Knowledge of sexually transmitted diseases among secondary school students in Dar es Salaam, Tanzania

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Abstract

Background: In Tanzania, it is considered a taboo for teachers and parents to talk with children about sexual matters including sexually transmitted diseases (STDs) in schools and at home because of cultural and religious barriers. Political pressure also keeps sexual education and thus education on STDs out of classrooms. Generally, there is disagreement over STDs education on what to teach, by whom, and to what extent.

Objectives: To assess the knowledge of STDs, and attitude towards sexual behavior and STDs among secondary school students.

Methods: This was a cross- sectional study using a semi-structured questionnaire. A sample size of 635 students was determined by simple random sampling.

Results: Majority of the students (98%) said have heard about STDs; however their knowledge of the symptoms associated with STDs was poor. Similarly 147 (23%) students did not know other means of STDs transmission rather than sexual intercourse. A number of students who were capable of identifying all tracer STDs was comparable between the ordinary (10.5%) and advanced (10.6%) level students ($p<0.001$). Thirty-two students (8%) were completely unable to identify even a single tracer STD. About 96% respondents said were capable of preventing themselves from contracting STDs, however 38% of them admitted that they were at risk of contracting STDs. Majority (99%) described more than one source of information on STDs, television and radio were the most commonly mentioned sources, whilst none of them cited parents as source of information ($p<0.001$). Regarding vulnerability to STDs, 503 (79%) students said female students were more vulnerable to STDs compared to males.

Conclusions: The level of knowledge about STDs (ability to identify tracer STDs, to describe symptoms associated with STDs and their mode of transmission) is poor with regard to the students' levels of education. Female students are more vulnerable to STDs compared to male counterparts. Mass media is still the more effective means of educating the students on STDs.

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Introduction

Several studies on STDs have been evaluating sexual behaviour for quite a while. Following HIV pandemic from 1980–1990s, the focus on sexual evaluation intensified[1-4]. The researchers have been investigating sexual behaviour in a variety of contexts often asking the same questions for various purposes. Some authors evaluated sexual behaviour in relation with STDs and family planning programmes in order to assess individuals' risk to STDs[2]. In both cases infected as well as uninfected populations were involved and behaviour risk factors to STDs were identified[1-5]. Others concentrated on specific groups to describe and identify high and low risk subpopulations[6-9]. However, statistics on STDs show no sign of abating; the ever-increasing number of STDs and deaths due to HIV/AIDS are common now, particularly in developing countries. As the time goes on the trend of STDs is becoming a big problem among the youth[10].

The situation in Tanzania is even worse; where about 2.2million adults and children were estimated that have been infected with STDs including HIV/AIDS[11]. The crisis is noted to be severe particularly for the youth. Approximately 17% of children under 15 years of age in Tanzania had been infected by STDs, and about 50% of the STDs occur before the age of 29 years[11-12]. In a previous survey on youth sexuality and behavior for primary school pupils in Dar es Salaam, it was observed that 62% males and 35% of females were at risk of acquiring STDs[13], whilst others[1] found that over 80% of male and 25% of female secondary school students were predisposed to STDs.

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In 1996 a similar survey was conducted on primary schools in Dar es Salaam, which showed that 54% of the interviewed students aged between 11-19 years, were at the risk of contracting STDs. Many of the pupils were involved in unprotected sex, thus many had been exposed to STDs[4]. The reasons put forward for the youth sexuality included youths being sexually active because they wanted to have sex out of curiosity and some had been pushed into early sex by peer pressure. Other given reasons were examples set by parents and siblings, mass media as well as lack of cash and employment opportunities[8].

Moreover, in Tanzania, it is considered a taboo for teachers and parents to talk with pupils/children about sexual matters, such as sexual relationships, and STDs in schools as well as at home because of cultural and religious barriers[14]. Political pressure, on the other hand, often keeps sexual education and thus education on STDs out of the classrooms[15]. The sensitivity of sexuality and youth behavior obstructs education on STDs despite the fact that there is now a stronger commitment to address STDs in schools. Therefore, this survey was conducted in order to investigate and assess the knowledge of STDs among secondary school students and their attitude towards sexuality taking into account the high prevalence of the AIDS pandemic.

Methods

Study design: A descriptive cross sectional study was conducted in 14 randomly selected secondary schools involving all 3 districts of Dar-es-Salaam region within a 3-month period in the year 2005. A well-designed, semi-structured and self-administered questionnaire with both closed and open-ended questions was used for data collection. At least 4 secondary schools from each district were selected in which 45 students were randomly selected (irrespective of their gender, education levels and ages) and voluntarily involved in the study, under verbal and written consent.

Sample size: A sample size of 635 students was determined by using recommended statistical methods [16, 17] and preliminary data obtained in a pilot survey.

Data collection: A questionnaire was used to collect information from the student. The questionnaire elicited if the student had knowledge of STDs (ability to identify tracer STDs, to describe some symptoms associated with STDs, and to describe means of transmission, and preventive measures); and what his /her sources of information on STDs were. Similarly, the student was asked on whether she/he was felt vulnerable to STDs and on which gender was more prone to STDs giving reasons to the response.

Ethical issues: These were addressed by requesting permission to conduct the study, which was obtained from the respective District Administrative Secretary (DAS), school authorities with additional personal consent from the student, and from parents/guardians for the case of the under 18 year-old students. The students also were assured of confidentiality of volunteered information.

Data analysis: All questionnaires were assigned numbers, coded and analyzed by Statistical Package for Social Sciences (SPSS version 10) computer software. Differences on knowledge of STDs among various groups categorized by age, form/education level and gender were analyzed and the significance level was set at $p<0.01$.

Results

Study population and knowledge of STDs

In this study 635 students were interviewed, out of these 264 (42%) were females and 371 (58%) were males (Table 1). Their ages ranged from 13 to 25 years, however most of them (60%) had age between 17 and 19 years. All completed the questionnaires. About 99% of the students said they have had heard of STDs, while the rest said they have had never heard of them. Out of the 635 students, only of 67 (11%) students (29 females and 38 males) were capable of identifying the entire tracer STDs, as depicted in Table 2. A number of students who were capable of identifying correctly all the STDs was comparable between the ordinary (10.5%) and advanced (10.6%) level students ($p<0.01$). Gonorrhea, syphilis, candidiasis and AIDS were mentioned by 10% of the respondents. A total of 304 (48%) students were capable of mentioning only three tracer STDs (Table 2). Of the 304 students who managed to mention at least three STDs, 123 (40%) of them mentioned AIDS, candidiasis and gonorrhea. Amazingly 32 (5%) students (22 males and 10 females), who could not identify even a single tracer STD were all ordinary level students. It was also revealed that most students had poor knowledge on the symptoms associated with STDs. Seventy-three (11.5%) female and 92 (14.5%) male students accurately described some symptoms associated with STDs. Two hundred and fifty-five (39%) were completely unable to describe the symptoms compared with 165 (26%) who were able to describe the STD-associated symptoms correctly ($p< 0.001$) as shown in Table 3.

Table 1: Demographic distribution of the study population/students and their responses about information on STDs.

Level/sex of students	Number of students (%)	Ever heard of STDs (%) Yes	No
Ordinary level students	400 (63)	394 (98.5)	6 (1.5)
Advanced level students	235 (37)	233 (99)	2 (1)
Females	264 (42)	263 (99.6)	1 (0.4)
Males	371 (58)	364 (98)	7 (2)

Table 2: Identification of four tracer STDs out of the ten listed infectious diseases. Note (a) are percentages calculated with respect to both sex and education levels of students.

Students' sex / level of education	Correct responses (%)[a] None	1	2	3	All
Females	10 (4)	27 (10)	72 (27)	126 (48)	29 (11)
Males	22 (6)	38 (10)	95 (26)	178 (48)	38 (10)
Ordinary level students	32 (8)	54 (13.5)	65 (16)	207 (52)	42 (10.5)
Advanced level students	0 (0.0)	11 (5)	102 (43.4)	97 (41)	25 (10.6)

Table 3: Students' responses when asked to describe STD-associated symptoms commonly manifested in females and in males.

Symptoms of STDs	Responses Don't know	1-correct	2-correct	3-correct	All correct
in males	136 (21.4)	108 (17)	179 (28.1)	120 (19)	92 (14.5)
In females	115 (18)	69 (10.9)	184 (29)	194 (30.6)	73 (11.5)

Knowledge of means of STDs transmission and prevention

With respect to the knowledge on other means through which STDs could be transmitted other than sexual intercourse, 488 (77%) students responded positively while 147 (23%) were unable to respond. Six hundred and thirteen (96%) students said they were able to protect themselves from contracting STDs, 16 (2.5%) said can not protect themselves and 6(1%) were not sure. Only 294 (46%) of the students said they were not at risk of contracting STDs, while 243 (38%) said were at risk. The responses given by the 46% of students, who felt that were not predisposed to STDs, they said that could be achieved through faithfulness (8%), abstinence (33%) and 6% said by use of condom. Ninety-eight (15%) students were not sure or did not know whether they were at risk or not. On the other hand, the main reason given by the majority of the respondents (12%) who feared that were at risk of contracting STDs said it was due to statistics, implying that it was due to the prevalence of HIV/AIDS pandemic (Table 4). Therefore, they also were automatically at risk, because of the high prevalence of STDs amongst the population.

Vulnerability to STDs between female and male students

Regarding vulnerability to STDs, 503 (79%) students stated that females were more vulnerable to STDs compared to their male counter parts, while only 132 (21%) said males were more vulnerable. The main reasons mentioned included anatomical structure 238 (37.5%), sexual abuse 103 (16%) and 16 (2.5%) said differences in careers was the reason for vulnerability. Table 4 also summarizes other reasons given by the students for being prone to STDs: 6% sexual abuse and blood transfusion, 10% temptation, 2% financial constrains and 1% accidents.

Sources of information on STDs

Majority of students 629 (99%) were capable of mentioning multiple sources of information about knowledge of STDs, and this did not match with neither

age nor education level of the students. However, none of them mentioned parents or teachers as source of information or knowledge about STDs. Radio and television were cited by 590 (93%) students as the source of information on STDs while the rest 45 (7%) students had sought information on their own from internet and books ($p<0.001$).

Table 4: Students responses when asked why they felt at risk of contracting STDs.

Reasons for been at risk	No. of students (%)
Do not know	98 (15)
Statistics	79 (12)
Sexual abuse	41 (6.5)
Blood transfusion	41 (6.5)
Financial problems	12 (2)
Temptations	65 (10)
Accidents	5 (1)

Discussion

This study intended to explore in the students their sources of information on and knowledge of STDs. The study revealed that majority of the students had heard about STDs, though none of them mentioned parents or relatives as a source of information, coinciding with previous findings[5, 8]. Certainly, this is due to the fact that the information offered through radio or TV is not detailed enough because of cultural and religious reasons[11]. For that matter, most of them could not describe the symptoms associated with STDs. Also because of the existing barrier between parents and children, particularly discussing on matters related to sexual relationship, the majority of the students could not correctly describe symptoms associated with STDs on the opposite sex partner. Other researchers[5] found that most adolescents learn about sexuality on their own from books, magazines and films. This may somehow be rather more detrimental to them than educative, since the exploration is unguided.

The results further showed that most of the students were confident that they could protect themselves from acquiring STDs. However, very few believed that faithfulness, abstinence and condom use could be the ideal means of protection. The findings of this study showed that females were more vulnerable to STDs, parallel with the findings[15] and contrary to those[1, 5], who found that males were more sexually active and therefore more likely to contract STDs than their female counterparts. Regarding the knowledge on other means of STDs transmission apart from sexual intercourse, 147 (23%) students were unable to respond. This result was unexpected bearing in mind that the respondents are secondary school students. Therefore, this study finding calls for a review of the current curricula for secondary schools.

In the last two decades sexual behavior exhibited by school adolescents and youth between 19 to 24 years has led to the emergence of several health and developmental problems among students[11]. Among the key issues associated with these problems were unprotected sex and undesirable sexual behavior, teenage pregnancy, sexual harassment and increasing cases of prostitution. Despite the good intention of introducing reproductive health education in schools, obstacles have been observed[14]. There is a considerable disagreement over school STDs education including what to teach, at what setting, by whom, and to what extent. It is still believed that talking to children about sexuality will encourage youth sexual activity[7]. Nevertheless, there is a pressing need for both parents and teachers to change this attitude, and on the other hand the government should think of an earlier initiation of reproductive health education in primary schools with more emphasis on STDs.

Conclusion

Our study showed that, symptoms associated with STDs in both males and females were not well known by a significant number (39%) of the students. The study also revealed that approximately 10% of the studied population could not identify a single tracer STD, however at least every student knew one way through which one could protect from acquiring STDs. The mass media is still the major effective means of educating the society, including students, on STDs. Abstinence and faithful promotion activities should be encouraged as the only means of preventing and protecting the youth from acquiring STDs. Therefore it is recommended that parents and teachers should collaborate in educating the students/children on the reproductive health affairs particularly STDs, in more open and comprehensive way. Special efforts such as regular counseling and more amicably talks between parents/teachers and female students should be conducted and intentionally be directed at this group of students since seems to be more vulnerable to STDs. Government policy on STDs education should be reviewed so as to come up with more concrete ways of fighting STDs including HIV/AIDS.

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