Original Research Article

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Knowledge and attitude about reproductive and sexual health among higher secondary school students in a taluk of Tamil Nadu

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ABSTRACT

Background: Many adolescents in higher secondary schools, who become sexually active, do so without accurate information about reproductive and sexual health. This lack of information can put them at risk of unplanned pregnancy or sexually transmitted diseases.

Methods: A cross sectional descriptive study was carried out among 464 secondary school going adolescent students of Chengalpattu taluk using a structured self-administered questionnaire comprising questions to assess the knowledge on reproduction, contraception and HIV/STD and the attitude on sexual risk behaviour. The data was analysed using MS excel and SPSS. Descriptive statistics such as rate, ratio and proportions were calculated.

Results: The average level of knowledge on reproduction, contraception and STD/HIV was 38.5%, 34.75% and 45.5% respectively. Only 18% gave correct response to questions "there is problem if a girl does not get period 14 years" and "it is dangerous to have intercourse during a girl's period". Majority of 80% knew pregnancy happens when sperm fertilizes ovum and 80.6% gave incorrect answer to question that "letting semen drip out of the female organ after sex prevents pregnancy". Almost 50% were ignorant that it is possible to have more than one STD. As many as 42.5% agreed about having sex with several people for their age. Only 52% agreed to use condom if sexually active. 56.2% disagreed to popularity of boy or girl who has sexual intercourse.

Conclusions: The students lack correct information about sexuality issues in general which could be due to insufficient sexual education by schools and parents. Hence it becomes essential to include reproductive and sex education programs in all higher secondary schools.

Keywords: Reproductive and sexual health, Knowledge, Descriptive study, School students

INTRODUCTION

Adolescence is a critical phase in young people's development. Their health situation in this phase is central in determining scenarios of health, mortality, morbidity and population growth.^{1,2}

Every year, 16 million births happen among adolescent girls aged 15–19, mostly in low and middle income countries accounting for 11% of all births worldwide.

23% experience complications during pregnancy or childbirth. Every year, some 3 million girls aged 15 to 19 undergo unsafe abortions. Complications during pregnancy and childbirth are the second cause of death for 15-19 year-old girls globally.³

India's National Family Health Survey-III (2005–2006) showed that 44.5% of women aged 20–24 years are married by the age of 18 years, and 16% of women aged 15–19 years are already mothers or pregnant. Among women who are currently married, the unmet needs for

methods of family planning are highest in the age group 15–19 years (27%).⁴

There are about 380,000 new HIV infections among young women aged 15-24 every year. Adolescent girls and young women face significant barriers in accessing comprehensive sexuality education, health services or protecting their own health.⁹

Three out of four men know that the risk of HIV/AIDS can be reduced by condom use and by limiting sexual intercourse to one uninfected partner; however, fewer than half of women know about these means of HIV/AIDS prevention.⁴

Data from India's National AIDS Control Organization show that among all cases of new HIV infection, almost 50% are young people, especially adolescent girls.⁵

Experiences from different countries have shown that investments in adolescent health will yield dividends in terms of delaying the age of marriage, reducing the incidence of teenage pregnancies, meeting unmet needs for contraception, reducing the number of maternal deaths, reducing the incidence of sexually transmitted infections (STIs), and reducing the proportion of HIV-positive cases in the age group 10–19 years. 6-8

Sexual health information and education is one of the sexual and reproductive rights that are clearly defined in the 1994 International conference on population and development (ICPD) programme of action.¹⁰

Adolescents constitute about 21 percent of the total population and their health issues are the most neglected in India. The problems we face are many like there is a difficulty categorizing adolescents into pediatric or adult systems of care, the lack of access of many teenagers to medical services, and the fact that the young people are most likely to become infected with sexually transmissible diseases but they are often those who are the most disenfranchised. All of these factors contribute to a disturbing current trend, which is that adolescents comprise an increasing percentage of new cases with sexually transmissible diseases and HIV infections both in developing and in developed countries. 11,12

Legislation and policies which prevent sex education taking place, or which restrict its contents, prevent many young girls and boys from maximizing their sexual and reproductive health.¹³

Skill based health education programs delivered through schools is one way through which young people can be helped to face these challenges and make such choices.¹⁴

The World Health Organization (WHO) explains, "As their individual development and social contribution will shape the future of the world, investment in adolescent's

health, nutrition and education is the foundation for national development". 15

Studies about the knowledge and attitudes related with reproduction, contraception, STD/HIV and sexual risk behavior among higher secondary school students in India is scant.

Therefore, it would be useful to study the existing level of knowledge, awareness and their attitude towards reproductive and sexual health among higher secondary school students at the first level, so that one can determine what needs to be done at school to improve the situation.

METHODS

A descriptive cross sectional study on knowledge and attitude about reproduction, contraception, STD/HIV and sexual risk behavior was conducted among higher secondary school students in Chengalpattu Taluk during June and July 2016.

The estimated sample size for this study, assuming the knowledge level of 50% was 383.

Chengalpattu Taluk comprising of Thiruporur and Kattankulathur blocks was selected as it was the extended field practice area. The study was restricted to only private secondary government school students due to easy permission from managements. 4 out of 9 schools in the Chengalpattu Taluk were selected by lottery. There were 524 students in class 11 and 12 of these schools. All students were informed about the nature of the study and parental consent forms were issued. Out of the 524, only 476 got parental consent. All of them were included for the study

Study tool

The study tool was a structured self-administered questionnaire developed for this purpose of study to assess the demographic characteristics, knowledge and attitude for the three domains of reproduction, contraception, and STD/HIV. The questionnaire was adapted from similar questionnaires employed in other investigations and adapted to local social and cultural norms, values and religious beliefs.

Twenty items from a wide range of sexuality related topics were selected to measure student's knowledge. Six items measured knowledge about reproductive physiology, seven items measured contraceptive knowledge, and seven items assessed knowledge of STD/HIV.

The study measured attitudes in 5 Likert-type items taken from the National Adolescents Students Health Survey and adapted to local social cultural norms. ¹⁶

Data collection

The survey questionnaires were administered in a separate classroom designated by the school authorities and enough privacy was ensured to the students, the students completed the anonymous questionnaire. To increase honest disclosure of information, student's responses to the questionnaire were anonymous and protected from disclosure by allowing each student to seal the completed questionnaire in an envelope.

Ethical consideration

Institutional Ethical clearance was obtained. Thereafter permission to conduct the study was obtained from appropriate authorities. Confidentiality was guaranteed as no identity of the student was recorded. Informed and written consent from the students was also obtained before administration of the questionnaire.

Statistical analysis

Data was analysed using MS excel and SPSS software version 17. Descriptive statistics in the form of rates, ratios and proportions were calculated.

RESULTS

Response of twelve students among 476 had to be dropped because of missing answers to some of questions concerning ethnicity, religion and sexual behavior accounting to total participants as 464.

Table 1: Family composition of respondents.

Family composition	Frequency	Percentage (%)
Live with both parents	389	83.8
Live with one parent	64	13.8
Live with other relatives	11	2.4

Of all respondents, 55.82% were males and 44.18 percent were females. 52 (11.2%) students were aged between 15-16 while the remaining 88.8% were aged 16-17. Majority of the respondents were Hindus (83.8 percent), while the remaining 16.2 percent were of "other religions". Out of all student respondents, 14% were living with a single parent only, while 84% were living with both parents. Only about 2% of the respondents were living with other relatives (Table 1).

Table 2: Students' level of knowledge on reproduction.

Question/ choice	Frequency (464)	Percentage (%)	Answer
The fluid that contains the male sperm is called semen			
True	343	73.9	True
False	78	16.8	
Don't know	43	9.3	
The male hormone is called testosterone			
True	161	34.7	
False	175	37.7	True
Don't know	128	27.6	
Fertilization of the egg occurs in the uterus			
True	213	45.9	
False	228	49.1	False
Don't know	23	5.0	
There is usually a problem if a teenage girl does not get			
her period by the time she is 14			
True	145	31.3	
False	84	18.1	False
Don't know	235	50.6	
Urination and menstruation occur through the same			
opening in the female organ			
True	241	51.9	False
False	176	38.0	
Don't know	47	10.1	
It is dangerous to have sexual intercourse during a girls'	period		
True	176	38.0	False
False	82	17.6	
Don't know	206	44.4	

The overwhelming majority of the respondents, 73.9%, responded with the correct answer when they were asked whether or not the fluid that contains the male sperm is called semen. For the question, "the male hormone is called testosterone", almost 38% of the respondents selected the incorrect answer, while 34.7% of the respondents selected the correct answer. The question whether or not the fertilization of the egg occurs in the uterus, almost half of the respondents, 49.1%, chose the correct answer, while 45.9% of the respondents chose the incorrect answer.

The majority of the respondents, 50.6% did not have an opinion when they were asked whether or not there is usually a problem if a teenage girl does not get her period by the time she is 14. Only, 18.1% of the respondents selected the correct answer. Almost 60% of the respondents chose the incorrect answer when they were asked whether or not urination and menstruation occur through the same opening in the female organ. When the respondents were asked whether or not it is dangerous to have sexual intercourse during a girls' period, 44.4% of the respondents did not have an opinion on this matter.

Table 3: Students' level of knowledge on contraception.

Question/choice	Frequency (464)	Percentage (%)	Answer
Pregnancy happens when a sperm fertilizes an ovum (egg)			
True	381	82.1	True
False	60	12.9	
Don't know	23	5.0	
Girls cannot get pregnant the first time they have sex			
True	233	50.2	
False	160	34.5	False
Don't know	71	15.3	
If a girl has sex only once in a while, she really does not			
need birth control			
True	197	42.5	
False	123	26.5	False
Don't know	144	31.0	
Urinating after sex sometimes prevents pregnancy			
True	219	47.2	
False	155	33.4	False
Don't know	90	19.4	1 aisc
Douching is a method of birth control			
True	274	59.1	False
False	114	24.6	
Don't know	76	16.3	
Sperm can live a few days in the women's body			
True	85	18.4	True
False	106	22.8	
Don't know	273	58.8	
Letting semen drip out of the female organ after sex			
prevents pregnancy			
True	161	34.7	False
False	90	19.4	
Don't know	213	45.9	

The question, "pregnancy happens when a sperm fertilizes an ovum (egg)", was answered correctly by the overwhelming majority of the respondents, 82.1%. When the respondents were asked whether or not girls cannot get pregnant the first time they have sex, the majority of the respondents, 50.2 chose the incorrect answer, while 34.5% of the respondents selected the correct answer. The results for the question, "a girl who has sex only once in a while, needs a birth control", were evenly

distributed among the group categories. 42.5% of the respondents chose the incorrect answer, while 26.5% of the respondents selected the correct answer. The remaining 31.0% of the respondents did not have an opinion on this matter. When the respondents were asked whether or not urinating after sex sometimes prevents pregnancy, 47.2% of the respondents selected the incorrect answer, while 33.4% of the respondents chose the correct answer. Almost 60% of the respondents chose

the incorrect answer when they were asked whether or not douching is a method of birth control. Only 16.3% of the respondents did not have an opinion on this matter. 59% of the respondents did not have an opinion when they were asked if the sperm could live a few days in the women's body. 22.8% of the respondents selected the incorrect answer. The question, "letting semen drip-out of the female organ after sex prevents pregnancy", was answered incorrectly by 34.7% of the respondents. 46% of the respondents did not have an opinion on this matter.

Table 4: Students' level of STD/HIV knowledge.

bighly reliable method of avoiding pregnancy and D/HIV is to use a condom and spermicidal e 22 se 15 n't know 86 enage girls cannot get HIV from teenage boys who	22		
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se 15 n't know 86	22		
n't know 80	.23	48.1	True
	55	33.4	
enage girls cannot get HIV from teenage boys who	66	18.5	
ve had sex only a few times			
		28.2	
se 23	233	50.2	False
n't know	00	21.6	
s usually go away on their own			
e 20	.07	44.6	
se 19	91	41.2	False
n't know 66	66	14.2	
s possible to have more than one STD at a time			
e 12	20	25.9	
se 11	15	24.7	True
n't know 22	29	49.4	True
ly people who look sick can spread the AIDS virus			
e 21	18	47.0	
se 24	42	52.2	False
n't know 4		0.8	raise
person can get aids by touching or hugging someone h AIDS			
e 25	.57	55.4	False
se 20	03	43.8	
n't know 4		0.8	
u can get aids by being bitten by a mosquito that has			
ten someone with AIDS			
e 72	2	15.5	False
se 27	71	58.4	
n't know	21	26.1	

The question, "a highly reliable method of avoiding pregnancy and STD/HIV is to use a condom and spermicidal", was answered by 48.1% of the respondents correctly, while 33.4% of the respondents selected the incorrect answer. The overwhelming 49.4% did not know that it is possible to have more than one STD at a time. 47% of the respondents stated that only people who look sick could spread the AIDS virus. Conversely, 52.2% chose the correct answer. The majority of students, 58.4% knew that a person cannot get AIDS by being bitten by a mosquito that has bitten someone else with AIDS.

When the students were asked if it is ok for people of their age to have sex with several different people, a total of 30.6% disagreed. Surprisingly 42.5% agreed. The overwhelming total of 52.2% agreed that condom should be used if a person of their age is sexually active. A total of 56.2% disagreed when they were asked whether or not having sexual intercourse makes a boy and a girl popular. The overwhelming majority of the respondents, 84.3%, agreed with the statement, "it is important to talk with their parents about their sexual doubts".

Table 5: Students' attitudes toward sexual risk behaviors.

Question/choice	Frequency (464)	Percentage (%)
I believe it is ok for people my age to have sex with several different		
people		
Agree	197	42.5
Disagree	142	30.6
Strongly disagree	125	26.9
I believe condoms should used if a person my age is sexual active		
Strongly agree	131	28.2
Agree	242	522
Disagree	91	19.6
Having sexual intercourse makes a boy and girl popular		
Strongly agree	49	10.6
Agree	154	33.2
Disagree	117	25.2
Strongly disagree	144	31.0
Having sexual intercourse at my age is a "cool" thing for a girl and boy		
to do		
Agree	180	38.8
Disagree	261	56.3
Strongly disagree	23	4.9
It is important to talk with your parents or counselors about your		
sexual doubts		
Strongly agree	243	52.4
Agree	148	31.9
Disagree	73	15.7

DISCUSSION

Overall, on the total 20 items, these higher secondary school students had an average correct score of 40%. On the scale measuring knowledge about reproductive physiology, the average percentage correct was 38.6% while on contraceptive knowledge; the average was 33.7% correct. The higher secondary school students did better on the scale measuring knowledge about STD/HIV with an average score of 46.7% correct.

There are many basic physiological facts of which these higher secondary school students are apparently ignorant; these include not knowing what it means if a teenage girl starts menstruating after 14 years of age, being misinformed about the physiology of menstruation and urination.

Almost 82% knew that pregnancy occurs when sperm fertilizes an ovum, but only 34.5% knew that a girl could get pregnant the first time she has sex. When they were asked about the knowledge that when sex is infrequent, pregnancy could still occur, 31% did not know the correct answer to this question. These findings suggest that there is a lot of work that need to be done to increase student's knowledge in reproduction and contraception. As in the physiology items, there are some results here that suggest dangerous lack of knowledge. Over 47.2% did not know

that urinating after sex does not prevent pregnancy and 59% did not know that douching is not a method of birth control.

The students did better on the items pertaining to STD/HIV. However, there are results that suggest great risk for early pregnancies and STDs. Nearly a third 28.2% did not know that teenage girls could get STDs from boys who have had sex only a few times. Only about 41.2% knew that STDs do not go away on their own, and 25.9% knew that it is possible to have more than one STDs at the same time.

The survey also measure attitudes that predict practices of protective sexual behavior among these students and their capabilities to perform specific actions that result in attitudes on self-control over their motivations through their sexual behavior. The students were asked how they feel about people their age having sex with several people, 30.6% disagreed to have sex with several different people.

The level of knowledge observed match with study done at Chittoor by Malleshappa et al that the basic knowledge on contraception was 33.7%. Different similar studies have been done using different tools However the findings of this study do not vary much from those studies. 18-21

CONCLUSION

The gap in knowledge of students as observed in this study should alarm both parents and teachers. The results show that students lack correct information about sexuality issues in general. Contrary to the expectations, the study shows a significant gap in knowledge of sexual health among adolescents. The assessment of knowledge of school students is the first step in assessing the knowledge among larger adolescent group which includes uneducated adolescents. It is imperative to first target this group which is feasible. A broad based sexual health education should be initiated in all higher secondary schools to increase the knowledge and attitude to enhance practices that protect sexual behavior, decrease the risk of contracting STD/HIV and early pregnancies.

Further study is needed, including the expansion of predictive variables, longitudinal studies, and testing of intervention to influence change in predictor variables.

Study limitation

The study was conducted in select private schools of a Taluk and no government school was included. Non-school-going adolescents were not included in the study. The other factors influencing the knowledge were not evaluated.

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Ethical approval: The study was approved by the

Institutional Ethics Committee

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