recent Intercourse

Variable	Condom Use (No, %)	P Value
Rank in the military		0.01
Rank and file soldier	23	
Sub-officer	67	
Officer	10	
Gender		0.58
Male	68	
Female	32	
Age , y		0.10
< 30	78	
> 30	22	
Religion		0.10
Christian	77	
Muslim	19	
Other	04	
Level of education		0.02
Primary	10	
Secondary	71	
Higher	19	
Marital status		0.01
Married	45	
Other (single, divorce, widow)	55	

Table 3. The Reasons for not Using Condoms in the Most Recent Unprotected Casual Intercourse

Explanation	No. (%)
Drunkenness	122 (37.5)
Tobacco use	36 (11.1)
Trust in the partner	86 (26.5)
Not affordable	3 (0.9)
Did not like using	29 (8.9)
Partner's refuse	17 (5.2)
Not available	14 (4.3)
Far store	4 (1.2)
Other reasons	13 (4.0)
Total	324 (99.7)
Missing	1 (0.3)
Total	325 (100.0)

to buy condoms. One-third (30%) of the participants were not ashamed when they went to buy condoms. Over half (50%) of them were ashamed to buy condoms. Females felt more ashamed to buy condoms, compared with their male counterparts (P <0.02). One of the commonest reported reasons of dislike to use condoms generally was that sex was less enjoyable with condoms (70%).

All participants had a history of unprotected intercourse. Participants were asked specifically why they never used a condom during their most recent unprotected intercourse. The most commonly reported reasons were drunkenness (37.5%), trust in the sexual partner (26.5%), tobacco smoking (11.1%), did not like to use a condom (8.9%), and dislike/refusal of condom use by the partner. These findings are summarized in Table 3. Over 82% of the participants discussed the use of condoms with the partner.

Seventy percent of the respondents had the most recent sexual encounter either the wife or stable sex partner. Five percent of the male respondents had sex with prostitutes (Table 4). In terms of using condoms with unstable sex partners or prostitutes, 60% used condoms systematically, 25% of them most of the time, and 2% of the respondents never used condoms. Participants were questioned on the number of sex partners they had within the past 6 months. Over 47% of the respondents had more than 1 sex partner. Table 3 summarizes reasons why par-

ticipants failed to use a condom in their last unsafe sexual encounter. Trust in the partners made condom use unnecessary for 37% of the participants. Consumption of alcohol (11%), refusal of condom use by the partner (38%), and the need to go to buy a condom (6%) explained why condoms were not used for the rest of the respondents. Females were more likely to accept risk not to use condoms because their male partners refused to use it, compared with their male counterparts (70%, P < 0.02). Over half (59%) of the participants reported that their intent to use condoms was to avoid contracting HIV and STIs, whereas 34% of the respondents used condoms mainly to avoid pregnancy. Most of the participants got their condoms from a pharmacy or sales shop (74%). Others got condoms from friends (12%) and hospitals (11%). Only 3% of the respondents got condoms from the battalions. Eighty-six percent of the participants had bought condoms before. Forty percent of the participants were comfortable with buying condoms, 46% a little shy, and 14% of them were extremely shy when buying condoms. Most of the soldiers had received information and education on HIV and STIs from the media (55%), hospitals/health centers (20%), and health campaigns (16%).

Table 4. Frequency of Condom Use, Last Sex Partner Characteristics, and Circumstances Reducing Consistent Condom Use

Question	No. (%)
How often do you use condoms?	
Always	60.6
Most of the time	24.6
Sporadically	12.9
Never	1.9
Who did you have the Last intercourse with?	
Wife/stable partner	69.5
Casual partner	19.7
Prostitute	4.9
Others	5.9
What makes you not use condoms at times	
Alcohol	11.0
Trust in the partner	37.0
Partner refusal	38.0
Unavailability of condoms	7.0
Others	7.0

Over 82% of the participants were ready to enter a dialogue on condom use with their partners. However, 11% of the soldiers did not discuss on condom use with their partners, whereas 7% of them were still undecided.

Elsewhere, singles were more likely to entertain casual sex and intercourse with prostitutes (P < 0.001). There was no statistically significant difference between marital status and consistency of condom use (P < 0.49). Singles, however, used condoms more consistently, compared with other marital status groups. Christians were more likely to use condoms, compared with Muslims (P < 0.002).

4. Discussion

Despite reported availability and affordability of the male condom, wide knowledge gaps still exist on the safe usage (12). The current study did not practically investigate the knowledge about condom use. Elsewhere, Holmes et al. reported lower levels of knowledge about condom use among Nigerian soldiers (13). Despite the effectiveness of condoms in significantly reducing HIV transmission (1, 14), its use remains distressingly sub-optimal in a high risk group such as the military personnel (3, 5, 12, 15, 16). The current study mainly aimed at investigating the patterns and determinants of the use of male condoms among a representative sample of Cameroonian soldiers.

Although the availability of condoms in the current study sample was high, (85% always used condoms), consistent condom use was low, with only 28% of the respondents reporting the use of a condom in the last risky sexual contact. The current study defined risky intercourse with a casual sex partner, or a stable partner whose HIV serology was unknown. Chow et al. reported that educational programs targeting the improvement of condoms use indirectly improved HIV screening rates (17).

In Botswana, scented condoms and condoms packed in military wrappers improved condom use among the soldiers (18). In Belize, alcohol abuse was prevalent and associated with HIV risky behaviors (19). Although 70% of the respondents believed condoms were affordable and 65% considered distance not to be a major hindrance in obtaining condoms, making condoms constantly available is important. For instance, only 3% of the respondents in the current study obtained condoms from the respective battalions or stores, and 6% reported that they never used condoms because they were not available. Making condoms readily available in all battalions could help to avoid infections that could arise from lack of condoms. Based on the fact that many soldiers are currently mobilized to the Northern region of the country characterized by marked insecurity, active increase in condom availability under such circumstances becomes more compelling. Educational interventions targeted to behavioral change interventions need to be carefully assessed; despite the availability of condoms reported in the current study sites, using it still remains sub-optimal. Although 47% of the

respondents reported having sexual relations with more than 1 sex partner, only 60% of them used condoms systematically with unstable sex partners.

HIV/AIDS and condom-related stigma reduced, but they still remain significantly high in most African settings (1). Continuous educational and destigmatizing interventions could improve the use of condoms. Alcohol use (37.5%) and trust in sexual partners (37%) were cited as the common reasons why respondents found condom use unnecessary. Tran et al. reported similar findings from Botswana (18). Over 70% of the respondents reported that intercourse with condoms was not enjoyable. Making condoms readily available and insisting on not judging HIV status from physical appearance during health education campaigns could curb transmission. Motivational interventions could be very helpful, as over 82% of the respondents were ready to discuss on condom use with their sex partners. In the current study sample, 98% of the respondents reported knowing how to use condoms appropriately. In a study on military females, regular condom users reported a lower percentage of problems, compared with occasionally users (20).

In a Paraguayan study, only 14.8% of the participants reported condom use with every sexual encounter. Participants older than 45 years, compared with younger participants, had a four-fold (adjusted odds ratio: 4.3) increased the risk of not using condoms. Officers and non-commissioned officers were identified to have a two-fold (as measured by adjusted odds ratio: 2.00 and 2.22, respectively) increased the risk of having more than 2 sexual partners in the last month, compared with students (11).

A pilot study in Botswana showed that providing scented condoms and condoms packed in a military-inspired wrapper may help to increase condom use and reduce HIV infection among military personnel (18). Bing et al. in a study on Angolan soldiers showed increased condom use, reduced unprotected vaginal sex, and reduced numbers of partners after a training and prevention intervention (21). However, in a recent systematic review by Lopez et al. long-term gains of such interventions remained understudied and clinical evidence and effectiveness of such interventions remained low and non-conclusive (22).

Christians in the current study sample had a greater tendency to use condoms more frequently than Muslims. Qualitative research and larger sample size might be required to properly investigate this finding, and seek explanations to justify this difference.

4.1. Limitations

The responses of the current study participants could be socially desirable, considering the fact that sex-related issues still remain very sensitive. A larger sample with more battalions throughout the country would be welcomed. Comparative studies with general populations in selected areas could generate key findings on different consistent condom use patterns between the military and general populations.

4.2. Conclusions

The level of unprotected sexual practice among Cameroonian soldiers remains high as over half of the respondents having the last intercourse with a casual partner. Despite the reported high availability of condoms (85%), only 28% of the respondents used condoms in their last intercourse. Only 40% of the soldiers were comfortable with buying condoms. Making condoms constantly available in the various battalions could help to improve condom use. Health education interventions are needed, with emphasis on reducing alcohol consumption or always getting condoms before drinking. Trust in sex partners, condom use/sex-related stigma, and alcohol abuse remain the major determinants of inconsistent condom use in the risky sexual relations among Cameroonian soldiers.

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Footnote

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