

Gender-Based Perceptions of Secondary School Students and Teachers Regarding Need and Practice of Voluntary Counseling and Testing for HIV in Tanzania: A Descriptive Analysis of Across-Sectional Survey Data from Iringa and Mtwara Regions

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Abstract

Background: Evidence indicating that sexual behaviors are the leading mode of acquisition and transmission of Human-Immunodeficiency Virus (HIV) responsible for causing the Acquired Immune-Deficiency Syndrome (AIDS) in a majority of countries in the world remains. However, knowledge about the disease and methods for its control varies across socio-economic groups as well as between and within countries. This paper reports and discusses the findings from a study done to assess the perceptions of secondary school students and their teachers on the importance of voluntary counseling and testing (VCT) for HIV among students in Tanzania.

Methodology: The study was conducted in two regions – Iringa and Mtwara using a questionnaire designed with closed and open-ended questions seeking opinions from 125 secondary school teachers and 2,060 students. Two districts from each region were covered. While the teachers were identified using a convenient sampling strategy, a random sampling strategy was employed to identify students from forms I-VI, excluding Form Fours who had left the school. The students were asked to state whether they personally participated in sexual relationships involving sexual intercourses with fellow students or other people, their knowledge of other students who behaved in the latter way, and views regarding the need for VCT services for students, teaching staff and other members within school compounds. Teachers were asked the same questions except their own participation in sexual affairs. Data analysis was aided by the use of the Stata 10 software.

Result: Admission of either personal or fellow students' recent participation in premarital sex relationships was expressed by students in all districts, although a relatively larger number reported the behavior of fellow students than the respondents stating their own sexual behavior. Possessing multiple sexual partners were claimed as being a common behavior of sexual active students, although most of the respondents in this case also were referring to their peer students. While many students responding appreciated that secondary school students were also at risk of facing HIV, most of the teachers in all districts shied away to confirm this or show their belief in this, and denied to know students who engaged themselves in sexual love relationships. The Majority of teachers did not find it needful for suggesting schools as appropriate centers for delivering VCT services for HIV. Variations in the perceptions about the readiness of the students to undergo VCT were noted between male and female students; female and male teachers, and between the two study regions and districts of the same region. However, the difference was significant statistically for selected cases only.

Conclusion: To attain their goals, HIV/AIDS Control Programs in Tanzania need to address the challenges faced in their quest for enhancing knowledge about HIV/AIDS and encouraging behavior change attitudes towards HIV/AIDS related VCT services.

Background

The Human Immune-Deficiency Virus (HIV) and its consequent disease called Acquired Immune-Deficiency Syndrome (AIDS), was spread among a considerable proportion of the world's population. However, AIDS is more concentrated in the least developed countries [1]. Global estimates establish that in Africa, south of the Sahara, a region known as Sub-Saharan Africa (SSA), the burden of this disease is greatest. Such estimates reveal that the SSA region have persistently contributed

to more than two-thirds of the world's population infected with HIV [2]. Records also establish that in all countries, save a few ones, HIV/AIDS is an epidemic throughout SSA [3]. Low knowledge about the risks associated with HIV infection, modes of transmission/infection, social stigma and discrimination against people who are infected with HIV, shortage of basic care and support services including centers providing Voluntary Counseling And Testing (VCT) services as well as in accessibility to treatment such as anti-retroviral therapies, are among the main factors hindering the population groups at risk to access and utilize the required/recommended services. This situation perpetuates high prevalence and sometimes increasing incidences of HIV [4,5]. Students and teaching staff, especially in developing countries, are among the highest risk population groups known to need deliberate and effective health education about HIV/AIDS and promotion to utilize the available preventive and treatment services. This is because these groups sometimes lack the knowledge of the nature and modes of transmission of HIV and resultant consequences of AIDS. Some of them who pretend/claim to possess the knowledge are found to have the knowledge that is misconceived [6]. In Tanzania, as in the rest of the country within Sub-Sahara Africa (SSA), teachers are said to be more exposed to the risk of contracting HIV due to the nature of the job that keeps them mobile from place to place as well as their social status that is partly contributed by social respect of the teaching profession, their incomes and ability to influence their students to enter into a sexual relationship with them [7]. Meanwhile, the evidence shows that a large number of children in Tanzania as elsewhere in the world often become sexually active at an early age before developing the behavioural patterns that may help to prevent them against extremely vulnerable sexually infectious diseases. A volume of literature shows that adolescents, including, those already at school do lack accurate information about early sexual relations and the related consequences and that is why they become prone to sexually transmitted diseases [8]. There have been a number of strategies recommended and officially employed to curb the spread of HIV infection around the world. Among the recommended methods, albeit been used to a varied degree are the adoption of abstinence, avoidance of multiple sexual partners, condom use, VCT and treatment of HIV- infected persons [9].

Tanzania is among the SSA countries with high prevalence rates of HIV infections, and as a country that hosts about 9.9 million adolescents aged 15-24 years [10]. The national health statistics show that the national average of people infected with HIV accounts to 5.7%, with variations between districts or regions [11,12], males and females, and among individuals with other socio-economic characteristics [13]. Students and teachers are among the groups reported to be at high risk of HIV infection [14]. Although generally the data on the prevalence of HIV and AIDS among adolescents aged 10 to 19 years (and of course including the school children) was lacking, the national HIV/AIDS and Malaria Indicator Survey of 2007-8 showed a steady increase in HIV prevalence with age, especially among adolescent girls - from 0.7% prevalence among those aged 15-17 years, rising to 2.7% among those aged 18-19 years. Other surveys revealed that while most (98%) adolescents aged 15 to 19 years have heard about HIV and AIDS, less than 50% of them had a comprehensive knowledge about how to prevent HIV infection [10]. Challenges related to inadequate knowledge about the disease, attitudes towards the disease, social stigma and discrimination about

the disease, inadequately regulated and enforced policies addressing reproductive health and HIV problems are among the commonly reported reasons for the observed records on HIV in the country [4,13].

Studies and reports about the status of knowledge, perceptions and attitudes in relation to HIV/AIDS and how each of these or a combination of them contributes to influence a person's sexual behavior, including, among other things, one's desire to adopt a recommended preventive method such as use of condoms or VCT services, are many. However, they remain a rising debate among the research, academia, policy and management program communities due to controversial findings obtained from different country settings, using different study designs and data gathering, analyses, interpretation methodological approaches, and sometimes coming up with different concluding remarks [15]. That is why researchers keep suggesting that more studies that are robust and using the Health Belief Model (HBM) that is part of the Health Behavior Theories (HBT) are urgently needed to look at the issues from time to time [16-18]. Emphasis is normally placed on the need to focus on specific population groups that are at risk of contracting sexually transmitted diseases as this would help analysis to come up with results helpful to suggest potentially viable ways for improving the situation in the community [19,20]. Moreover, social science experts have established evidence indicating that social norms for sexual behaviour tend to differ by gender and may cause gender-specific response biases, hence suggesting the need for researchers to take into account of the gender elements in assessing behavioral issues in public health [15]. Meanwhile, it is argued that Knowledge, Attitudes And Practices (KAP) studies in relation to specific diseases like HIV/AIDS help to provide a quick picture on the effectiveness of the existing health education programs and recommendations that can help program managers and frontline workers to take corrective actions [21]. In response to these calls, we designed and conducted a study to assess, among other objectives, the KAP of secondary school students and teachers in relation to HIV/AIDS and how they perceived the importance of VCT services and possible readiness of students to undergo VCT in two regions in 2011 in two selected regions in Tanzania.

Materials and Methods

Study Design and Sampling

This was a cross-sectional descriptive survey that involved use of a questionnaire comprising of closed-ended questions supplemented by few open-ended questions. The targeted respondents were secondary school students and their teachers found in different schools. Two regions, namely Iringa and Mtwara and two districts from each region were involved. The two regions were purposefully selected for the study while in each region, two districts were randomly selected. Iringa is located in the southern highland zone of Tanzania mainland while Mtwara is located in the same mainland part of the country on the south eastern coast along the Indian Ocean. The purpose for selecting the said regions were two, namely, (i) Iringa, being one of the regions in the country with high prevalence rates of people living with HIV [12], and (ii) Mtwara as one of the regions with high rates of pupils and students dropping out of school for pregnancy related reasons [22].

As for the students, the total sample covered until the end of the study was 2060 of which females accounted for 1,028 while males accounted for 1,032. The Selection of these candidates was accomplished through the use of a multistage sampling method. That is, after identifying the two study regions, the districts of each region were listed and out of them two districts were selected randomly to ensure representation of urban and rural districts. This means, a total of four districts was identified by the study of both regions. For each of the identified study district, a random selection was done of four secondary schools and this was based on the list of schools that was obtained from the District Education Office. Purposeful inclusion was done of the schools with Ordinary level (O'level) students and Advanced level (A-level) students as well as those with O'level classes (students) only. O'level students include those found in forms one, two, three and four (Forms I-IV) while A-level ones include those categorized as high school students and these belong to forms V and VI classes. Form IV students were not included because they had already left the school after they had completed their national final examinations. Both male and female students have been included.

The names of the schools, socio-demographic characteristics of the students included from each district/region have been shown in the sister manuscript submitted elsewhere.

Data Gathering Processes

As said above, a structured questionnaire was adopted. The questionnaire was comprised of a few open-ended questions to supplement the rest majority of closed-ended primary questions. The questionnaire was administered in two different ways, depending on the choice of the students or their teachers. Each of these two groups of respondents was allowed to choose the mode of answering the questions by considering the prevailing the condition such as, convenience on their side to respond comfortably and the way one felt about protection of privacy in disclosing personal information relating to sexual behaviors of the students. Therefore, some questionnaires were duly-filled in by the students who opted for this system of answering questions through a self-administered questionnaire approach while about another a half of all the students covered answered through an interviewer-administered face-to-face questioning approach. Specifically, the plan was to cover 140 students from each school with O'level only and 160 students in the schools with both O'level and A'level (Figures 1 & 2). However, some of the students were categorized to participate in focus group discussion, the information from which is so detailed and has been reserved for a separate paper. However, part of FGD information has been borrowed to augment some interpretations made in the present paper.

The original plan was not to test the reliability of the data gathered using the two modes – self-administered and interviewer administered questionnaire filling by making some statistical comparisons between the two types of the data as done in other studies [15]. Instead, it was decided that the interpretation of the findings and the implications of the methodological issues and possible limitations would be part of the discussion of the overall study. The teachers responded to a different questionnaire. Both the data collection tools were translated, prepared in English first, but were then translated into Kiswahili to enable smooth use by the enumerators as well as easy understanding by all the study respondents. The data collection tools were pre- tested and modified accordingly before they were brought up to use in the

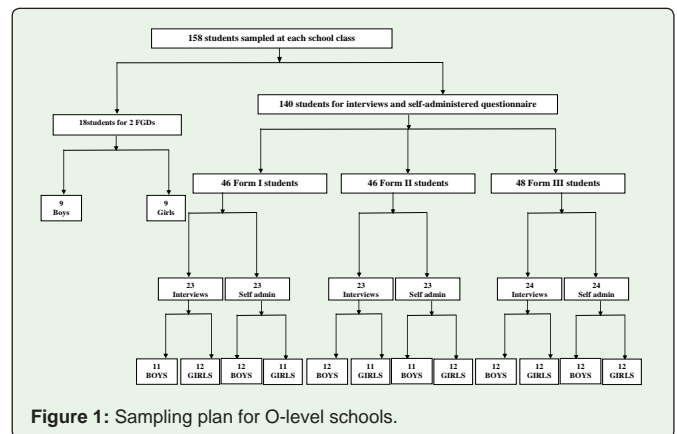


Figure 1: Sampling plan for O-level schools.

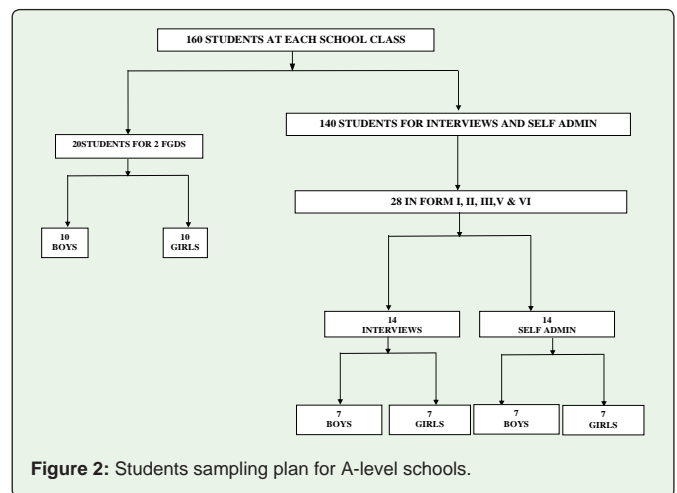


Figure 2: Students sampling plan for A-level schools.

actual study. The questions covered in both questionnaires were similar but differed in some ways, particularly for some questions. Generally, the nature of the data sought besides the basic background information of the respondents such as their socio-demographic characteristics and place of interview, were related to, among other issues, the individual respondents' knowledge about VCT, perceived readiness of secondary school students to utilize VCT services if such services were available for them, sexual relations or behaviors among students and this includes knowledge of students who were engaging themselves in sexual affairs with other students; respondents' self-engagement in sexual relationships with fellow students within the last six months preceding the present survey, and their opinions regarding the importance of VCT services for secondary school students. Decided to ask the respondents if they knew of the students who were in sexual relationships with others was a rational one owing to the fact that people are readier to talk about how other people behave on sensitive matters, including those relating to sexuality than telling what they actually do or how they behave themselves in such matters. Although the respondents may give biased and speculative or suspicious answers in this case, depending on the mode of interview/investigation, it may be improper to judge the answers given as not representing the reality [15]. The explanations obtained in Kiswahili language were back-translated into English for the final technical reporting purposes and subsequent publications.

Data Management and Analysis

Data were double-entered in Epi-data program, but analysis was performed after cleaning using STATA 10 program. For the purpose of this paper, we present descriptive statistical data analyzed to cover simple and some cross-tabulations of the frequencies of the responses obtained from each individual question applied using the study questionnaire. Given the nature of the data remaining for satisfying the purpose of the present paper, detailed statistical analysis, testing the correlation between specific outcome variables and explanatory variables have been performed, but were performed for the rest of the study objectives whose data with students' categorical responses have been shown in a sister manuscript recently submitted to one of the Biomed-Central Journals accessible online. However, Person's Chi-square tests were carried out to assess the statistical significance of the differences in the categorical data for the variables of interest. We avoided using a single paper to include all results and covering all study objectives since this would keep the paper too long and boring to the readers. Interpretation of the overall results and the subsequent discussion regarding the issue of respondents' perceptions about the importance of VCT services for HIV took into account the Health Belief Model (HBM) whereby social science experts have theorized that people's beliefs about whether or not they are at risk for a particular disease or health problem and their perceptions of the need to take action to avoid it do influence their readiness to take recommended measure or action [23]. The HBM stipulates, among other things, that a person's health-related behaviour depends on his or her perception of four key critical elements – namely the severity of a potential illness, person's susceptibility to that illness, benefits of taking preventive action, and the barriers to taking that action. Another important theory which is closely related and actually argued to be connected to the latter theory, namely, Theory of Reasoned Action and this state that an individual's behaviour is primarily determined by the person's intention to perform that behaviour. This intention is determined by two important factors: the person's attitude toward the behaviour (i.e., beliefs about the outcomes of the behaviour and the value of these outcomes) and the influence of the person's social environment or subjective norm – that is, beliefs about what other people think the person should do, and the respective person's motivation to comply with the opinions of others [15,23-25].

Ethical Considerations

This study neither involved collection of blood, stool, urine or any other specimen from the participants approached nor involved the use of any medicines for treatments or a chemical test. So, ethical clearance was sought using the formed consent form signed by all the respondents willfully and voluntarily after getting the explanation required from the interviewer. Before this was accomplished, regional and district government authorities have been approached several times by the study leaders since the study was being proposed and then submitted for approval to the national medical research coordinating committee that eventually granted the national research ethics clearance with a Ref. No. NIMR/HQ/R.8a.Vol IX/1117. Moreover, the particular school authorities and students also gave their informed and signed consent after the research proposal was approved.

Results

Socio-Economic Characteristics of Students

The students enrolled were in the age group of 15-19 years and these accounted for 75.8% of the students approached and were from form and in Forms I, II and III. The mean age of the students was 16.2 ± 2.1 years. As for the teachers, 63 (50.4%) were aged below 30 years; the rest were aged at 30 years or above. The number of respondents ranged between 19 and 40 in all the four districts. Gender-wise, male teachers accounted for 89 (71.2%), the rest were females. Teachers' highest level of education was looked at whereby it was noted that those holding university degrees accounted for 61 (48%) while diploma holders and lower certificate holders accounted for 44.8% and 2.4%, respectively. Other socio-economic characteristics, including religions and places of residence along with other data that are not relevant for the present paper have been presented in another paper submitted elsewhere.

Knowledge of Secondary School Students and Other Friends Participating in Sexual Affairs

The question on whether one has had sexual intercourse with a fellow student or other person outside their current schools where they studied was answered by 1,695 students only. Of these, only 70 (3.4%), 20 (0.9%) opted to keep it to themselves as they claimed it was confidential on their side, whereas the rest majority 1,695 (82.3%) denied to have done so. After being asked to testify or deny if they knew of other students at their current school or those studying at other schools or who had recently completed their secondary school engaging themselves in sexual affairs, a larger number of responses were obtained. Of all the students interviewed (N=2060), seventy six percent (75.6%) did acknowledge being aware of such kind of students. Asked about the number of sexual partners their fellow students have had at least in the past six months, about a third of all the interviewees reported to know such students with multiple sexual partners and among these some were reported to belong to the same schools as that of the reporting respondents while others came from other schools. Disregarding periodization of when one has had multiple sexual partners, the general behavior of students to have multiple sexual partners was reported to be common and this was indicated by 17% of the responding students to the respective question. Also, 31% of all interviewees did not deny having friends personally with whom they had entered into sexual intercourse within the last six month period preceding the present study.

Perceptions of Teachers and Students Regarding Whether Secondary School Students are at Risk of HIV Infection

Only a small proportion of teachers did not believe that secondary school students were at risk of HIV infection. Of all the 125 teachers interviewed in both regions, 110 (88%) believed that students are at risk of contracting HIV through sex or other means; the rest of the teachers did not believe so. Looking at the combined data from both study region interest being on categorizing the responses by gender, 90% and 81% of the male and female respondents, respectively, were found believing students to be at risk; the rest opposed. When the data for individual districts were examined separately, by gender, still most (>75%) of the teachers of both types of sex in each district expressed to believe that students were at risk of HIV infection and

sex being one of the main modes of transmission. In none of these two scenarios, however, that is, the combined data from both regions and data for individual districts, no statistically significant difference was found between male and female teachers in their perception of secondary school students' risk exposure to HIV (Table 1).

Table 1: Genderized percentage distribution of students who thought that the majority of the students would be ready to receive/take up VCT service for HIV, categorized by district.

| | Number of respondents | % thinking that majority of students would be willing to take up VCT | | | χ^2 (df) | P-Value |
|------------------|-----------------------|----------------------------------------------------------------------|------|--------|---------------|---------|
| | | OVERALL | Sex | | | |
| | | | MALE | FEMALE | | |
| OVERALL DISTRICT | 2,060 | 50.2 | 47.3 | 53.1 | 17.9 (2) | <0.001 |
| Iringa (U) | 543 | 46.0 | 38.8 | 53.3 | 13.8 (2) | 0.001* |
| Makete | 504 | 52.4 | 49.2 | 55.7 | 2.5 (2) | 0.28 |
| Masasi | 438 | 54.3 | 51.6 | 56.9 | 2.3 (2) | 0.315 |
| Mtwara Mikindani | 575 | 49.0 | 50.3 | 47.7 | 8.8 (2) | 0.012* |

χ^2 = Chi-Square, df = degrees of freedom

Furthermore, the majority of students interviewed in both regions believed that secondary school students were at risk of contracting HIV, mainly through sexual intercourse actions. The believers claimed to know their fellow students engaging themselves in sexual relationships and this was the main reason for their perception. Some of the respondents did not deny to be at risk as well, however, those claiming to be at risk personally were fewer in number than the number reporting students other than themselves being at risk (Table 2).

Table 2: Genderized percentage distribution of secondary school teachers who think that students in their schools are at risk of contracting HIV/AIDS or pregnancy, by district.

| | Number of respondents | % teachers who think that students at their school are at risk of contracting HIV/AIDS | | | χ^2 (df) | P-Value |
|------------------|-----------------------|----------------------------------------------------------------------------------------|-------|--------|---------------|---------|
| | | OVERALL | Sex | | | |
| | | | MALE | FEMALE | | |
| OVERALL DISTRICT | 125 | 88.0 | 91.0 | 80.6 | 2.7 (1) | 0.103 |
| Iringa (U) | 40 | 82.5 | 84.0 | 80.0 | 0.1 (1) | 1.000 |
| Makete | 32 | 90.6 | 95.7 | 77.8 | 2.5 (1) | 0.184 |
| Masasi | 19 | 94.7 | 100.0 | 83.3 | 2.3 (1) | 0.316 |
| Mtwara Mikindani | 34 | 88.2 | 89.3 | 83.3 | 0.2 (1) | 0.559 |

χ^2 = Chi-Square, df = degrees of freedom

In a subsequent question, the most stated reasons for the students being at risk of exposure to HIV infection include peer pressure (mob psychology) as indicated by 92.2% of the respondents, adopting other people's (including fellow students') lifestyles or habits (indicated by 89.6% of the respondents), one's personal behaviour (72.4%), and poor living conditions (82.9%). That is why, as lamented in the subsequent sections, the students suggested while responding to an open-ended question that health education and VCT for HIV/AIDS were an important service to school children as it is for other people. The rest of the respondents in both the students and teacher data who answered the question about risk exposure of students to HIV infection include those who claimed to be unsure and those who did not believe so. There seemed little variations in the perceptions expressed by the responding students between districts when looking at the frequencies of the responses obtained from each data set, and because of that no chi-square test of significance was conducted to compare the inter-district differences in these responses.

Perceived Possibility of Students to Accept Utilizing VCT Services

When asked to affirm or deny whether they were informed about the existence of VCT services for people who would like to know their HIV statuses, the data showed that VCT for HIV did not sound new to the majority of the students interviewed. Over 85% of the students of both sexes interviewed in each district claimed to be aware of such services as promoted by the Ministry of Health and Social Welfare (MoHSW) through the National AIDS Control Program (NACP) and partnering agencies in Tanzania. The number of those reporting to be unaware varied slightly between districts and Masasi district showed a relatively larger number. However, no statistical test for the significance of the observed slight difference in the reports was conducted (Table 3).

Table 3: Genderized percentage distribution of secondary school teachers who thought that VCT services to be important to being delivered to secondary school students, categorized by district.

| | Number of respondents | % teachers who think that VCT services are important to secondary schools students | | | χ^2 (df) | P-Value |
|------------------|-----------------------|------------------------------------------------------------------------------------|-------|--------|---------------|---------|
| | | OVERALL | Sex | | | |
| | | | MALE | FEMALE | | |
| OVERALL DISTRICT | 125 | 96.0 | 94.4 | 100.0 | 2.1 (1) | 0.320 |
| Iringa (U) | 40 | 90 | 84.0 | 100.0 | 2.7 (1) | 0.278 |
| Makete | 32 | 100.0 | 100.0 | 100.0 | - | - |
| Masasi | 19 | 94.7 | 92.3 | 100.0 | 0.5 (1) | 1.000 |
| Mtwara Mikindani | 34 | 100.0 | 100.0 | 100.0 | - | - |

χ^2 = Chi-Square, df = degrees of freedom

But when asked to estimate or give their general opinion on the proportion of students at their schools who would accept to undergo VCT for HIV if the chance was given to them, it was noted that less than two-thirds of the responding students in each district perceiving that the majority of the students (number/data not specified) would accept undergoing VCT. Justifying their answer through responses to the open-ended question and additional notes recorded through informal communications with several students after the interview sessions, it was argued that so long as a large number of the students, especially those in higher classes (Forms IIs-VIs) were already highly sexually active and engaged in heterosexual relationships, the chance that such students would like to know their health status in relation to HIV is high. However, it was added that what was necessary for the authorities to ensure so that students make effective use of the services was to bring the VCT centers closer in places found to be convenient for the target users. The rest of the responding students did not believe so while some others claimed to be uncertain of what would happen. The main reason given by those not believing students to use VCT services and those claiming to be unsure is that many students tend fearing to receive the HIV test results they would not expect or want to hear since this would affect them psychologically and negatively affect their academic progress/performance. These and some their counterparts who thought VCT would be used by students as well as the teachers did not deny the point that social stigma and discrimination against people living with HIV/AIDS prevailed within the schools and community settings where they were living.

Statistical differences were observed by comparing the data of individual districts that were categorized by gender (i.e. male vs

female) while assessing the degree to which the responding students were perceiving of the possibility that VCT services to be accepted by secondary school students if such services were available at their reach, including the places that were convenient for the students to effectively use them. Looking at the overall data from both regions combined (Table 4), female respondents were found being more positively believing than their male counterparts that secondary school students would accept VCT. The observed difference in the latter case was statistically significant (51.3% vs 47.3%; $\chi^2 = 19.9$; $p < 0.001$). A similar pattern was noted when data representing the individual districts were examined separately, although in this case, statistically significant differences were only observed in data from Iringa Urban (38.8% of females vs 53.3% for males; $\chi^2 = 13.8$; $p = 0.001$). Data from Mtwara Urban ('Mikindani') indicated the opposite, as male respondents significantly beat their female counterparts in their views on the same issue (50.3% vs 47.7%; $\chi^2 = 8.8$; $p = 0.012$) (Table 4).

Table 4: Genderized percentage distribution of students estimating that the majority of secondary school students would be ready to accept taking up VCT service for HIV if such services were made available for them in the convenient places for them to have access to them, categorized by district.

| | Number of respondents | % thinking that majority of students would be willing to take up VCT | | | χ^2 (df) | P-Value |
|----------------------|-----------------------|----------------------------------------------------------------------|------|--------|---------------|---------|
| | | OVERALL | Sex | | | |
| | | | MALE | FEMALE | | |
| OVERALL DISTRICT | 2,060 | 50.2 | 47.3 | 53.1 | 17.9 (2) | <0.001 |
| Iringa (U) | 543 | 46.0 | 38.8 | 53.3 | 13.8 (2) | 0.001 |
| Makete | 504 | 52.4 | 49.2 | 55.7 | 2.5 (2) | 0.280 |
| Masasi | 438 | 54.3 | 51.6 | 56.9 | 2.3 (2) | 0.315 |
| Mtwara (U) Mikindani | 575 | 49.0 | 50.3 | 47.7 | 8.8 (2) | 0.012 |

χ^2 = Chi-Square, df = degrees of freedom

Teachers' Perception of the Availability and Importance of VCT Services for Secondary School Students

Over 80% of the respondents met in all districts denied of knowing whether VCT services were available in secondary school premises; only 12% of the respondents reported such services to exist closer for the students, teachers and community members around to utilize them. However, it was interesting to note that nearly all the teachers were happy with or in favor of the government policy strategy of introducing VCT services in schools on the ground that it would help to serve the students who either already or would be engaging themselves in risky sexual relationships among themselves or adult and other members of the community around. Both the teachers and the students who responded by expressing their appreciation of VCT services lamented that there was a high need for a national health education program targeting schools such as the School Health program to insist on VCT services in schools and accredit centers for such services to serve both the school members within or around the school compounds. This would increase chances for the targeted school community members to access and utilize the services.

Moreover, of the overall sample of 125 teachers who responded to the question about the need for VCT service programs around school communities for the students and teachers, no statistically significant difference was observed by comparing the responses gathered from male respondents and their female counterparts. Actually, the

majority of the teachers belonging to each of these gender based categories were highly supporting the idea (96% vs. 94%; $p = 0.320$). As for the individual district data, it was noted that in Iringa Urban and Masasi districts, female teachers were more positive than male teachers, although the difference was not statistically significant. There was a zero difference between the male and female teachers in their views regarding the importance of VCT, as a hundred per cent of the respondents of both gender groups were positive (Table 5).

Table 5: Genderized number and percentage distribution of secondary school teachers who perceived VCT services to be important if they were made available to secondary school students, categorized by district.

| | Number of respondents | % teachers who think that VCT services are important to secondary schools students | | | χ^2 (df) | P-Value |
|------------------|-----------------------|------------------------------------------------------------------------------------|-------|--------|---------------|---------|
| | | OVERALL | Sex | | | |
| | | | MALE | FEMALE | | |
| OVERALL DISTRICT | 125 | 96.0 | 94.4 | 100.0 | 2.1 (1) | 0.320 |
| Iringa (U) | 40 | 90.0 | 84.0 | 100.0 | 2.7 (1) | 0.278 |
| Makete | 32 | 100.0 | 100.0 | 100.0 | | |
| Masasi | 19 | 94.7 | 92.3 | 100.0 | 0.5 (1) | 1.000 |
| Mtwara Mikindani | 34 | 100.0 | 100.0 | 100.0 | | |

χ^2 = Chi-Square, df = degrees of freedom

Discussion

Reports on Students' Engagement in Sexual Intercourses and Perceived Risk of Contracting HIV

The general impression shown by larger numbers of teachers (>80%) and students (>60%) interviewed in the present study stating to know the students engaging themselves in sexual affairs is that sex is a common practice among young school children both study regions. The fact that most of these two categories of the respondents also admitted that secondary school students were at risk of contracting HIV through sexual intercourses supports evidence from many other studies conducted elsewhere and previously in Tanzania [14]. The fact that some of the respondents were able to point out the unplanned pregnancies acquired by some school girls as an indicator of non-use of contraceptives such as condoms by either one or both of the sexual partners was sufficient to make, the researchers in the present study believe in what the respondent's thoughts about the risky sexual behaviors of school children among other adolescents that expose them to HIV infection possibility. The rest of the respondents who did not believe that students are at risk of contracting HIV indicate that so far there still existed a knowledge gap among such respondents (and probably other people, including parents and other members in the community around) about student's vulnerability to HIV infection through premature sex or other means. These findings confirm what the available published and unpublished reports from previous studies conducted in different areas of Tanzania indicating the common behavior of students to engage themselves in sex while still schooling, and a number of them practicing unsafe sex and having multiple sexual partners [14].

Some people may question the results presented in the present paper seeming to be based on the perceptions of respondents without additional evidence that would help the researchers and report readers confirm what was reported in the real world situation. However, it is

important to bear in mind is that by virtue of being in the school environments, students and their teachers become informed of many things including those relating to health. They know people's behaviors within the social contexts in which they live; and being implements of education curricula, they are agents who get to know the ABC's of various social development programs such as health and poverty alleviation strategies formally launched or instituted in an attempt to address various problems critically facing local community members. In the course of interacting among themselves and rest members of the society on the regular basis, students and teachers get to know at least some of the behaviors of each other and of other people interacting regularly with them in various ways, so is not strange to hear them reporting on personal and other people's sexual behaviors or affairs. They are among the members of the society who in any society in this world are exposed to information normally coming out through various mass media channels such as radios, televisions, newspapers and internet [26,27], besides their occasional attendance to such social events involving mass gatherings as meetings, wedding, graduation, and mourning ceremonies, sports and game competitions, other festivals and the like where they access news and even see events/things. As residents, they are part of the environment in which they live, and this environment either directly or indirectly influence their own knowledge, perceptions or beliefs, attitudes, and behaviors. They talk to one another or someone else (e.g. friends, neighbours and relatives) whose movements or conducts eventually becomes well known to them. A student like any other person becomes a friend to fellow students and other people (including teachers and other adults) with whom they may share experiences, interests and behaviors on certain issues of a general nature or private and sensitive nature. The latter fact is validated by reports indicating the interaction between students and their teachers on sexual affairs in Tanzania and other countries being common [7]. That is why the National Syllabi for primary and secondary schools also cover HIV/AIDS education [8].

Stigma to Report One's Sexual Behavior, Implications on VCT Utilization And Reliability of Self-Reports

It is well and widely established that disclosure of information on one's friendship with another person on issues that are strictly personal in nature such as those requiring one to share information about one's sexual relationship affairs is always difficult and a tricky thing to investigate due to the sensitiveness nature of the topic under study, respondent's recall bias, respondent's concern about anonymity in the investigation and the like [28,29]. Attempt has mostly been done to ask questions aimed to make respondents state their own behaviors such as whether or not one participate in sexual intercourses, number of times one has had sex within a given period of time, number of sexual partners possessed, whether or not one uses contraceptives while performing sex and how consistently one does so, whether or not one prefers using VCT and ARTs and how often has one taken measures to try to access either of such services or both, and the like. As the HBM and other theories speculated and then came to be verified through systematic studies, reporting personal health behaviors on sensitive matters has remained being something many people avoid all over the world. While attempt to adopt anthropological approaches and other field experiments to assess behavior is not always easy and preferred by researchers, the most commonly adopted method has been using other means

of getting the information on sexuality aspects, for instance, interviewing individuals about how other people behave or using such other techniques as allowing the respondents fill in structured questionnaires distributed to them in hard copies or using computer programmed information solicitation approaches. That it is important to bear in mind that the mode of information gathering determine the nature of the data obtained by investigators, and that the accuracy and reliability of the data gathered may be questioned depending on which method was employed [15,30].

Evaluation studies done elsewhere around the world have depicted a general paucity of empirical evidence on knowledge or awareness on the mode of transmission of STDs among teenagers, adolescents and older age groups in different communities in developing countries. However, the immense literature reports shortage or lack of knowledge as being one of the key hindrances to effective uptake of VCT services and ARTs [5]. Additional reports based on sociological analyses guided by such theories as the HBM and behavior models reveal that the way people perceive things normally influence the way they develop attitudes towards such things and their ultimate use of the services/products. This fact is supported by evidence from studies exploring why people use or misuse particular health services or the preventive and treatment products, for example, vaccines, ART's, and condoms for HIV and family planning services/products [15,31-34]. From the present study, we have seen that at least 10% of the teachers interviewed in each district could not believe (if at all they did not pretend) that their students were at risk of contracting HIV infection through their participation in sexual actions. Also indicated by the data from students in the same regions, a similar view as that of teachers on this issue was shared by about 30% of the students interviewed in each district. Teachers might have developed a feeling that it was shameful to inform the researchers who would eventually disvalue their schools as entertaining the misbehavior or bad conducts shown by some of their students. The possible reason for the teachers (and probably the students concerned) to think that way might be rooted from the fact that premarital sex was (and still is) regarded as a sinful or immoral behavior from both religious and cultural viewpoints. For instance, previous studies in Tanzania have established that both teachers and parents have been considering a taboo for them to talk with pupils/children about sexual matters. Their perception of this is influenced by cultural values that directly or indirectly are connected with their religious beliefs. This kind of stigma has contributed limiting a considerable number of sexually active children, including students to come forward for VCT services [14]. Therefore, there is a high possibility that the denying teachers and students who were interviewed in the current reported study regarding students with sexual relationships/behaviors knew that the opposite of what they told the researchers was true since this is a kind of stigma often expressed even at the stage of responding to researchers and possibly to journalists [35]. Denial by the latter respondents to admit that students were engaging themselves in sexual affairs that could risk them to HIV infection calls for stronger teachers' education and sensitization on HIV issues since maintaining this perception would make the teachers fail to fulfill their duty of teaching their students on VCT including advising them to undergoing VCT. This message suggests the need for such programs work with other partners to striving to ensure that teachers are among the community members who need higher education and

sensitization on HIV problems and modalities for AIDS prevention and control, an opportunity that is open according to the national HIV policy and HIV guidelines [8,36,37], but that seems to be missed. Both the teachers and students need to know, recognize and appreciate the right, they have to access basic health information in the country in relation to diseases including HIV. They need to know that their government is one of the signatories of various UN Conventions and Declarations addressing human rights and gender issues in health, including health information and services for HIV/AIDS, and that there is a national policy and guideline specifying the latter rights and the need for preventive and treatment services for HIV/AIDS to be made available to teachers and students [8,10,11,14,37].

Specific and General Feelings About the Need for Vct Services and Students' Motivation to Utilize Them

It was interesting to hear the majority of teachers and students in both study regions appreciating and suggesting the need to have VCT services for school communities. This would be expected given the fact that a sufficient number of the respondents reported to know students engaging themselves in such risky sexual relationships as not utilizing condoms and possessing multiple sexual partners. Thus, the respondents' recommendation on the need to have health education and VCT services in schools is justified and indicates how such respondents considered academic environments to be one of the best entry points for reaching VCT services to school-based people who might be willing to confirm their health statuses in relation to HIV but are hindered by geographical barriers if they were to seek services far away and area where they could be exposed to the general society. VCT services in Tanzania have for several years been, are still routinely delivered in the formal private and public health care facilities designated by the Ministry of Health and Social Welfare [37,38]. Therefore, increasing coverage in the delivery of such services by institutionalizing service programs in schools could be a commendable step and could possibly increase access and eventually enhance knowledge, attitudes/motivation towards HIV/AIDS control VCT and behavior change as experience from several countries in the developed world [39] and in Tanzania, elsewhere in SSA and the rest of the developing world [8].

On one hand, one might doubt the answers given by the respondents who felt that students would not be ready to accept undergoing VCT services on the ground that such answers might be speculative and probably had the rest of the students has been asked about their position either some or all of them would give an opposite answer. On the other hand, it is possible that the respondents concerned knew in the principal based on some information they had about chances of students shying away to utilize the services due to persistence of social stigma and discrimination against people with HIV and the personal feeling that even if they went there for checking their blood status, the society around would automatically associate them with HIV. Therefore, any decision or attempt made to introduce VCT programs within the schools, as considered by the present study respondents to be important, should be preceded by, and then run hand in hand with, a strong health education and sensitization within school community members. Otherwise, a considerable proportion of the target VCT users within the schools might continue being reluctant to accept using VCT services. In addition, the seeming to be speculative nature kind of the answer reporting un-readiness

of students to accept VCT should not be underrate much or an how since the answer might be telling what actually the respective respondents were thinking on their own side. It is possible for people to pretend telling the interviewer what they think of other people's thoughts or behaviors while they actually mean what they think or behave themselves.

The tabulated result also shows some significant variations and insignificant, but still insightful variations between male and female respondents as regard their views on the importance of VCT for secondary school students. We have seen in the case of students that female respondents were more positive than their male counterparts to the question about students' readiness to take VCT services if given chance. Similarly, the opposite was true when looking at data from the teaching staff as male respondents were more positive than their female counterparts to suggest VCT would be accepted by students. However, there seemed no significant differences in the perceptions of male and female respondents when the data for both regions and individual districts were compared and this may bring one to propose further research that would employ additional and more rigorous methodological approaches so as to open chance for creating stronger empirical evidence that might provide the basis for a sounder conclusion reflecting gender dimensions in HIV services.

Study Limitations

This study was cross-sectional in design, and involved data gathered at single points in time and therefore lacking cohort of students' sexual behaviors from time to time and as they grow up or enter higher classes. Experts have suggested the need for studies looking at behavioral elements over a range of time period as often done in longitudinal research so long as rigorous methodologies for data gathering and analysis are employed [15,28]. The present study also involved a purposeful sampling of only two study regions and convenience sampling of school teachers, hence missing representation of a wider national study area and population coverage. The analysis of the data presented in this paper has not included details on inter-regional and/or inter-district variations in terms of the kinds of the responses obtained from the respondent according to localities and gender. Use of a mixed approach in the filling of the data onto the questionnaire is another shortcoming. The use of self-administered questionnaire involving the respondents asked to duly fill in the information needed themselves is challenged for providing data that are less reliable than the data gathered using face-to-face interviews whereby the investigator takes the duty of writing the information given by the respondent as the interviews goes on [15]. The latter authors also identify another criticism relating to the difficulty of arriving at a single conclusion when the gender-based responses seem to differ on a certain study aspect. The fact that the majority of the students were of the view that VCT would be highly accepted among secondary school students does not guarantee the actual utilization of such services in real world contexts. The views given might be speculative and that is important to be noted by researchers investigating behavioral issues, including those aimed to determine people's health seeking behaviors [40]. Nonetheless, the current study evidence as reported in this paper can be taken as an eye opener by providing insight to the readers regarding the status of knowledge among secondary school students and teachers about HIV risk exposure, students' sexual behaviors, VCT services and their

attitudes, attitude toward VCT services within HIV/AIDS control programs involving community health education and promotion on use HIV prevention and treatment services. .

Conclusion and Key Policy Messages

In short, the study findings establish that VCT for HIV is positively perceived by the students and teachers in the study regions who seemed to be sensitized on HIV risk of transmission through sexual intercourse activities when at least one of the sexual partners is already infected. However, the existence of individuals who do not see why students should undergo VCT because of the perceived non-participation in risky sexual actions implies that health education and sensitization messages on HIV/AIDS, including the vulnerability of young children to HIV infection are yet to build strong roots into some people including the members of the academia. We find based on these findings and the relevance of the views made by previous researchers in Tanzania and other countries proposing an urgent need for researchers to carry out further studies that would enable the authorities concerned to evaluate periodically the effectiveness of the existing health education, advocacy and promotion programs launched or instituted in community settings in relation to HIV/AIDS prevention, treatment and control. The authorities or personnel responsible for information promotion need to package their messages in such a way that they can eventually enhance motivation of target recipients to see our value the benefit of making use of the messages into practice for positive behavior change. Such authorities should be informed by empirical evidence establishing that enhancing people's knowledge alone may not change their risky behaviors. Therefore, it is equally imperative to pay attention to such individual person's traits as those likely to make one avoid practically any behavior that might expose them to HIV infections. One of the ways to achieve this goal is to make people change their perceptions of their own or other people's vulnerability to disease and avoid unbeneficial peer norms, change their negative beliefs about the value of the recommended prevention behavior, and then recognize the high risk behaviors [34]. For research to be actualized and sufficiently done for better evidence creation, we think the funding opportunities government and development partners may have need to be made open for the competent researchers identified to be able to know and access them and carry out the required research in time.

Authors' Contributions

AKM and GMM were co-principal investigators in the present study. The former was the lead principal investigator while latter was his deputy. AKM conceived the study idea, consulted GMM and both of them accelerated it to a full research proposal. Next were AE, JM and JJM before all other listed authors who participated in the review of the study protocol, study implementation and report writing. GMM wrote the first manuscript (MS) of the present paper and finalized it with some inputs from AKM and AE. All authors read the paper, added their comments and approved it before its final submission for peer review and possible publication.

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Competing Interests

The authors declare to have no competing interests.

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