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HIV Knowledge and Its Association with Sexual Risk Behaviours among Out-of-school Adolescents in Kumba, Southwest Region of Cameroon

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Author's contribution

Author EET designed the study, directed the field work, performed the statistical analysis, drafted and approved the final manuscript.

Original Research Article

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ABSTRACT

Background: Cameroon has a high concentration of out-of-school youth. Therefore research relating to out-of-school adolescents and HIV/AIDS is imperative. This study investigated the HIV/AIDS knowledge and its association with sexual risk behaviours among out-of-school adolescents in Kumba, Cameroon.
Methods: A cross-sectional study of a multistage probability sample of 405 adolescents aged 15-24 years was adopted. Data were analysed using Statistical Package for Social Sciences (SPSS) software program, at the level .05.
Results: Up to 35.9% of the respondents disagreed that correct and consistent condom use can prevent HIV; 31.4% disagreed that having multiple sexual partners is a risk behaviour, and 26.9% disagreed that unprotected sexual intercourse is a risk behaviour. Respondents who disagreed that multiple sexual partner is a sexual risk behaviour reported more multiple sexual partners than those who agreed (X^2=19.406; *P*=.02). Those who agreed that correct and consistent condom use can prevent HIV transmission, reported more condom use during first sex than those who disagreed (X^2=17.799; *P*=.007). Those who agreed that unprotected sex is a risk behaviour, reported more consistent condom use than those who disagreed (X^2=20.881; *P*=.05).
Conclusion: Out-of-school adolescents manifested low knowledge of HIV/AIDS, with

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those having low knowledge, engaging in unsafe sexual practices, and therefore at risk of HIV/AIDS transmission.

Keywords: HIV/AIDS knowledge; out-of-school adolescents; sexual behaviours; cameroon.

1. INTRODUCTION

Youth aged 15 to 24 are an important and highly vulnerable part of the human resource base in developing countries. HIV/AIDS pandemic remains a major public health concern in sub-Saharan Africa (SSA), particularly in Cameroon, where more than 610,000 people are living with the virus. Substantial variations in the burden of HIV/AIDS exist among the 10 regions of Cameroon, with the Southwest region ranking third, with a prevalence of 8.0% [1].

Demographic shifts in many developing countries including Cameroon have increased the proportion of youth as a percentage of the total population; and youth are the future leaders, workers and citizens of the nation. Of the 1.5 billion youth between the ages of 15 and 24 worldwide, approximately 1.3 billion live in the developing countries, with a large proportion coming from SSA [2]. Intensive program efforts on curbing the spread of HIV/AIDS have yielded some results; that notwithstanding, the prevalence rate among youth still remains high. The estimated HIV/AIDS prevalence rate in Cameroon is 5.3% [3]. Juveniles in Cameroon aged 15-24 comprise 21.5% of the total population and the estimated HIV/AIDS prevalence rate in this group was 9.1% in 2005 [4]. In Cameroon, about 90% of HIV transmission occurs through heterosexual intercourse [5].

Out-of-school adolescents are an upcoming population of research in the field of HIV/AIDS prevention, who have hitherto been neglected. Most studies and interventions in Cameroon have targeted in-school youth [6-9], because in-school youth are easier to reach, making research and interventions cheaper and less complex in terms of logistics. Given the established role of behavioural change in countering the HIV/AIDS pandemic in SSA [7,9,10], disregarding the out-of-school adolescents is no longer an option.

SSA has the highest proportion of out-of-school children with 26% of the primary age population being out-of-school, with girls being more often out-of-school than boys [11]. Cameroon has a high concentration of out-of-school youth, representing 56.5% of the total youth population; slightly above 10.2% of these out-of-school youth lack any education whatsoever [2]. Therefore research relating to out-of-school adolescents and HIV/AIDS in Cameroon seems timely.

Empirical research in Cameroon has documented evidence of high level of knowledge about modes of transmitting and preventing HIV/AIDS [6-8]. Such Knowledge plays a key role as a predictor of HIV risk behaviour. Accurate knowledge about HIV transmission and prevention is the gateway to behavioural change [7]. Studies have demonstrated that HIV/AIDS knowledge is associated with condom use. Low level of knowledge about transmission and prevention of HIV/AIDS among adolescents is a predictor of non-use or inconsistent use of condoms [12]. However, these studies were carried out among in-school youth. Studies reporting on the associations between HIV/AIDS knowledge and sexual behaviours especially among out-of-school adolescents in Cameroon are lacking. The aim of the study is to investigate the HIV/AIDS knowledge and its association with sexual behaviours among out-of-school adolescents in Kumba, the Southwest region of Cameroon. It is hypothesised

that adequate HIV/AIDS knowledge is associated with safe sexual behaviours to prevent HIV/AIDS transmission among out-of school adolescents in the city of Kumba in the Southwest region of Cameroon.

2 METHODS

2.1 Study Design

This study was a population based cross-sectional survey, using a self-administered questionnaire to collect data. It was conducted in July 2013 in Kumba, the economic capital of the Southwest region of Cameroon, which ranks third in the HIV/AIDS prevalence.

2.2 Study Area

Kumba is the administrative headquarters of Meme division, and the economic capital of the Southwest region, thus making it one of Cameroon's wealthiest urban centres, which together with the availability of economic and social amenities, industries and political institutions, has resulted in a high population density. With a total land area of 188.4 Km², the total population of Kumba, a mixture of Christians and Muslims, was estimated at 166,000 inhabitants (51.2% males and 48.8% females) [13], the majority of whom are farmers and traders [14]. Administratively, the city is divided into three local government areas.

2.3 Study Population

The study population included all out-of-school adolescents in the city of Kumba, who are between the ages of 15 and 24 years and who have dropped out from either primary or secondary school, or have never attended school before: but are under apprenticeship learning a trade (hairdressing, tailoring, auto mechanic, etc).

2.4 Sample Size

The sample size was calculated using results of a previous study conducted in Nigeria [15], to arrive at a representative sample size of 405.

2.5 Sampling Technique

A multistage probability sampling method was applied in this study. A list of all the wards (quarters) in all the three municipalities (local government areas) of Kumba (Kumba I, Kumba II and Kumba III) was used as the sampling frame, to select 15 quarters through systematic random sampling technique. Out of these 15 quarters (clusters), an average of 27 households per quarter was randomly selected to participate in the study. A list of all out-of-school adolescents was made and stratified by gender. Proportional sampling according to the population distribution of Kumba, was used to select the number of eligible males and females to participate in the study. Within each household, one study participant was selected using a simple random sampling technique. Any household without an out-of-school adolescent was skipped and the next was considered according to a predetermined order.

2.6 Data Collection

The questionnaire for this study was designed as an adaptation from previous studies [7,8,16,17], to collect data on socio-demographic characteristics, knowledge of HIV/AIDS and sexual behaviours. A pre-test of the questionnaire was done on a convenience sample of 20 out-of-school adolescents of both sexes who did not take part in the study proper, for clarity and to ascertain internal consistency.

Respondents were given the self-administered questionnaires in English, which was their first language. Confidentiality was maintained by providing a private place for the respondents during data collection and by giving only the researcher access to the completed questionnaires, which were locked up. Subsequent to the acceptance of the research report, these would be destroyed. Four trained research assistants (2 males, and 2 females) of the same age group as the participants, assisted those who could not read or write. The completed questionnaires were checked by the research assistants for errors and missing data before participants were allowed to go. Anonymously completed questionnaires were kept in a separate container from the signed informed consent forms in order to maintain anonymity.

2.7 Data Management and Analysis

Data were edited, cleaned, coded, entered and analysed using the Statistical Package for Social sciences (SPSS) version 20 software program. Probability (P) values were calculated at the .05 level of significance. Data were summarized by means of descriptive statistics including the frequency table. Two-sided chi-square tests for association were computed to detect any associations between HIV knowledge and sexual risk behaviours.

2.8 Measures

2.8.1 Socio-demographic characteristics

Socio-demographic characteristics included age which was self-reported in years, sex divided into two categories (male and female), marital status categorised into single and others, house of residence divided into two categories (5 rooms or more and 4 rooms or less), religion categorised into two groups (Christians and Muslims), social group affiliation divided into yes or no, and fathers' and mothers' monthly incomes, categorised into two groups (more than 200 000XAF and 200 000XAF or less).

2.8.2 Knowledge of HIV/AIDS

Knowledge of HIV/AIDS was assessed based on the degree of agreement with the following statements: HIV/AIDS can be transmitted through unprotected sexual intercourse, HIV/AIDS can be prevented by correctly and consistently using condoms during sexual intercourse, HIV/AIDS can be prevented by abstaining from sexual intercourse, HIV/AIDS can be prevented by being faithful to one sexual partner, having multiple sexual partners is a sexual risk behaviour, unprotected sexual intercourse is a sexual risk behaviour and early sexual debut is a sexual risk behaviour. The response options were rated on a four-point Likert scale as '3=strongly agree', '2=agree', '1=disagree' and '0=strongly disagree'. 'Strongly agree' and 'agree' were coded as the index category. The alpha reliability for this 7-item HIV/AIDS knowledge scale was 0.60, which signifies a high internal consistency of the items.

2.8.3 Sexual behaviours

Sexual behaviour included sexual experience categorised into 1=yes and 0=no, age at first sexual intercourse categorised into two groups (16 years or less and more than 16 years), number of sexual partners in the last one year, divided into two categories (one or less and more than one), number of concurrent sexual partners during the study period, divided into two categories (one or less and more than one), condom use during first sexual intercourse categorised into two groups (1=yes, 0=no), condom use during last sexual encounter categorised into 1=yes and 0=no, and regularity of condom use during sexual intercourse divided into four categories (1=always, 2=most of the time, 3=seldom and 4=never). These questions were asked only to respondents who were sexually active). The coefficient alpha for the 3-item condom use scale was 0.80, while that for the 2-item scale for number of sexual partners was 0.88, which both indicate high internal consistencies of the items.

3 RESULTS AND DISCUSSION

3.1 Results

3.1.1 Socio-demographic characteristics

Of the 405 respondents in this study, 51.4% were males and 48.6% were females. All were between the ages of 15 and 24 years, with 93.1% being single. Three hundred and eighty two (94.6%) were Christians and 88.9% belonged to a social group. Majority of them, 64.6% indicated that their fathers' monthly incomes were less than 200 000XAF (US$ 13.00 a day) and 81.6% indicated that their mothers' monthly incomes were less than 200 000XAF (US$ 13.00 a day) (Table 1). Their mean age (SD) was 18.94 (2.11).

3.1.2 Knowledge of HIV/AIDS

Table 2 explicates the knowledge of HIV/AIDS among out-of-school adolescents in Kumba. Majority, 78.7% knew that HIV/AIDS can be transmitted through unprotected sexual intercourse; a slight majority, 64.1% knew that correct and consistent condom use during sexual intercourse can prevent HIV transmission; majority, 88.1% knew that sexual abstinence can prevent HIV transmission and 77.9% knew that being faithful to one uncontaminated sexual partner can prevent HIV transmission. However, a slight majority, 65.8% knew that early sexual debut is a sexual risk behaviour, and 68.6% knew that having multiple sexual partners is a sexual risk behaviour. The majority, 73.1% knew that unprotected sexual intercourse is a sexual risk behaviour.

3.1.3 Sexual behaviours

With regard to sexual behaviours, the majority, 55.6% reported having experienced sex, of whom 80.4% had their sexual debut by age 16 years, with the mean (SD) age at sexual debut being 14.72 (2.11). Of the sexually active respondents, the majority, 57.3% reported having had multiple sexual partners in the last one year before this study (Table 3). Out-of-school adolescents who agreed that having multiple sexual partners is a sexual risk behaviour, 31.8%, were less likely to have had multiple sexual partners in the last one year before this study than those who disagreed, 33.1% (X^2=19.406; df=9; P=.02). However, only 27.7% respondents reported having multiple concurrent sexual partners at the time of this study.

In the same vein, only few sexually active out-of-school adolescents in this study, 29.8% reported having used condoms during their first sexual encounters (Table 3). Sexually active out-of-school adolescents in this study who agreed that correct and consistent condom use during sexual intercourse can prevent HIV transmission, 37.9%, were more likely to have used condoms during their first sexual encounters than those who disagreed, 17.1% (X^2=17.799; df=6; P=0.007).Only 48.9%respondents reported having used condoms during their most recent sexual encounters.

Consistent condom use among the sexually active out-of-school adolescents was very low, 18.7% (Table 3). Sexually active respondents who agreed that unprotected sexual intercourse is a sexual risk behaviour, 23.3%, were more likely to have consistently used condoms during sexual intercourse than those who disagreed, 21.5% (X^2=20.881; df=12; P=.05).

Table 1. Socio-demographic characteristics of out-of-school adolescents in Kumba, Cameroon

Characteristics	Frequency	Percentage
❖ **Age Group (n=405)**		
- 15-24	405	100.0
❖ **Gender (n=405)**		
- Male	208	51.4
- Female	197	48.6
❖ **Marital Status (n=405)**		
- Single	375	93.1
- Others	28	6.9
❖ **House of residence (n=395)**		
- 5 rooms or more	209	52.9
- 4 rooms or less	186	47.1
❖ **Religious Affiliation (n=404)**		
- Christian	382	94.6
- Muslim	22	5.4
❖ **Social group affiliation (n=397)**		
- Yes	353	88.9
- No	44	11.1
❖ **Father's monthly income (n=395)**		
- 200 000XAF and above	140	35.4
- Less than 200 000XAF	255	64.6
❖ **Mother's monthly income (n=399)**		
- 200 000XAF and above	74	18.5
- Less than 200 000XAF	325	81.5

Table 2. Knowledge of HIV/AIDS among out-of-school adolescents in Kumba, Cameroon

Knowledge	Frequency	Percentage
❖ **HIV/AIDS can be transmitted through unprotected sex (n=404)**		
- Agree	318	78.7
- Disagree	86	21.3
❖ **Correct and consistent use of condoms can prevent HIV/AIDS transmission (n=404)**		
- Agree	259	64.1
- Disagree	145	35.9
❖ **Sexual abstinence can prevent HIV/AIDS (n=404)**		
- Agree	356	88.1
- Disagree	48	11.9
❖ **Being faithful to one sexual partner can prevent HIV/AIDS transmission (n=400)**		
- Agree	312	77.9
- Disagree	88	22.1
❖ **Early sexual debut is a sexual risk behaviour for HIV/AIDS transmission (n=404)**		
- Agree	266	65.8
- Disagree	138	34.2
❖ **Unprotected sexual intercourse is a sexual risk behaviour for HIV/AIDS transmission (n=405)**		
- Agree	296	73.1
- Disagree	109	26.9
❖ **Having multiple sexual partners is a sexual risk behaviour for HIV/AIDS transmission (n=404)**		
- Agree	277	68.6
- Disagree	127	31.4

Table 3. Sexual behaviours of out-of-school adolescents in Kumba, Cameroon

Sexual behaviours	Frequency	Percentage
❖ **Ever had sexual intercourse with a male partner (n=405)**		
- Yes	225	55.6
- No	180	44.4
❖ **Age at which first sexual intercourse occurred (n=225)**		
- 16 years or less	181	80.4
- More than 16 years	44	19.6
❖ **Number of sexual partners in the past one year (n=225)**		
- More than one	129	57.3
- One or less	96	42.7
❖ **Number of concurrent sexual partners at present (n=224)**		
- More than one	62	27.7
- One or less	162	72.3
❖ **Condom use during first sexual encounter (n=225)**		
- Yes	67	29.8
- No	158	70.2
❖ **Condom use during last sexual encounter (n=225)**		
- Yes	110	48.9
- No	115	51.1
❖ **Regularity of condom use during sexual intercourse (n=225)**		
- Always	42	18.7
- Most of the time	74	32.9
- Seldom	39	17.3
- Never	70	31.1

3.2 Discussion

The current study adds to the entire body of literature, as it investigates the HIV/AIDS knowledge and its association with sexual behaviours among out-of-school adolescents in Kumba, the Southwest region of Cameroon. All the respondents were among the age group of youths hardest hit by the HIV/AIDS pandemic [18].

In this study, knowledge of the mode of transmission of HIV/AIDS, knowledge of sexual risk behaviours and knowledge of protection against HIV/AIDS were articulated through the practice of safer sex and true knowledge on the issues of HIV transmission and prevention. Knowledge of HIV/AIDS plays a key role as a predictor of HIV risk behaviour [12]. Studies have demonstrated that HIV/AIDS knowledge is associated with condom use. Low level of knowledge about transmission and prevention of HIV/AIDS among adolescents is a predictor of non-use or inconsistent use of condoms. In accordance with other studies among youths in Cameroon [19,20], this study reported low knowledge of HIV/AIDS among out-of-school adolescents in the city of Kumba, Cameroon. Only few respondents manifested accurate

knowledge of some aspects of HIV/AIDS transmission (multiple sexual partners, unprotected sexual intercourse and early sexual debut) and prevention (correct and consistent condom use). These findings contradict HIV knowledge, which is defined as having the ability to recall facts concerning causes, transmission and prevention of HIV/AIDS [21].

These findings contradict other studies that have documented high knowledge of HIV/AIDS among Nigerian adolescents [22]. The low level of knowledge of HIV/AIDS as documented in this study shows the inefficiency in the health education programmes targeting out-of-school adolescents in Cameroon.

Evidence of low condom use among out-of-school adolescents as found in this study agrees with other previous studies in Cameroon and other SSA countries [7,8,15,23,24].These findings reiterate the need for extensive and efficient behavioural change communication programmes with emphasis on education on HIV/AIDS and safe sexual behaviours targeting out-of-school adolescents in Cameroon.

The low rate of condom use by respondents with inadequate HIV knowledge in this study is in accordance with other reports among adolescents in Benin, Nigeria [25], South America[26] and Zambia [27].This study demonstrated that Knowledge of HIV/AIDS was associated with consistent condom use and a reduction in the number of sexual partners. Imparting knowledge of HIV/AIDS to out-of-school adolescents in this study is the first step in developing a successful fight against HIV/AIDS with sexual behaviour change. However, accurate knowledge of HIV/AIDS is necessary, but by no means a sufficient condition for the consistent adoption of protective behaviour.

HIV/AIDS knowledge includes modes of transmission and preventive measures, and sexual risk behaviours. Peoples' health seeking behaviours depend to a large extend on their understanding and interpretation of the causes of illness, in this regard, the causes of HIV/AIDS. The WHO states that true knowledge and understanding of HIV/AIDS is a necessary condition for behavioural change [28]. The findings of this study reveal inadequate knowledge of what constitutes sexual risk behaviours and HIV/AIDS prevention among this group of out-of-school adolescents in the city of Kumba.

Out-of-school adolescents' sexual activities are based on insufficient knowledge regarding HIV/AIDS as revealed in this study. They might not consider their behaviours or that of their sexual partners to be risky. Full knowledge of the options available for adolescents to prevent HIV/AIDS infection, from abstinence to safe sex is important in empowering them, influencing their choices about sex and preventing HIV infections.

4. CONCLUSION

The findings of this study have shown that out-of-school adolescents in Kumba in the Southwest region of Cameroon manifested low knowledge of HIV/AIDS, with participants with low knowledge, likely to engage in unsafe sexual practices (non-use or inconsistent use of condoms and multiple sexual partners), and therefore are at risk of HIV/AIDS transmission.

The study recommends that beyond intervention for HIV/AIDS awareness programs and advocacies, targeted programs out-of-school should focus more on promoting safe sex practices among adolescents, particularly among those who lack the economic will to negotiate safe sexual behaviours with their partners.

Although causality cannot be determined from cross-sectional data, it is assumed from this study that out-of-school adolescents who possess more accurate knowledge about HIV transmission and prevention are more likely to practice safe sex.

5. LIMITATIONS

The study should be interpreted in light of its limitation. First as a cross-sectional study, it is not able to draw conclusions about causality of any of the identified associations. Secondly, given that the study was conducted in one location, it may not be applicable to other settings. Thirdly, self-reported assessments of sexual behaviours through questionnaires are prone to a number of biases that could affect the validity and reliability of the results. Also, HIV/AIDS and sexual issues are very sensitive and could limit free expression of the out-of-school adolescents in some matters. Assurance of confidentiality of the respondents, the presence of research assistants in the room to answer possible questions raised by respondents during data collection, and the simplicity and direct nature of the questions in the questionnaires minimised this effect.

Despite these limitations, the out-of-school adolescents in Kumba in the Southwest region of Cameroon had low knowledge of HIV/AIDS, had multiple sexual partners and used condoms inconsistently.

CONSENT

Consent was obtained after the potential participants and their parents/guardians (for those below 18 years) were informed of the study's objectives. Only adolescents aged 15-24 who gave consent to participate, were included in the study. All the parents/guardians (for participants below 18 years) were given the opportunity to withhold or withdraw their children from the study at any time they felt like.

ETHICAL APPROVAL

Approval for this study was obtained from the HIV/AIDS Prevention Research Network, Cameroon (HIVPREC). Permission to conduct the study was sought from the Kumba Municipal (local government) authorities (The Government Delegate to the Kumba City Council, approval number '1926/13/8/2013').

COMPETING INTERESTS

Author has declared that no competing interests exist.

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