

YOUTHS' PREVENTIVE ACTIONS AGAINST HUMAN IMMUNODEFICIENCY VIRUS INFECTIONS IN TANZANIA

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ABSTRACT

In Tanzania the HIV prevalence amongst youths aged 15-24 is 2.7% (TACAIDS, 2008:122). Prevention and management of HIV/AIDS is therefore at the core of saving the youths of Tanzania. A descriptive cross-sectional survey, using pre-tested structured interview schedules, was conducted with 372 youths in the Arusha region of Tanzania.

Youths' awareness of HIV/AIDS was high (97.6%), but comprehensive knowledge about HIV/AIDS had a mean score of 4.6 out of 10. Only 58.5% of the youths believed in HIV prevention while merely 50.8% had practised at least one mode of HIV prevention. Perception of severity of HIV/AIDS and perception of risk of HIV infection influenced the youths' attitudes in favour of HIV preventive behaviours. HIV prevention practices were promoted by positive attitudes towards specific preventive behaviours and the individual's self-efficacy to implement and sustain such behaviours. Barriers against the practice of HIV prevention included the lack of comprehensive knowledge about HIV/AIDS and HIV prevention, and the lack of self-efficacy to enact behaviour changes.

Changing attitudes of youths towards HIV prevention behaviours requires strategies to create risk awareness and to dispel myths and misconceptions surrounding HIV transmission and prevention. Interventions that would boost youths' self-efficacy to have safer sex are also required to enhance HIV prevention practices.

Keywords: Barriers to HIV prevention practices, Health Belief Model (HBM), HIV/AIDS knowledge, HIV prevention behaviours, self-efficacy to enact HIV prevention behaviours, Tanzania.

INTRODUCTION

Since the Human Immunodeficiency Virus (HIV) was identified in 1981 (CDC, 2006), it became a global pandemic. During the last 25 years, 25 million AIDS-related deaths were reported (Global Health Council, 2008). During 2007, an estimated 2.1 million people died of AIDS, 1.7 million of whom were adults aged 15 years and older (UNAIDS, 2007:1). Of the 2.5 million were newly HIV infected persons during 2007, 40% were estimated to be aged 15-24 years (UNAIDS, 2008:17), emphasising the dire necessity for this age group to implement and sustain preventive behaviours.

Developing countries, particularly in sub-Saharan Africa (SSA) including Tanzania, account for 62% of the global HIV infection burden with an estimated 22.5 million people living with HIV/AIDS (PLWHA) (GHC,2007), 3.3million of whom are youths (UNAIDS, 2008:17). HIV is thus spreading amongst the economically active groups of young adults and destroying the fibre of the labour force, especially in developing countries.

DEFINITIONS OF KEY TERMS

Attitudes refer to settled ways of thinking about specific issues. This study emphasises youths' attitudes towards HIV/AIDS preventive behaviours.

Higher risk sex refers to unprotected sex (without condoms) with non-marital or non-cohabiting partners.

High risk groups refer to persons who engage in unprotected sex, have multiple sex partners, use intravenous drugs, engage in sex for financial reasons, and men having sex with men.

Knowledge about HIV/AIDS refers to what youths know about HIV/AIDS, including the modes of HIV transmission, the different methods of preventing HIV infection. The assessment of the HIV/AIDS youths' knowledge and behaviours enabled the researchers to identify information gaps that might impact negatively to youths' HIV prevention actions.

Youths refer to persons aged 15-24.

THEORETICAL FRAMEWORK

To understand determinants of behaviour changes towards HIV prevention; the conceptual framework for this study was derived from the Health Belief Model (HBM) (Onega, 2000:271). This model attempts to explain and predict health behaviours by

focussing on individuals' attitudes and beliefs. The main constructs under this model that determine the adoption of health behaviours are: the perceived susceptibility to a certain condition, the perceived severity of that condition, the perceived barriers and perceived benefits of particular health behaviours (Orega, 2000:271).

According to the HBM, behaviour change is said to be largely determined by the individual's perceptions, attitudes and beliefs. Therefore, for an individual to practise HIV preventive sexual behaviours, the individual must know which practices can put one at risk (knowledge), must believe that "people like him or her" can be at risk (attitude), and must perceive that the risk of getting an illness like HIV/AIDS without a definite cure is life threatening (attitude); before that person can adopt certain HIV preventive behaviours (practices). The HBM later incorporated the concept of perceived self-efficacy to successfully execute a specific behaviour change (Orega, 2000:271). This means the individual's perceived ability to enact and sustain a changed behaviour greatly influences his/her decision to perform that behaviour. Thus the concept that the individual must regard him/herself as being competent to implement certain HIV preventive behaviours comes into play.

PURPOSE AND OBJECTIVES OF THE STUDY

The purpose of the study was to identify Tanzania's youths' HIV knowledge levels and preventive behaviours, and to make recommendations for enhancing the effectiveness of such behaviours to help reduce the incidence of HIV infections among these youths.

The specific objectives attempted to identify whether the following factors influenced youths' HIV preventive behaviours: socio-demographic aspects, knowledge levels, abstinence, age at sexual debuts, condom use, multiple sex partners, voluntary counselling and testing (VCT), perceptions of risk and of the severity of HIV/AIDS, and their self-efficacy to enact behaviour changes.

RESEARCH METHOD

A descriptive cross-sectional survey was done on factors influencing Tanzania's youths' HIV preventive actions, using structured interviews to collect data.

Research instrument

A self-designed pre-tested structured interview schedule was used to collect data. The sections of the interview schedule requested information about the respondents' biographic data; HIV/AIDS knowledge, attitudes and practices; perceived susceptibility to and severity of HIV infections; and youths' perceived self-efficacy to implement

HIV preventive behaviours. No discrepancies were observed between the data obtained during the pre-test phase and the actual data collection phase and data collected by different research assistant were comparable, indicating acceptable test-retest and inter-rater reliability. Two HIV/AIDS experts, a statistician and a researcher confirmed that every item in the structured interview schedule was relevant to youths' HIV/AIDS knowledge and behaviour, implying acceptable face and construct validity.

Population and sample

Two districts were purposefully selected, and one ward from each district was purposefully selected, as comprising peri-urban mobile populations who might have increased risks of exposure to HIV infections. The accessible population comprised the youths aged 15-24 who lived in the two selected wards during August 2009, when data collection took place.

At the six participating villages, the research assistants recruited youths aged 15-24 willing to sign informed consent, and whose parents/guardians were willing to sign consent if they were younger than 18 years of age, to be interviewed individually. At school level the learners in every participating class picked random numbers from a container until 15 youths had been selected in each class. Only those who were willing to sign consent, and whose parents also signed consent, if they were younger than 18, were interviewed. A total of 372 youths were interviewed (N=372).

Data collection

Research assistants were trained to conduct the structured interviews and participated during the pre-testing phase of the instrument. Discrepancies were addressed during further training sessions. Data collection took place during August 2009 using pre-tested structured interview schedules, comprising open-and closed-ended questions. One researcher checked the completed interview schedules as frequently as possible.

Data analysis

Data from the completed interview schedules were coded, categorised and entered into the SPSS software version 15.0. Descriptive statistics were generated from univariate analyses. Cross tabulation analyses and the Pearson's chi-squared tests (X^2) were done to assess the association and strength of relationships between variables. Multivariate model linear logistic regression analyses were done to examine which HIV prevention determinants influenced HIV prevention practices, while bivariate model logistic regression and correlation analyses were done to determine the strength and direction of the relationship between two respective variables.

Ethical considerations

Approval for the study was obtained from the National Institute of Medical Research of Tanzania and from the District Medical Officers. The individual school authorities also granted permission, and the heads of the participating villages, as well as the Research and Ethics Committee of the Department of Health Studies, University of South Africa. In cases where respondents were younger than 18 years of age, the written permission of their parents/guardians was required. Every respondent signed his/her own informed consent form. The signed consent forms were kept in a separate container from the anonymously completed interview schedules so that no signature could be linked to any specific completed interview schedule. The research assistants were requested to treat all information anonymously and confidentially. Only the researchers and the statistician had access to the raw data. The completed interview schedules would be destroyed after the acceptance of the research report.

RESEARCH FINDINGS

The socio-demographic information about the respondents will be provided first, followed by their responses to specific sections of the structured interview schedule, in order to enable contextualisation of the research findings against the background knowledge of the respondents' personal characteristics.

Socio-demographic information

A total of 372 (N=372) respondents were interviewed and their background characteristics are summarised in table 1. The respondents were grouped into two age categories, with 63.2% (n=235) in the age group 15-19 and 36.8% (n=137) in the age group 20-24 years, respectively. The mean age of the respondents was 18.8 years (SD 2.75); 60.5% (n=225) were male while 39.5% (n=147) were female. Most youths were single (84.9%; n=316) and Christians (73.4%; n=273).

Table 1: Socio-demographic characteristics of the respondents (N= 372)

Characteristics\	Frequency	%
Age (years)		
15-19	235	63.2
20-24	137	36.8
Total	372	100.0
Gender		

Male	225	60.5
Female	147	39.5
Total	372	100.0
Level of education		
No education	15	4.0
Primary	135	36.3
Secondary	179	48.1
Post Secondary	3	0.8
Vocational training	40	10.8
Total	372	100.0
Religion		
Catholic	151	40.6
Protestant	122	32.8
Muslim	97	26.1
Others	2	0.6
Total	372	100.0
Marital status		
Single	316	84.9
Have multiple partners	34	9.1
Cohabiting with partner	11	3.0
Married	8	2.2
Divorced/ separated	3	0.8
Total	372	100.0
Occupation		
Student	222	59.7
Unemployed	56	15.1
Self employed	82	22.0
Formal employment	12	3.2
Total	372	100.0

More than half of the respondents (59.7%; n=222), were students. Out of the 150 out-of-school youths, 82 (22.0%) were self-employed engaging in small businesses, farming and artisan jobs. Only 56 (15.1%) respondents were unemployed.

HIV/AIDS knowledge levels

Knowledge of HIV/AIDS was scored on a scale of zero to 10 points, where 10 implied the highest level of knowledge. The HIV/AIDS knowledge amongst respondents was moderate with a mean knowledge score of 4.6 out of 10. The respondents were more conversant with the routes of HIV transmission than with HIV prevention modalities.

Only 57.5% (n=214) of the respondents had comprehensive knowledge about HIV/AIDS, including those who knew that consistent condom use (51.6%; n=192) and having one uninfected partner (n=102; 27.4%) can reduce the risk of HIV infections (see table 2). It also included 50.0% (n=186) of those who knew that a healthy-looking person could transmit HIV and those who rejected at least two of the common myths of HIV transmission: HIV transmission by sharing a plate of food with an HIV infected person (n=293; 78.8%) and HIV transmission by witchcraft (n=296; 79.6%).

More respondents in the age-group 15-19 years had higher HIV/AIDS knowledge levels (83.3%; n=25) compared to respondents in the age-group 20-24 years (16.7%; n=5), with p-value = 0.053. Age also significantly influenced the youths' attitudes towards HIV prevention, their perceptions of risk of HIV infection and their self-efficacy to enact HIV prevention behaviours, with p-value <0.05. More youths in the younger age-group 15-19 years, had positive attitudes towards HIV preventive behaviours (n=122; 54.7%).

There was no significant difference in youths' levels of HIV/AIDS knowledge, levels of HIV transmission misconceptions and perceptions of severity of HIV/AIDS with gender or age.

Table 2: Respondents' HIV/AIDS knowledge (N=372)

Youths who could correctly define	Youths who provided correct responses	%
What is HIV	173	46.5
What is AIDS	223	59.9
Modes of HIV transmission		
By sex	344	92.5

By sharp objects	299	80.4
By blood transfusion	138	37.1
By MTCT	61	16.4
Modes of HIV prevention		
By abstinence	140	37.6
By being faithful to one partner	102	27.4
By condom use	192	51.6
By VCT uptake	50	13.4

HIV/AIDS preventive behaviours

Levels HIV prevention behaviours amongst the respondents remained low (50.8%; n=189) despite high levels of awareness about HIV/AIDS (97.8%; n=364). Reportedly, 53.5% (n=199) of the youths abstained from sex. Alcohol and drug abuse (n=100; 26.9%) were reported to be the main barriers to HIV prevention. Other reasons included: desires for material things amongst the youths (n=77; 20.8%), the lack of condom use (n=39; 10.5%) either due to affordability, lack of availability or the belief that condoms reduced sexual pleasure, lack of HIV/AIDS education (n=19; 5.1%), multiple partner relationships (n=12; 3.2%) and youths being unprepared for sex (n=10; 2.7%).

Abstinence and sexual debuts

Abstinence was neither influenced by the respondents' level of HIV/AIDS knowledge nor by a higher perceived severity of HIV/AIDS. The respondents' ages at their sexual debuts ranged from 8 to 23 years with a median age of 17.0 years. More male respondents reported younger ages at their sexual debuts than female respondents, with 7.0% (n=9) of male respondents reporting sexual debuts at ages of 10 or younger, 33.6% (n=43) at age 11 to 15 years compared to no female respondents with sexual debuts at age 10 or younger and 17.8% (n=8) at age 11 to 15 years, with p-value <0.05.

Condom use

Only 27.2% (n=47) of respondents who had initiated sex, used condoms during their sexual debuts. Overall condom use at the most recent sexual encounter was higher at 51.2% (n=88), and was significantly influenced by respondents' attitudes towards HIV prevention behaviours, self-efficacy, age, religion and occupation with p-value <0.05 (see table 3). Reasons cited for lack of condom use during the respondents' sexual debuts included lack of knowledge about condoms at the time (50.8%; n=64),

lack of preparation for sex (19.0%; n=24), inability to afford condoms (4.8%; n=6), unwilling partners (4.8%; n=6) and fearing suspicions of being unfaithful (4.0%; n=5). Respondents who used condoms during their sexual debuts, stated that condoms could prevent HIV/AIDS (n=21; 34.8%), STIs (n=13; 27.1%) and pregnancies (n=9; 18.8%).

Table 3: Condom use versus background characteristics and HIV prevention determinants

Did you use a condom first time you had sex							
Characteristic	Yes		No		Total		Significance
	f	%	f	%	f	%	
Age at sexual debut							
10 and below	0	0.0	9	100.0	9	100.0	X ² =14.771 df=3 p=0.002
11-15	6	11.9	45	88.2	51	100.0	
16-20	39	37.1	66	62.9	105	100.0	
Above 20	2	25.0	6	75.0	8	100.0	
Religiion							
Muslim	19	34.5	36	65.5	55	100.0	X ² =2.359 df=2 p=0.307
Catholic	15	22.4	52	77.6	67	100.0	
Protestant	13	25.5	38	74.5	51	100.0	
Total	47	27.2	126	72.8	173	100.0	
	94	27.2	252	72.8	346	100.0	
Did you use a condom last time you had sex							
Characteristic	Yes		No		Total		Significance
	f	%	f	%	f	%	
Prevention attitudes							
Positive	74	58.7	52	41.3	126	100.0	X ² =10.937 df=2 P=0.004
Neutral	14	32.6	29	67.4	43	100.0	
Negative	0	0.0	2	100.0	2	100.0	
Self efficacy							
High	73	59.8	49	40.2	122	100.0	X ² =13.802 df=2 p=0.001
Moderate	14	33.3	28	66.7	42	100.0	
Low	1	12.5	7	87.5	8	100.0	
Age group							
15-19	24	38.7	38	61.3	62	100.0	X ² =6.017 df=1 P= 0.014
20-24	64	58.2	46	41.8	110	100.0	
Religion							
Muslim	35	64.8	19	35.2	54	100.0	X ² =7.194 df=2 P=0.027
Catholic	27	40.3	40	59.7	67	100.0	
Protestant	26	51.0	25	49.0	51	100.0	

Level of education							
No education	3	37.5	5	62.5	8	100.0	X ² =11.280 Df=4 P=0.024
Primary education	57	62.6	34	37.4	91	100.0	
Secondary education	18	36.0	32	64.0	50	100.0	
Postsecondary education	2	66.7	1	33.3	3	100.0	
Vocational training	8	40.0	12	60.0	20	100.0	
Occupation							
Student	25	39.7	38	60.3	63	100.0	X ² =7.709 df=3 P=0.052
Unemployed	19	57.6	14	42.4	33	100.0	
Self employed	41	61.2	26	38.8	67	100.0	
Formally employed	3	33.3	6	66.7	9	100.0	
Total	88	51.2	84	48.8	172	100.0	

Respondents' perceived self-efficacy was shown to have influenced condom use positively at their last sexual encounters. Although the relationship was weak, it was statistically significant, with p-value = 0.000, indicating that those with higher perceived self-efficacy levels were more likely to use condoms. No significant correlation existed between condom use and HIV/AIDS knowledge, perceptions of HIV risk, perceptions of HIV/AIDS severity and perceived self-efficacy with p value >0.05.

Multiple sexual partner relationships

The lack of effective condom use holds serious risks for HIV infection, as out of 170 respondents who had sex partners, 38.2% (n=65) reportedly had 2-5 partners and 8.8% (n=17) had six or more partners during the year preceding this study's data collection phase. Some youths (17.9%; n=31) had sex partners who were at least 10 years older than the youthful respondents. Both female (22.2%) and male youths (16.4%) engaged in sexual encounters with persons at least ten years older than themselves.

More respondents aged 20-24 years (54.6%; n= 59) had multiple sex partners compared to the respondents aged 15-19 years (n=21; 33.9%), with p-value <0.05. More male respondents (n=63; 50.4%) had multiple partner relationships compared to female respondents 37.7% (n=17), but there was no significant difference correlation between the number of sexual partners and gender, religion, occupation, marital status, HIV/AIDS knowledge or perception of risk of HIV infection.

Voluntary counselling and testing (VCT)

The overall uptake of VCT was 44.9% (n=167) Positive attitudes towards HIV prevention and high levels of perceived self-efficacy significantly influenced VCT uptake with p-value <0.05. More youths (n=113; 50.7%) with positive attitudes had

tested for HIV compared to 33.3% (n=124) youths with negative attitudes towards HIV prevention behaviours.

The main reasons mentioned for the lack of VCT uptake amongst the respondents included, their indecision to undergo the HIV test (39%; n=80), certainty that one was HIV negative (28.3%; n=58) and fear of knowing one's status (17.1%; n=35). Respondents with high perceived self-efficacy to adopt HIV prevention practices (52.8%; n=112) were more likely to have been tested for HIV than respondents with low self-efficacy (32.6%; n=14) levels.

Perceived risk of and susceptibility to contract HIV/AIDS

More males perceived themselves to be at risk of HIV infections (56.9%; n=107) compared to their older counterparts aged 20-24 with only 45.3% (n=101) having positive attitudes and 43.1% (n=81) perceiving themselves to be at risk of infection. More males (67.6%; n=127) had perceived themselves as being at risk of HIV infections than females (32.4%; n=61). More males (66.4%; n=148) had positive attitudes towards HIV prevention behaviours compared to 33.6 % (n=75) of the females.

Most respondents (72.3%; n=269) knew a person who suffered from AIDS. More than half of the respondents (54.9%; n=147) who knew an AIDS patient, perceived themselves to be at risk of HIV infections, whilst only 39.8% (n=41) of those who had never met an AIDS patient perceived themselves to be at risk of infection, with p-value <0.05. Most youths (87.6%; n=326) acknowledged that HIV/AIDS was a severe disease with no cure, while 12.4% (n=46) had a lower perception of severity. More respondents (62.9%; n=200) with higher perceptions of severity had positive attitudes towards HIV prevention behaviours compared to those with a lower perception of severity (n=23; 50.0%; significant with p-value <0.05).

Self-efficacy levels

More than half of the respondents (n=212; 57.0%) expressed high self-efficacy levels to enact HIV preventive behaviours, while 31.5% (n=117) reported moderate self-efficacy and 11.6% (n=43) expressed low self-efficacy levels. Although in-school youths reported higher self-efficacy scores (n=112; 52.8%), overall only 50.9% (n=189) of the respondents said they were confident to use condoms correctly. The perceived self-efficacy to implement HIV prevention behaviours was higher in male respondents because 67.5% (n=143) felt they were capable of negotiating for safer sex to prevent HIV infections compared to 32.5% (n=69) of the female youths.

DISCUSSION

Knowledge levels

Youths aged 15-19 had higher knowledge levels (83.3%; n=25) than those aged 20-24 (16.7%; n=5). Most of the 15-19 year group's respondents were still at school and were thus exposed to Tanzania's HIV/AIDS school programme, officially launched in 2006 (UN-IRIN 2006), explaining why schools were the primary HIV/AIDS information sources for 36.6% (n=136) of respondents.

The level of HIV/AIDS awareness was high (97.8%), but the comprehensive knowledge level amongst the youths was moderate (mean of 4.6 out of 10). Similar moderate knowledge levels were reported amongst Malaysian youths with a mean score of 20.1 out of 32 points (Wong, Chin, Low & Jafaar, 2008:148). However, much higher knowledge levels were reported amongst Nigerian youths in tertiary institutions with a mean knowledge score 8.3 out of 10 (Durojaiye, 2009). Youths with higher knowledge levels had more positive attitudes towards HIV prevention which improved their use of condoms and VCT uptake. The youths reported different sources of HIV/AIDS information, with parents playing a minor role and schools playing a major role.

HIV/AIDS preventive behaviours

On average, 50.8% (n=189) of the youths had used some form of HIV preventive behavior, including abstaining from sex (53.5%; n=199), remaining single or having one sex partner (52.9%; n=90), using condoms during their most recent sexual encounter (51.2%; n=88) and having used VCT services (44.9%; n=167). These findings were similar to those of Mbijjimonywa (2008:9), reporting HIV/AIDS awareness to be as high as 81.5%, positive attitudes at 57.7% but HIV prevention practices as low as 42.9% amongst female youths in Tanzania.

Sexual debuts

Reportedly 53.5% (n=199) of the youths abstained from sex, similar to the 2008 Tanzania baseline survey reporting high levels of knowledge (81.5%) and positive attitudes (57.7%) towards HIV prevention, but low levels (26.2%) of abstinence (Mbijjimonywa, 2008:9). The lack of condom use by most youths (72.8%; n=126) in the current study at their sexual debuts posed high risks of first time exposure to HIV, particularly when they engaged in sex with older partners. Both female (22.2%) and male youths (16.4%) engaged in sexual encounters with persons at least ten years older than themselves, with potentially greater risks of HIV infections than would be the case with their youthful peers. Failure to use condoms during sexual debuts has also been reported by Harrison,

Cleland, Gouws and Frohlich (2005:259) amongst young men in rural South Africa which showed that 19.5% of youths who had sexual debuts before the age of 15, were unprepared and practised unprotected sex with casual partners.

Condom use

Condom use at their most recent sexual encounters (51.2%; n=88) was higher than condom use at these youths' sexual debuts (27.2%; n=47), despite high levels of awareness about HIV/AIDS (97.8%; n=364). Similar results were reported by Harrison et al. (2005:259), where 19.5% of youths in rural South Africa, who had sexual debuts before the age of 15, were unprepared and failed to use condoms with casual partners.

The youths' perceived self-efficacy was positively correlated with condom use at their most recent sexual encounters and their VCT uptake. Sunmola, Olley and Oso (2007:459) reported similar findings amongst individuals in the national service in Nigeria, where men with self-efficacy (67%) were significantly more likely to use condoms than men without self-efficacy (38%). Only 48.0% (n=82) of this study's respondents reported consistent condom use over the preceding 12 months. This was higher than the findings in another Tanzanian study (Ao, Sam, Manongi, Seage & Kapiga, 2003:695) amongst female bar and hotel workers, reporting a consistent condom use rate of 14.5 %.

Voluntary counselling and testing (VCT)

The overall uptake of VCT was reportedly higher (n=167; 44.9%) than the national VCT uptake of 22.0% in the age-group 15-24 years (TACAIDS, 2008:107). Respondents with high perceived self-efficacy levels were more likely to have used VCT services than respondents with low self-efficacy levels. A study conducted amongst Tanzanian medical students, also indicated that VCT uptake was significantly influenced by self-efficacy, fear of being HIV-positive, fear of being stigmatised and the perceived susceptibility to HIV infection (Vermeer, Bos, Mbwambo, Kaaya & Schaalma, 2009:139). This study's respondents' positive attitudes towards HIV prevention and high levels of perceived self-efficacy influenced VCT uptake similar to another study (Charles, Kweka, Mahande, Barongo, Shekalaghe, Nkya, Lowassa & Mahande, 2009:128), conducted amongst healthcare professional students in Tanzania. Most of these students (93.9%) had positive attitudes towards VCT, and 85.4% were willing to undergo VCT.

VCT uptake was significantly lower among respondents aged 15-19 years (n=75; 31.9%) compared to 67.2% (n=92) amongst their older counterparts aged 20-24 years with p-value <0.05. This is in line with Munuo's (2005) study that reported the uptake of VCT to be 16.5% amongst secondary school youths in the Kilimanjaro region of Tanzania. Single respondents were least likely to have used VCT services. The uptake

of VCT was neither influenced by HIV/AIDS knowledge, perceived susceptibility to HIV infections nor perceived severity of HIV/AIDS.

Self-efficacy levels

While the respondents' perceived self-efficacy has been influenced by age, gender, occupation and positive attitudes towards HIV prevention behaviours, a higher perceived self-efficacy was found to influence the uptake of VCT and condom use at most recent sexual encounters. Bivariate logistic regression analyses indicated that respondents' perceived self-efficacy positively influenced condom use at their most recent sexual encounters. Although the relationship was weak, it was found to be statistically significant, with p -value = 0.000 in both cases.

Perceptions of risk of HIV infections and of the severity of the condition

Although the youths' perception of risk of HIV infection and their perception of severity of the disease positively influenced their attitudes towards HIV prevention, this did not directly improve HIV prevention practices. Similar findings were reported by Manlove, Ikramullah and Terry-Humen (2008:325) amongst African-American youths. According to the HBM, an individual's perception of susceptibility to HIV/AIDS is a key determinant of behaviour change towards HIV prevention. A person will change his/her behaviour once he/she identifies such behaviour as being high risk. Out of this study's respondents, 72.3% knew a person suffering from AIDS, and 54.9% perceived themselves to be at risk of HIV infections.

CONCLUSIONS

Schools provided HIV/AIDS information to most youths who had high levels of comprehensive knowledge about HIV/AIDS. However, their levels of implementing HIV preventive behaviours were low. Perceptions of the severity of HIV/AIDS and of the risk of HIV infections positively influenced the youths' attitudes towards HIV preventive behaviours. The youths' attitudes towards HIV preventive behaviours and their perceived self-efficacy significantly influenced condom use and VCT uptake. The individual's perceived self-efficacy was the main determinant of practising safe sex.

RECOMMENDATIONS

Although school-based HIV/AIDS programmes provided information to most youths, this programme could be enhanced. Every young person should possess accurate

knowledge about the prevention, severity and risk of HIV infection. VCT services must be accessible to youths, including school children. Condoms must be freely available and youths must know how to use condoms effectively. Parents should also receive HIV/AIDS education to inform the youths.

LIMITATIONS OF THE STUDY

Limitations, which could impact on the generalisability of the findings include:

- The research results might only be representative of the characteristics of youths resident in peri-urban settings as opposed to rural or urban settings.
- Not all questions were answered by all respondents and the impact of 'missing data' could not be accounted for statistically.
- There can be no guarantees that youths who refused to participate in the current study had similar attributes to those who agreed to be interviewed.
- In-depth interviews might have provided insight into Tanzanian youths' lived experiences of preventing HIV infections.

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REFERENCES

- Ao, T., Sam, N., Manongi, R., Seage, G. & Kappa, S. 2003. Social and behavioural determinants of consistent condom use among hotel and bar workers in northern Tanzania. *International Journal of STDs & AIDS*, 14:688-696.
- CDC - see Centers for Disease Control and Prevention
- Centers for Disease Control and Prevention. 2006. Epidemiology of HIV/AIDS-United States, 1981-2005. *Mortality & Morbidity Weekly Report* 55(21):589-592. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5521a2.htm> (accessed 10 May 2009).
- Durojaiye, C.O. 2009. Knowledge, perception and behaviour of Nigerian youths on HIV/AIDS. *Internet Journal of Health*, 9(1). Available at: http://www.ispub.com/journal/the_internet_journal_of_health/volume_9_number_1_12/article/knowledge-perception-and-behaviour-of-nigerian-youths-on-hiv-aids.html (accessed 23 November 2009).
- Global Health Council. 2008. *The impact of HIV/AIDS*. Available at: http://www.globalhealth.org/hiv_aids (accessed on 5 June 2008).
- Harrison, A., Cleland, J., Gouws, E., & Frohlich, J. 2005. Early sexual debut among young men in rural South Africa: heightened vulnerability to sexual risk? *Sexually Transmitted Infections*, 81(3):259-261.

- Joint United Nations Program on HIV and AIDS. 2007. *AIDS epidemic update*. Available at: http://data.unaids.org/pub/EPISlides/2007/2007_epiupdate_en.pdf (accessed 5 June 2008).
- Joint United Nations Program on HIV and AIDS. 2008. *Children and AIDS: second stock-taking report*. Available at: http://data.unaids.org/pub/Report/2008/childrenandaidssecondstocktakingreport_en.pdf (accessed 16 June 2008)
- Manlove, J., Ikramullah, E., & Terry-Human, H. 2008. Condom use and consistency among the male adolescents in the United States. *Journal of Adolescent Health*, 43(4):325-333.
- Onega, L.L. 2000. *Educational theories, models and principles applied to community and public health nursing* in *Community and public health nursing*, by Stanhope, M. & Lancaster, J. St Louis: C.V. Mosby.
- Mbjijmonywa, G.R. 2008. *Baseline survey report for the project "addressing sexual and reproductive health of female youth working in the informal sector"*. Arusha: Department of Social Welfare (DSW).
- Sunmola, A.M., Olley, B.O., & Oso, GE. 2007. Predictors of condom use among sexually active persons involved in compulsory national service in Ibadan, Nigeria. *Health Education Research*, 22(4):459-472.
- TACAIDS – see Tanzania Commission for AIDS
- Tanzania Commission for AIDS. 2008. *Tanzania HIV/AIDS and malaria indicator survey 2007-2008*. Dar es Salaam.
- UNAIDS – see Joint United Nations Program on HIV and AIDS
- UN-IRIN – see United Nations Integrated Regional Information Networks
- United Nations Integrated Regional Information Networks. 2006. *Tanzania: church opposes condoms, sex education*. Available at: <http://www.aegis.com/news/irin/2006/IR060605.html> (accessed 25 June 2009).
- Vermeer, W., Box, A., Mbwambo, J. Kaaya, S. & Schaalma, H. 2009. Social and cognitive variables predicting voluntary HIV counselling and testing among Tanzanian medical students. *Patient Education and Counselling*, 75(1):135-140.
- Wong, L.P., Chin, C.K.L., Low, W.Y. & Jaafar, N. 2008. HIV/AIDS-related knowledge among Malaysian young adults: findings from a nationwide survey. *Medscape Journal of Medicine*, 10(6):148.