

Awareness of Sexually Transmitted Diseases among Adolescents in Saudi Arabia

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Abstract. The aim of the study, due to the worldwide prevalent increase of sexually transmitted diseases, was to investigate the local adolescents' awareness of sexually transmitted diseases, including their level of knowledge regarding the mode of transmission and prevention of sexually transmitted diseases. The study was performed using a standard questionnaire which was distributed to the general public eliciting information about the knowledge of sexually transmitted diseases. 536 participants were randomly selected amongst medical and non-medical youth aged 18-25. Despite tremendous efforts, 49 participants did not answer some of the addressed questions, so they were excluded from the study. The study showed that the local population of Jeddah lacked awareness of sexually transmitted diseases, and they have incorrect perceptions. Most common sources from which information was obtained were primarily mass media rather than school education. 274(56%) wanted to know if they had any kind of sexually transmitted diseases. Only 257 participants (53%) thought that Human Papilloma Virus was a sexually transmitted disease. 340 participants (70%) thought that Herpes Simplex Virus was a sexually transmitted diseases. 282 participants (58%) thought that Chlamydia was a sexually transmitted disease. Sexually transmitted diseases are common and preventable causes of morbidity and serious complications; thus primary prevention of sexually transmitted diseases needs to be given high priority. Education about sexually transmitted diseases should be addressed early on in schools to encourage premarital screenings and hence help reduce the risk of the possible expansion of infection in the Kingdom.

Keywords: Adolescents, Awareness, Sexually Transmitted Diseases, Education, Knowledge. Saudi Arabia.

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Accepted for publication: 31 March 2008. Received: 20 February 2008.

Introduction

The stage of life during which individuals reach sexual maturity is known as adolescence. It is the period of transition from childhood to adulthood. Although the change is biological, the duration and nature of adolescence are primarily a social construct and thus vary greatly from culture to culture. World Health Organization (WHO) identifies the age range 10-19 years as the period of adolescence, while the term “youth” denotes the age group 15-24^[1]. Young adolescents constitute an equally large amount of those infected with sexually transmitted diseases (STDs). Although pre-marital sex among unmarried people is condemned, the gap between expected and actual behavior is enormous.

Despite the commonality of STDs, they are one of the most under-recognized health problems worldwide. Many people with STDs are asymptomatic and remain undiagnosed. In addition, those who are diagnosed, are frequently not reported and counted. Furthermore, most of the published data on the prevalence and incidence of STDs come from developed countries.

In Saudi society, discussing STDs is considered taboo where ethics and social factors give rise to many obstacles. This article was designed to explore the conception and knowledge about protection against STDs within the adolescent community. Living in a conservative society, denial is always the rule when questioned about STDs; but does that help in treating the ever-expanding problem? Concerns about privacy and confidentiality are important barriers to seeking medical care among adolescents with possible STDs^[2]. Despite the fact that a certain percentage acquires the disease from relations with sexually affected persons through marriage, pre-marital screening for STDs is almost never done.

The aim of this study was to explore the awareness about STDs among the youth and to improve their knowledge about protection from STDs through distributed educational material. Furthermore, it could be used to serve as a tool to convey the message to health educators about the importance of the integration of the reality of youth sexuality, awareness and protection into the public consciousness.

Setting and Design

A cross-sectional study was conducted for a period of two weeks in January 2008 on 536 individuals aged between 18-25 years living in Jeddah, Saudi Arabia.

This age range was chosen because a higher university education is usually pursued giving them a wider source of knowledge.

Methodology

Our study was performed using a standard form titled "Awareness of Saudi Local Population on STDs". The survey used a 5-part, 20 question questionnaire eliciting information about the knowledge of STDs including modes of transmission and curability, ways of prevention, society's attitude and ethics toward it, their source of information and finally whether it is reasonable to be taught in schools.

The research was composed of three steps. A questionnaire was distributed and answered. The first form was titled the "Before" form. Another paper was then handed out which consisted of educational material. It contained brief information such as modes of transmission, symptoms, and consequences to infected persons, treatment and prevention of the six most common STDs: herpes, human papilloma virus (HPV), syphilis, chlamydia, gonorrhea and HIV/AIDS. A third form, the "after" form, which was a replica of the first one, was then given out to test their knowledge post-reading. This was distributed by a number of medical students trained in research to a number of schools, colleges, hospitals, offices, malls and local residences to individuals within and outside the medical field. The forms were filled out in the presence of the medical students to ensure the precision and accuracy of the results. Care was taken to ensure that no one missed out from answering any item; however, 49 participants were dropped from the study due to the lack of complete information. Anonymity and confidentiality were maintained. The study included four hundred-eighty seven participants of both genders, varied levels of education, social status, and age. Data were analyzed by Chi-square test and p value < 0.05 was considered statistically significant. Odds ratio at 95% confidence intervals were also calculated. The survey was revised and approved by the Ethical Committee at King Abdulaziz University Hospital.

Results

A total of 487 persons participated in the survey, 142 (29.1%) males and 345 (70.8%) female participants whose ages ranged from 18 to 25 years.

The major source from where respondents received information were internet 375 (87%), books 356 (73%), TV/radio 302 (62%), friends 267 (55%), newspapers/ magazines 243 (50%) and family 180 (37%). 351 (72%) of the participants knew how to protect themselves from STDs. However, almost 136 (28%) were not sure if condoms could give 100 % protection from all STDs and only 59 (12%) thought they provided full protection.

Table 1 shows the perception of women about STDs and their curability before and after they read the educational material. Two-thirds of them thought that HPV was a sexually transmitted disease and only 102(21%) thought it was not curable. Knowledge of HPV and chlamydia as STDs improved after reading the presented educational material from 257 (53%) and 282 (58%), respectively, to 452 (93%) and 467 (96%), respectively. This was also clearly demonstrated regarding curability of these two STDs. The majority of women knew that HIV, syphilis and gonorrhoea were STDs, 467 (96%), 413 (85%) and 404 (83%), respectively.

Table 1. Knowledge about different STDs, its curability and the difference in answers before and after reading the educational material.

Disease	Before education material			After educational material		
	STD Yes	Curable			Curable	
		No	Yes		No	Yes
HSV	340 (70%)	102(21%)	385(79%)	462(95%)	122(25%)	365(75%)
HPV	257 (53%)	54(11%)	433(89%)	452 (93%)	166(34%)	321(66%)
Syphilis	413 (85%)	156(32%)	331(68%)	477 (98%)	409(84%)	78(16%)
Gonorrhoea	404(83%)	156(32%)	331(68%)	477(98%)	423(87%)	63(13%)
Chlamydia	282 (58%)	209(43%)	278(57%)	467(96%)	423(87%)	63(13%)
HIV	467(96%)	390(80%)	97(20%)	482(99%)	44(9%)	443(91%)

Table 2 shows that the level of awareness regarding STD protection was 351(72%) with a higher percentage in males than females. Only 292(60%) knew that condoms are not a 100% protective from all STDs, which is almost the same in both groups (64-58%). Almost half of the participants wanted to know if they had one of these STDs (274 (56%)). The majority of them 448(92%) thought that education about STDs should be taught in schools.

Table 2. Before receiving the educational material, the level of awareness, perception and attitude toward STDs among Saudi population per gender.

Before		Total no. – 487			Male – 142			Female – 345		
		No	NS	Yes	No	NS	Yes	No	NS	Yes
1) Do you know how to protect yourself from STDs?	No	44	92	351	7	25	110	42	72	231
	%	9	19	72	5	18	77	12	21	67
2) Do you think that condoms are a 100% protective from STDs?	No	292	136	59	91	33	18	201	103	41
	%	60	28	12	64	23	13	58	30	12
3) Would you want to know if you have any kind of STD?	No	176	37	274	43	13	84	131	24	190
	%	33	8	56	31	9	60	38	7	55
4) Do you think you are entitled to know if your partner had any kind of STD?	No	49	29	409	25	12	105	24	17	304
	%	10	6	84	17	8	74	7	5	88
5) If you get an STD, do you think your partner is entitled to know?	No	15	43	428	5	19	118	10	24	311
	%	3	6	88	4	13	83	3	7	90
6) Do you think that education about STDs should be taught in school?	No	10	29	448	0	0	142	10	29	317
	%	2	6	92	.0	0	100	3	8	89

NS = Not Sure.

Females, more than males thought that they were entitled to know if their partner had an STD and that the partner was also entitled to know if they themselves had it (p value 0.001 and 0.098).

Table 3 shows 458(94%) of the medical profession and 477(98%) of non-medical professions thought that they and their partners were entitled to know if inflicted with any STDs, with p value less than 0.05.

Table 3. Level of awareness, perception and attitude toward STDs among Saudi population based on medical or non-medical profession. (after receiving educational material).

After		Total no. 487			Non-medical 254			Medical 233		
		No	NS	Yes	No	NS	Yes	No	NS	Yes
1) Do you know how to protect yourself from STDs?	No	19	54	414	16	43	195	3	11	219
	%	4	11	85	6	17	77	1	5	94
2) Do you think that condoms are a 100% protective from STDs?	No	429	29	29	220	17	17	209	12	12
	%	88	6	6	86	7	7	90	5	5
3) Would you want to know if you have any kind of STD?	No	136	24	327	59	12	183	77	12	144
	%	28	5	67	23	5	72	33	5	62
4) Do you think you are entitled to know if your partner had any kind of STD?	No	24	5	458	12	3	239	12	2	219
	%	5	1	94	5	1	94	5	1	94
5) If you get an STD, do you think your partner is entitled to know?	No	15	5	467	0	5	250	15	0	217
	%	3	1	96	0	2	98	7	0	93
6) Do you think that education about STDs should be taught in school?	No	9	15	463	4	7	242	5	8	220
	%	2	3	95	2	3	95	2	3	95

NS = Not Sure.

Table 4 summarizes the action that the Saudi participants would do if they found that their partner had an STD. 385(79%) of females claimed they would ask for a divorce vs. 102(21%) of male participants facing the same condition (p value = 0.000). 331(68%) of medical respondents claimed they would ask for a divorce if the partner had an STD vs. 156 (32%) of non-medical (p value = 0.007).

Table 4. Action Saudi population would take if they found out that their partner had one of these STDs (more than one option was possible).

Action		All	Male	Female	Non-medical	Medical
Do nothing	No.	1	1	0	1	0
	%	0.4	100	0	100	.0
I don't know	No	168	120	48	90	78
	%	34	85	14	58	42
Get a check up	No	24	4	20	14	10
	%	5	30	70	60.0	40.0
Ask him/her to get treated	No	204	40	164	106	98
	%	41	25	75	52	48
Avoid sexual contact	No	14	5	9	10	4
	%	3	34	66	75	25
Ask for divorce	No	239	51	188	76	163
	%	49	21	79	32	68

Discussion

To date, prevention and control of STDs, especially among the youth, is a low priority for most countries. Lack of awareness of the problem of STDs and their complications, competition for resources to control other important health problems and the reluctance of public health policy makers to deal with diseases associated with sexual behavior have all played a role in this neglect^[1-3]. Similarly, most programmers for the prevention of STDs have, until recent past, focused on the prevention of complications (secondary prevention) (WHO, 1994). The prevention of transmission of infection (primary prevention) is at present receiving increased attention because of the global epidemic of HIV/AIDS and the identification of several STDs as risk factors for the spread of HIV^[4-8]. Young women are more vulnerable than men to infection with an STD and to its complications (such as infertility, cancer and inflammatory diseases). Biologically women are more susceptible to most STDs than men, partly because of the greater mucosal surface exposed to a greater quantity of pathogens during sexual intercourse^[8].

In this study, the focus was on adolescent knowledge about five main STDs (genital herpes, human papilloma virus, syphilis, gonorrhea, chlamydia and HIV/AIDS).

The majority of the participants were familiar with HIV, syphilis and gonorrhea as STDs and had a fair amount of information about their curability. However, knowledge about genital herpes curability was poor despite their knowledge of it being an STD. The educational materials provided during the survey helped participants understand that HPV and Chlamydia were also STDs.

The average annual incidence of STDs per 100,000 population for Saudis and non-Saudis, respectively, was as follows: 5.2 and 4.2 for gonorrhea, 1.7 and 6.4 for syphilis, 0.6 and 8.0 for HIV, 1.4 and 0.7 for genital warts, and 0.1 and 0.4 for genital herpes^[3].

Although it is well known that South Africa is the most severely affected country with STDs, this does not change the fact that other communities are not immune, not even the most conservative ones. Saudi Arabia is considered one such conservative country. This study showed that the level of awareness regarding STD protection is quite deficient among adolescents, especially in the female population.

Some believe that promoting condom use may result in risk compensation thus facilitating the onset or frequency of high-risk sexual activity^[9]. Clinical studies of the effectiveness of condoms against most STDs suggest inconsistent levels of protection (50-90%)^[10-13].

In this study, 59 (12%) thought that condoms could protect them 100% from STDs and 12 (5%) of the medical professionals thought they gave complete protection. There was no difference between medical vs. non-medical professionals in the level of awareness about condom protection.

In Islamic countries, disapproval of homosexuality and non-marital sex and the assumption of a low prevalence of STDs are responsible for the limited information available in the literature.

Almost 28% of the people didn't want to know if they had an STD even though this goes against basic Islamic beliefs which state that a person's body is not entitled to him but to the Creator. This prevented them from seeking treatment and avoiding complications for themselves

and their partners even though some of these diseases are curable. Consciously endangering one's body is strictly forbidden since most of these STDs are considered a life-threatening condition. It was also found that male medical professionals were more reluctant to know if they had gotten one of these STDs and only half of the study group showed an interest in knowing.

Having a medical educational background showed a negative attitude regarding a partner's right to know whether either of them has one of these STDs.

Only 24 (5%) from the study group thought that they would ask their partner to have a medical checkup if they got one of the STDs, 4 (30%) males vs. 20 (70%) females.

During this study, we faced hesitation from the administrations of universities concerning the distribution of the questionnaires. Many thought it would be inappropriate to discuss such issues with unmarried individuals. That not only reflected the ignorance of our society but the magnitude of the problem facing the Kingdom today. Fear of knowing about diseases breaks down the fundamental basics of screening and prevention.

Almost 40% of the participants claimed they would ask for a divorce if their partner had an STD, which reflected the rejection of the society of this behavior, which in turn demarcates the necessity of awareness and prevention rather than dealing with the problem. Such information could be better perceived and awareness could be spread via media since the media is the primary source of information among the designated age group nowadays.

Health educators in the region should play a leading role in educating the population about prevention from STDs and put it into the public consciousness. Educational activities at schools should be increased in order to better inform the students of these problems as it is very important to offer young people better and more correct information about STDs and HIV/AIDS^[14-17]. In this study almost all in the study group thought that STD knowledge should be taught in schools. In some countries the incidence of STDs border almost half the population, thus awareness should be raised not only to help the uninfected but also to minimize the risk of transmission^[18]. Adolescents need to be educated

regarding the health consequences of STDs including HIV/AIDS and that using condoms and other barrier methods minimize the risk of transmission but does not provide complete protection. People were found to be more informed about HIV/AIDS than the other STDs due to media coverage and publicity^[19]. The presence of STDs may facilitate HIV transmission making people more vulnerable and prone to it^[17]. Risks and complications of other STDs such as infertility, ectopic pregnancy, pelvic inflammatory disease, cervical cancer and adverse outcomes in pregnancy such as spontaneous abortion, still birth, premature birth and congenital infections were highlighted in the educational material handed out to the subjects^[20]. Such information may impede many people from conducting risky behavior^[21-22].

Conclusions and Recommendations

STDs are common and preventable causes of morbidity and serious complications; thus primary prevention of STDs needs to be given high priority. Education about STDs should be given early on in schools to encourage premarital screenings and hence help reduce the risk of the possible expansion of infection in the kingdom.

Health educators should adopt this strategy. Integrated approach is strongly suggested for creating knowledge and awareness to control the spread of STDs (including HIV and AIDS) among young people.

Appropriate preventive strategies that conform to Islamic rules and values are essential and should be of highest priority because of the potential of such infections to spread particularly among the youth. This raises the necessity to conduct further studies to evaluate the awareness and educate the general population.

Acknowledgments

I would like to thank all the doctors and medical students who have helped in distributing questionnaires and collecting the data including Dr. L. Raffa, Dr. L. Salah, Dr. A. Bokhari, A. Raffa, I. Raffa, D. Sabban, R. Hammad, R. Abdelnabi and R. Kofiah. Special thanks to Mrs. Sahar Jambi, Head of Statistics Department in King Fahad Medical Research Center for her valuable assistance in the statistical analysis.

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الوعي بين المراهقين للأمراض التي تنتقل عن طريق العدوى الجنسية في المجتمع السعودي

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المستخلص. هدفت هذه الدراسة إلى دراسة الوعي بين الشباب السعودي حول الأمراض التي تنتقل عن طريق العدوى الجنسية، وذلك بالنظر إلى التزايد المتصاعد لانتشار هذه الأمراض على المستوى العالمي. كذلك هدفت إلى بحث مستوى معرفتهم عن كيفية انتقال هذه الأمراض والوقاية منها. كما ساعدت في زيادة نسبة الوعي إلى الشريحة المساهمة في هذه الدراسة. اشترك في هذه الدراسة ٥٣٦ شابا وشابة، تتراوح أعمارهم بين ١٨-٢٥ تم توزيع استبيانات عليهم مؤلفة من خمسة فقرات، تستطلع عن معرفتهم بستة أمراض رئيسية هي الهيربس، مرض الثآليل الحليمات البشرية، والسيلان، والزهري، والكلاميديا، والأيدز، كما تم توزيع مادة تثقيفية عن هذه الأمراض، تم بعدها إعادة حل الاستبيان. تبين أن هناك نقص شديد في الوعي بهذه الأمراض، وأن مصادر معلومات ٩٠٪ هي من الإعلام بدل التعليم المنظم، كما اعتقدت الغالبية بأن أمراض الهيربس وثآليل الحليمات البشرية هي أمراض لا تنتقل بالعدوى الجنسية، مع جهل بالاختلاطات الناجمة عنها. كما اعتقدت الغالبية أن الواقي الذكري يحمي من معظم هذه الأمراض بما في ذلك الأيدز. تبين من الدراسة أنه لا بد من التركيز على زيادة الوعي لدى الشباب والفتيات بهذا النوع من الأمراض لخطورتها،

ولا بد من أن تكون التوعية بصورة منظمة ومن خلال القائمين على التعليم والتتقيف المنهجي من خلال مؤسسات الدولة، حيث أجاب ٩٠٪ من المشتركين بهذا الاستبيان بضرورة ذلك.