

# Knowledge, attitude and perception of sex education among school going adolescents in urban area of Chennai, Tamil Nadu

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## ABSTRACT

**Introduction:** Adolescence is a significant period of one's life, the students or children at this age should be taught about sex education in order to lead a healthy reproductive life, to prevent sexually transmitted disease and to avoid unwanted pregnancies. **Aims and Objectives:** To evaluate the current knowledge of school going adolescents on reproductive health and its association with their socio demographic profile and determining their behaviour and understanding of school sex education. **Methodology:** A cross sectional analysis was carried out in 2 private schools at Chennai among the students of 9<sup>th</sup> to 12<sup>th</sup> standard. A sample of 346 was taken and a structured questionnaire was used to evaluate. The data was analysed by SPSS software version 22. Chi square test was used (<0.05 is significant). **Results:** Out of 346, 44.2% were males and 55.8% were females. 85.9% of students from nuclear family responded True for the statement 'Male hormone is called as Testosterone'. Females had better knowledge on sex education than Males which was significant. XII standard students had better and positive attitude towards sex education than IX standard students. Only 5% responded to have sex-related information from Parents than others who responded friends, doctors and teachers. **Conclusion:** It is seen that among school going adolescents there is lack of knowledge and varied perceptions towards sex education. So, sex education should be implemented more efficiently in the developing countries and so it can lead to a healthy reproductive life and sexual health among the adolescents.

**Keywords:** Adolescents, pregnancy, reproduction, sex education, STDs

## Introduction

Adolescence is a significant period of one's life and the individuals entering the adolescent phase will undergo physical, psychological, emotional and behavioural changes. It is estimated that 21 million girls between the ages of 15-19 in developing countries become pregnant every year and 12 million give birth.<sup>[1]</sup> The World Health Organization states that one in twenty adolescents is projected to contract a STI per year.<sup>[2]</sup> So,

an adolescent should have knowledge about sex education in order to handle the changes undergoing in an adolescent phase. Therefore, sex education plays an important part in adolescent life.

## Subjects and Methods

A cross sectional analysis was carried out from January to March 2020 among the school going adolescent students of class 9<sup>th</sup>-12<sup>th</sup> grade in the 2 Private English medium schools situated in the urban field practice area of the tertiary care Medical college and Hospital in Chennai. There were 6 private schools in that area with admissions up to 12<sup>th</sup> standards, 2 schools were selected out of it randomly using lottery method. Sample size was calculated

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based on WHO/MOHFW<sup>[3]</sup> data knowledge on reproductive and sexual health among school going adolescents in India which was 35%. Using formula  $4pq/d^2$  and considering 5% allowable error and 5% non-response rate the sample size was calculated as 380 (190 students from each school). The Principals of both the schools were contacted and requested for permission after informing the nature of the study. The students whose parents gave the written informed assent for their children were included in the study and those who were not available to fill the questionnaire after visiting thrice were excluded. Ethical clearance from Institutional ethics committee (IEC) clearance was applied for and obtained on 17.03.2020. A pre tested, pre-validated, self-administered questionnaire was used to assess the current knowledge on reproductive health (STDs, reproductive physiology and other complications), their attitude on providing sexual health in school and their perceptions regarding reasons and topics for sex education. To measure student knowledge, 12 items were selected from a wide range of sexuality-related topics, 6 items measured reproductive physiology information, 3 items measured contraceptive information, and 3 items evaluated STD/HIV knowledge. The research assessed attitudes with 7 items in which some of the issues were taken from the National Health Survey of Adolescents Students and adapted to local social cultural expectations.<sup>[4]</sup> The study measured perception about sex education with 5 items. The questionnaires were distributed in a separate classroom designated by the school authorities and the students were given sufficient privacy. Data was entered and analysed with SPSS version 22. Frequencies and percentages were calculated, Chi square test was used to find association ( $p < 0.05$  considered significant).

## Results

Out of 380 responses 364 responses were included the remaining 16 responses were dropped due to missing data. Of all participants 44.2% (161) were male and 55.8% (203) were female. The majority of the participants 83.8% belong to Hindu religion, 82.7% were living in a nuclear family, 68.7% of students' monthly family income was less than Rs. 25,000 and the mothers of maximum students (76.7%) were home makers. The significant findings of the study are as follows:

### Knowledge

About 85.9% of students from nuclear family responded True for the statement 'Male hormone is called as Testosterone' than 23.6% and 33.3% of students from joint family who responded false and don't know respectively and this finding was significant ( $p = 0.009$ ). 72.6% of the students whose mother was a housewife responded True for the statement 'Pregnancy is a result of sperm fertilizing the ovum' compared to 33.3% of the students whose mother is a professional who responded don't know, which was significant ( $p = 0.000$ ). Table 1, shows the gender-based responses received from the students shows statistically significant relationship with knowledge among them. It is evident from the table that majority of female responded correctly to the knowledge-based questions than males except

the statement 'Semen contains Sperm' for which 27% males responded true than 21.8% of females. For the question 'Is Douching, a method of birth control?', 21.7% of females have correctly responded as false than 18.4% of males who responded true. Table 2 shows that there is significant association between the knowledge and the standard of students as the students from XII standard responded correctly compared to IX standard students which was all significant except for the statement 'Urinating after intercourse prevents pregnancy' 9.3% and 5.5% of students from X and IX class respectively responded correctly as false compared to 3% of XII students which was significant.

### Attitude

76.1% of students from nuclear family wanted sex education to be included in their syllabus than 23.9% who did not want it which was significant ( $p = 0.001$ ). Majority of 96.6% of students from nuclear family felt it better to know about sex education through friends than 50% of Joint family students who felt watching videos is better, which was significant ( $p = 0.001$ ). From Table 1, it was observed that a negative attitude of thinking 'It's cool to have sexual intercourse at adolescent age' was observed maximum (9.6%) among the males than females (2.5%) which was found to be significant and from Table 2, for the same statement it was observed that 28.6% of students from XII standard disagreed compared to 13.5% of IX standard students which was significant and it also showed as age increases the attitude among the adolescents also gets refined.

### Perception

Table 1 shows that there was mixed opinions on sex education based on their gender, for the reasons to know sex education when majority of 16.2% of males responded to prevent AIDS, 11.75% of females responded to prevent STDs and only 2.7% of both males and females felt its needed at this age which was significant ( $p = 0.000$ ). 28% of females had better perception for sex education by knowing what sex education is all about than 14.6% of males which was also significant ( $p = 0.000$ ). Table 2, shows that 20.1% and 19.5% of X and XII, respectively believe that sexual offences can be prevented by sex education which was significant ( $p = 0.000$ ).

## Discussion

In 2019, UNICEF reported that approximately 1.7 million [1.1 million-2.4 million] adolescents between the ages of 10 and 19 are living with HIV worldwide, with about 5% of all people living with HIV and about 10% of new adult HIV infections among adolescents.<sup>[5]</sup> There is also a higher rate of teenage pregnancies across the country. To prevent all these, sex education is the best way. In certain countries due to the government rules and legislative measures against sexual education, the adolescents are not aware and does not have adequate knowledge about healthy sexual behaviour.<sup>[6]</sup> And though many countries have implemented sex education, the topic or the subject does not have any clear methods regarding the way of approach, content or depth of the

**Table 1: Gender Based Association with Knowledge, Attitude and Perception on Sex Education Among Study Participants (n=346)**

Variables	Gender		*P ( $<0.05$ )
	Male n (%)	Female n (%)	
<b>KNOWLEDGE</b>			
Fertilisation of the egg occurs in the uterus			
True	94 (25.8%)	161 (44.2%)	0.000
False	43 (11.8%)	27 (7.4%)	
Don't know	24 (6.6%)	15 (4.1%)	
Semen contains Sperms			
True	98 (27.0%)	79 (21.8%)	0.000
False	23 (6.3%)	49 (13.5%)	
Don't know	39 (10.17%)	75 (20.7%)	
Male hormone is called testosterone			
True	107 (29.4%)	169 (46.4%)	0.001
False	35 (9.6%)	20 (5.5%)	
Don't know	19 (5.2%)	14 (3.8%)	
Pregnancy is the result of fertilization			
True	112 (30.8%)	174 (47.8%)	0.000
False	23 (6.3%)	18 (4.9%)	
Don't know	26 (7.1%)	11 (3.0%)	
Is Douching, a method of birth control ?			
True	67 (18.4%)	48 (13.2%)	0.000
False	31 (8.5%)	79 (21.7%)	
Don't know	63 (17.3%)	76 (20.9%)	
<b>ATTITUDE</b>			
Is it "cool" to have sex at adolescent age?			
Strongly agree	35 (9.6%)	10 (2.7%)	0.000
Agree	33 (9.1%)	32 (8.8%)	
Disagree	93 (25.5%)	161 (44.2%)	
Can your syllabus include sex education?			
Strongly agree	114 (31.3%)	91 (25.0%)	0.000
Agree	44 (12.1%)	112 (30.8%)	
Disagree	3 (0.8%)	0 (0.0%)	
How do you prefer to know about sex education?			
Through Teachers	56 (15.4%)	86 (23.6%)	0.000
Through Doctors	33 (9.1%)	47 (12.9%)	
Through Friends	61 (16.8%)	24 (6.6%)	
Through Parents	11 (3.0%)	46 (12.6%)	
<b>PERCEPTION</b>			
Reasons to know about sex education			
Prevent AIDS	59 (16.2%)	36 (9.9%)	
Prevent other STDs	28 (7.7%)	42 (11.5%)	0.000
Remove myth	10 (2.7%)	10 (2.7%)	
Needed at this age	31 (8.5%)	34 (9.3%)	
Not stated	33 (9.1%)	81 (22.3%)	
Meaning of sex education (It's about?)			
Puberty	46 (12.6%)	48 (13.2%)	
STDs	15 (4.1%)	2 (0.5%)	0.000
Reproductive health	16 (4.4%)	14 (3.8%)	
Effects of sexual risk behaviour	31 (8.5%)	35 (9.6%)	
All the above	53 (14.6%)	102 (28.0%)	
Don't know	0 (0.0%)	2 (0.5%)	

\*Chi square test

subject<sup>[7]</sup> and along with social taboo and cultural disparity it has lost its significance<sup>[8]</sup> which may lead to poor knowledge about sexual health to the adolescents across the country. Many medical institutions and primary health care have introduced STDs clinic, counselling centres and programmes related to sex education. As a physician it is important to deal with the practical and broader aspect of sexuality development to the adolescents especially to the child patients visiting the health care and also it is the duty of the

physician to clear the doubts of the adolescents regarding sexual development and to educate the adolescents living in a residential treatment centres and those living on the street. This research was therefore carried out with the intention of evaluating the current knowledge of school going adolescents on reproductive health and its association with their socio demographic profile and to determine their attitude and perception on sex education at schools in an urban part of Chennai.

**Table 2: Association Between Knowledge, Attitude, Perception on Sex Education and Class Standard of Study Participants (n=346)**

VARIABLES	STANDARD/CLASS (n %)				*P (<0.05)
	IX	X	XI	XII	
<b>KNOWLEDGE</b>					
Pregnancy is the result of fertilization					
True	47 (12.9%)	105 (28.8%)	62 (17.0%)	72 (19.8%)	0.000
False	12 (3.3%)	18 (4.9%)	1 (0.3%)	10 (2.7%)	
Don't know	20 (5.5%)	10 (2.7%)	7 (1.9%)	0 (0.0%)	
Semen contains Sperms					
True	18 (5.0%)	63 (17.4%)	51 (14.0%)	45 (12.4%)	0.000
False	25 (6.9%)	29 (8.0%)	7 (1.9%)	11 (3.0%)	
Don't know	35 (9.6%)	41 (11.3%)	12 (3.3%)	26 (7.2%)	
Male hormone is called testosterone					
True	50 (13.7%)	92 (25.3%)	58 (15.9%)	76 (20.9%)	0.000
False	16 (4.4%)	30 (8.2%)	7 (1.9%)	2 (0.5%)	
Don't know	13 (3.6%)	11 (3.0%)	5 (1.4%)	4 (1.1%)	
It is possible to have more than one STD a time					
True	32 (8.8%)	43 (11.8%)	26 (7.1%)	35 (9.6%)	0.023
False	18 (4.9%)	51 (14.0%)	28 (7.7%)	16 (4.4%)	
Don't know	29 (8.0%)	39 (10.7%)	16 (4.4%)	31 (8.5%)	
Urinating after intercourse prevents pregnancy					
True	22 (6.0%)	49 (13.5%)	30 (8.2%)	29 (8.2%)	0.009
False	20 (5.5%)	34 (9.3%)	11 (3.0%)	33 (3.0%)	
Don't know	37 (10.2%)	50 (13.7%)	29 (8.0%)	20 (8.0%)	
AIDS can be transmitted by social contact					
True	25 (6.9%)	23 (6.3%)	23 (6.3%)	31 (8.5%)	0.001
False	35 (9.6%)	49 (13.5%)	40 (11.0%)	94 (25.8%)	
Don't know	19 (5.2%)	10 (2.7%)	7 (1.9%)	8 (2.2%)	
<b>ATTITUDE</b>					
Is it "cool" to have sex at adolescence?					
Strongly agree	12 (3.3%)	18 (4.9%)	10 (2.7%)	5 (1.4%)	0.001
Agree	18 (4.9%)	17 (4.7%)	6 (1.6%)	24 (6.6%)	
Disagree	49 (13.5%)	47 (12.9%)	54 (14.8%)	104 (28.6%)	
How do you prefer to know about sex education?					
Through Teachers	21 (5.8%)	55 (15.1%)	45 (12.4%)	21 (5.8%)	0.000
Through Doctors	14 (3.8%)	22 (6.0%)	13 (3.6%)	31 (8.5%)	
Through Friends	23 (6.3%)	30 (8.2%)	8 (2.2%)	24 (6.6%)	
Through Parents	21 (5.8%)	26 (7.1%)	4 (1.1%)	6 (1.6%)	
Should Sex education be included in your syllabus?					
Yes	52 (14.3%)	43 (11.8%)	43 (11.8%)	67 (18.4%)	0.013
No	27 (7.4%)	36 (9.9%)	36 (9.9%)	66 (18.1%)	
Not stated	0 (0.0%)	3 (0.8%)	3 (0.8%)	3 (0.8%)	
<b>PERCEPTION</b>					
Reasons to know about sex education					
Prevent AIDS	8 (2.2%)	15 (4.1%)	23 (6.3%)	49 (13.5%)	0.000
Prevent other STDs	20 (5.5%)	27 (7.4%)	8 (2.2%)	15 (4.1%)	
Remove myth	4 (1.1%)	8 (2.2%)	0 (0.0%)	8 (2.2%)	
Needed at this age	11 (3.0%)	30 (8.2%)	22 (6.0%)	2 (0.5%)	
Not stated	36 (9.9%)	53 (14.6%)	17 (4.7%)	8 (2.2%)	
Can sex education prevent sexual offences across the country?					
Yes	47 (12.9%)	73 (20.1%)	58 (15.9%)	71 (19.5%)	0.000
No	32 (8.8%)	60 (16.5%)	12 (3.3%)	11 (3.0%)	
Do you believe knowledge on sex education makes our future safe and easy?					
Yes	59 (16.2%)	91 (25.0%)	58 (15.9%)	72 (19.8%)	0.006
No	20 (5.5%)	42 (11.5%)	12 (3.3%)	10 (2.7%)	

\*Chi square test

In our study 24.4% males and 32.4% females had knowledge related to sexual health, STDs and reproduction. On comparing with the study done by Deepanjali D, *et al.* and Gupta *et al.*<sup>[9,10]</sup> boys had good knowledge about sexual health compared to girls. This may be due to the difference in the socio-cultural factors in both the locations. In our study, the question 'Is douching a

method of birth control?', 68.4% of the students did not have any opinion which was similar to a study conducted in Tamil Nadu<sup>[11]</sup> in which 59% did not have any idea about the term Douching. This striking similarity shows the similarity in the location as well. For the question 'Can AIDS be transmitted by social contact', 9.6% from 9<sup>th</sup> std responded correctly compared to 35.8% from

11<sup>th</sup> and 12<sup>th</sup> standard, a similar relation was found in the study conducted by Deepanjali D<sup>[9]</sup> which states that the knowledge about sexual health increases with grades.

In our study 51.3% of the students had positive attitude towards introduction of Sex education in syllabus of which 31.3% were males which was similar to the study conducted by Randhir K<sup>[12]</sup> in which 97.1% of the boys preferred sex education. In this study, 42.6% of the participants perceived correct meaning for the sex education which was similar with the study conducted by Mueller TE, *et al.*<sup>[13]</sup> in which to avoid STDs, HIV, adverse effects of sexual activity and unplanned pregnancy, the majority of adolescents required sex education. In the current study for the question 'How do you prefer to know about sex education' 15.6% told parents and majority of 39.0% told teachers which was in relation to the study conducted by Nenaka Gabriel job *et al.*<sup>[14]</sup> in which 74% of the students chose sex education based on school, and in a study conducted by Jaideep K, *et al.*<sup>[15]</sup> in Chandigarh found that the teacher was the best provider of sex education for 76.74% of students. In a study conducted by Sharan ram *et al.*<sup>[16]</sup> it is concluded that parents themselves chose teachers as the best source to deliver comprehensive sexual education and it also stated that main decrease in the percentage of parents as the source is due to poor knowledge about the topic, social taboo about sex education and cultural disparity. In our study it was seen that the students favoured school-based sex education than other methods and this finding was similar to a study conducted by Mc Craig Khun *et al.*<sup>[17]</sup> in which 85.7% of the participants had a positive response towards institution-based sex education.

The study had certain limitations such as small size which might have caused few discrepancies in the results. We were not completely sure if all the students were able to comprehend with the questions or statement in the questionnaire and as it is done in only two private English medium schools at Chennai, the study results cannot be generalised.

## Conclusion

Overall, sexual and reproductive health awareness among the research population was low. Though the knowledge level was inadequate the attitude and perception towards sex education had a positive response. There is, therefore, a need to provide teenagers with more knowledge about sex education.

In the study

1. Boys were found to have less knowledge compared to Girls
2. Knowledge about sexual health increases with grades
3. The majority of teenagers need sex education to prevent STDs, HIV, adverse effects of sexual activity, unplanned pregnancy and sexual offences.
4. Parents need to have sufficient contact with their adolescents on sex-related subjects, as parents have been found to be among the least popular sources of knowledge on the topic; however, it is equally important to provide them with the

correct information with an open-minded approach when talking about these matters to their children.

5. The most common source of information on the subject was teachers; thus, school plays an important role in providing adolescents with knowledge of the same.

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## Key Messages

Reproductive health awareness among teenagers living in a urban metropolitan city itself is lacking. Thus, more awareness and promotion of sex education must be inculcated in all the schools all over India.

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## Conflicts of interest

There are no conflicts of interest.

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