

# Impact of Health Education on The Knowledge, Attitude and Practices of Teachers Regarding Reproductive Health of Adolescents of Amritsar, Punjab

PUSHAPINDRA KAUSHAL<sup>1</sup>, TEJBIR SINGH<sup>2</sup>, A.S.PADDA<sup>3</sup>, S.S.DEEPTI<sup>4</sup>, PRIYA BANSAL<sup>5</sup>, MAHESH SATIJA<sup>6</sup>, SARIT SHARMA<sup>7</sup>, ANKITA<sup>8</sup>

## ABSTRACT

**Context:** Teachers play an important role in guiding the adolescents. Adolescents are ill equipped to deal with the impending changes in their body which makes them vulnerable to STDs, HIV/AIDS and premarital sex. This study attempts to study the impact of reproductive health education on the knowledge, attitude and practices of teachers, about which only a few studies are available.

**Aims:** To study the impact of health education on the knowledge, attitude and practices of teachers regarding reproductive health of adolescents.

**Settings:** Senior Secondary schools of Amritsar and Department of Community Medicine, Government Medical College, Amritsar, Punjab, India.

**Study participants:** Male teachers of senior secondary schools of Amritsar teaching class 9<sup>th</sup>-12<sup>th</sup>.

**Study design:** Educational intervention study.

**Sampling method:** Purposive sampling.

**Materials and Methods:** The study was started with 155 teachers (teaching class 9<sup>th</sup> -12<sup>th</sup>) who willingly participated from 50 senior secondary schools of Amritsar district. It was carried out in three phases. In first phase, after taking informed

consent, the teachers filled a pretested questionnaire which was followed by an interactive session on reproductive health in second phase. In third phase, to study the impact of the interactive session and the sustainability of knowledge gained, they were again administered the same questionnaire after a period of 3 months.

**Statistical Analysis:** Microsoft Excel, SPSS, Chi-square test.

**Results:** Maximum 74 (47.7%) teachers were aware of the psychosocial problems of adolescents. Majority 110 (71%) of the teachers had only partial knowledge about pubertal changes. 117 (75.5%) teachers were unaware about genital hygiene. Only 33 (21.3%) teachers had adequate knowledge about different STDs. 91 (58.7%) and 54 (34.8%) of teachers had adequate knowledge about routes of transmission and prevention of AIDS respectively. Only 37 (23.9%) teachers were imparting sex education to students. After intervention significant favorable changes were seen in their knowledge, attitude and practices regarding most of above mentioned topics.

**Conclusion:** Although the baseline knowledge of teachers in most aspects of reproductive health of adolescents was found to be low, significant favourable changes were observed after health education.

**Keywords:** Boys, HIV/AIDS, Puberty

## INTRODUCTION

Adolescents constitute about 22% of the population of India [1]. The period of adolescence beginning with the onset of puberty, is a crucial transition into adulthood. Most of them go through this phase with little knowledge of the physical, psychological and physiological changes occurring in them [2]. As they are ill equipped to deal with these changes, they try to gather information from peers and unauthentic sources. Demands of culture, gender, globalization and poverty push millions of adolescents prematurely into adult roles exposing them to serious risks, which makes them vulnerable to drug abuse, premarital sex, STDs, HIV/AIDS, depression etc. Their level of maturity and social status is no match for these challenges, unless they are provided with support, information and access to resources [3].

School education has been described as a social vaccine and it can serve as a powerful preventive tool. After parents, it is the teachers who spend most of the time and have maximum opportunity to communicate and educate adolescents in this important aspect of life. In India, there is a wide gap between inputs in the reproductive

health curriculum for schools and actual education that is imparted. Unfortunately, there is no formal or reliable source of sexual health education for the teachers also. They also try to collect information from friends, family and media [4,5].

A lot of programs are going on for girls but not the same for boys. Boys have become the 'new disadvantaged' as a result of efforts to eradicate female disadvantage in a historically male biased education system. Boys have a greater exposure to the external environment than girls. While discussing their problems it was found that male students expressed a preference for male teachers because of perceived shared experiences, interests and ways of thinking. Boys felt that men have a better comprehension of their play and were better able to relate [6].

In our country, especially in Punjab, little is known about teacher's knowledge, attitude and practices regarding reproductive health. Thus this study becomes imperative as it attempts to study the impact of reproductive health education on knowledge, attitude and practices of the teachers especially the male teachers.

S.no	Topics	Adequate	Partial	No knowledge
1.	Pubertal changes	Had knowledge about the physical, psychosocial and sexual changes	Had knowledge about any one of these changes	Did not respond correctly
2.	Night fall	Had knowledge that it is normal and has no side effects on the physical, sexual or psychosocial health	Who considered it to have side effects on any of the 3 aspects of health.	Did not respond correctly
3.	Genital hygiene	Had knowledge about the measures like regular cleaning of the glans penis of smegma, wearing of loose underwears and cotton underwears, regular cleaning of whole of genital area.	Had knowledge of any one of these steps	Did not respond correctly
4.	STD's	Had knowledge about at least 2 examples of STD's, their symptoms and methods of prevention	Had knowledge of at least one of all the 3 aspects of STD's.	Did not respond correctly
5.	Routes of transmission of HIV/AIDS	Who knew about all the major 4 routes: i) sexual route ii) blood transfusion iii) infected needles iv) mother to child	Had knowledge about any one of the routes	Did not respond correctly
6.	Prevention of HIV/AIDS	Had knowledge about all major steps of prevention corresponding to the above routes of transmission.	Had knowledge of any one of these steps	Did not respond correctly
7.	Imparting of sex education	Those who had discussed all the above topics with their students	Discussed one or more but not all the above topics	Did not discuss these topics

**[Table/Fig-1]:** During the data entry, teachers were categorised according to the table below

## MATERIALS AND METHODS

This educational intervention study was carried out in the senior secondary schools of Amritsar and the Department of Community Medicine, Government Medical College, Amritsar. Purposive sampling technique was used. Due permission was taken from the Institutional Ethics Committee before conducting the study. A questionnaire was developed based on the manual "Learning for Life: a guide to family health and life skills education for teachers and students" published by NCERT in collaboration with UNESCO. It was pretested in a pilot study and necessary modifications were done. After obtaining the list of all the 129 senior secondary schools (only co-ed and boys schools) in the district with the due written permission of the District Education Officer, the Principals of these schools were contacted. Principals of 50 schools agreed for the study and gave written permission for the study. A detailed schedule of visits was prepared in consultation with District Education Officer and the Principals of these schools. These schools were visited and written informed consent was taken from the male teachers (teaching class 9<sup>th</sup>-12<sup>th</sup>) who agreed to participate in the study [Table/Fig-1]. No distinction was made regarding the subject they taught during recruitment. All of the 189 male teachers who agreed to participate were then invited in the batches of 20-25 on the prefixed dates to the Department of Community Medicine, GMC, Amritsar for a session on reproductive health of one hour duration. Reproductive changes (primary and secondary) during puberty, STD's and HIV/AIDS and myths related to sexuality were the main topics discussed in the session which were based on the above mentioned manual. 155 teachers finally came for the session. To assess the retention of the knowledge gained by them, which was also the objective of the study, those 155 teachers were again approached in their respective schools after a period of three months and the same questionnaire was administered.

## STATISTICAL ANALYSIS

Data thus collected was entered into Microsoft Excel and analysed using SPSS version 20 software. Descriptive tables were generated to elaborate the findings while Chi-square test and p-value were applied to find any significant differences between the pre and post intervention levels of knowledge.

## RESULTS

The responses of only 155 male teachers, who came for the educational session and were followed up, were considered and analysed. The mean age of the teachers was 41.8 years. Majority 94 (60.64 %) of teachers were postgraduates and majority 95 (61.29%) of the teachers were from urban background [Table/Fig-2].

While assessing the knowledge of the teachers about adolescent

Distribution of teachers	Number	%
<b>According to age</b>		
21- 30 years	24	15.48
31 – 40 years	49	31.61
41- 50 years	42	27.10
51 -60 years	40	25.81
Total	155	100
<b>According to their qualification</b>		
12th pass/diploma	13	8.39
Graduate	47	30.32
Post Graduate	94	60.64
Phd	1	0.64
Total	155	100
<b>According to their social background</b>		
Rural	60	38.71
Urban	95	61.29
Total	155	100
<b>According to their gender</b>		
Male	155	100
Female	0	0
Total	155	100

**[Table/Fig-2]:** Distribution of teachers according to their age, qualification, their social background and gender

Knowledge about problems of adolescents	Before intervention N(%)	After intervention N(%)	Chi sq/P value
Psychosocial	74(47.7)	90(58.1)	3.314,p> 0.05
Sexual	41(26.5)	66(42.6)	8.920,p<0.01
Physical	37(23.9)	59(38.1)	7.303,p<0.01

**[Table/Fig-3]:** Distribution of teachers according to the knowledge about problems of adolescents. Multiple responses were permitted for this question

problems it was found that maximum 74 (47.7%) teachers were aware of the psychosocial problems of adolescents. Significant favourable differences were observed in the knowledge of teachers regarding the sexual and physical health of adolescents after the intervention. On comparing the above variables with the educational status of the teachers, it was observed that the knowledge of psychosocial problems significantly increased with increase in educational status. But the same was not observed for the knowledge about sexual and physical problems [Table/Fig-3].

In [Table/Fig-4], majority 110 (71%) of the teachers had only partial knowledge about the pubertal changes occurring during adolescence. The teachers were imparted the knowledge about

Knowledge about pubertal changes	Before intervention N (%)	After intervention N (%)	Chi-sq/ p-value
Adequate	11(07.1)	15(9.7)	5.384, p>0.05
Partial	110(71)	121(78.1)	
No Knowledge	34(21.9)	19(12.3)	
Total	155(100)	155(100)	
Knowledge about genital hygiene			
Adequate	2(1.3)	8(5.2)	24.788, p<0.01
Partial	36(23.2)	72(46.5)	
No Knowledge	117(75.5)	75(48.4)	
Total	155(100)	155(100)	
Knowledge about night fall			
Adequate	82(52.9)	104(67.1)	9.136, p<0.05
Partial	44(28.4)	38(24.5)	
No knowledge	29(18.7)	13(8.4)	
Total	155(100)	155(100)	

**[Table/Fig-4]:** Distribution of teachers according to the knowledge about pubertal changes, genital hygiene and nightfall

Knowledge about STD's	Before intervention N (%)	After intervention N (%)	Chi-sq/ p-value
Adequate	33(21.3)	68(43.9)	18.936, p<0.01
Partial	107(69)	80(51.6)	
No Knowledge	15(9.7)	7(4.5)	
Total	155(100)	155(100)	
Knowledge about routes of transmission of HIV/AIDS			
Adequate	91(58.7)	119(76.8)	11.574, p<0.01
Partial	57(36.8)	32(20.6)	
No Knowledge	7(4.5)	4(2.6)	
Total	155(100)	155(100)	
Knowledge about prevention of HIV/AIDS			
Adequate	54(34.8)	89(57.4)	16.462, p<0.01
Partial	81(52.3)	56(36.1)	
No Knowledge	20(12.9)	10(6.5)	
Total	155(100)	155(100)	

**[Table/Fig-5]:** Distribution of teachers according to the knowledge about STD's and HIV/AIDS

Imparted sex education	Before intervention N (%)	After intervention N (%)	Chi-sq/ p-value
Adequately	37(23.9)	74(47.7)	22.243, p< 0.01
Partially	26(16.8)	27(17.4)	
No	92(59.4)	54(34.8)	
Total	155(100)	155(100)	

**[Table/Fig-6]:** Distribution of teachers according to their involvement in imparting sex education to the boys

physical changes, sexual changes and psychosocial changes. Majority 117 (75.5%) of teachers were unaware about the steps involved in keeping good genital hygiene. Eighty two (52.9%) teachers had adequate knowledge regarding nightfall. After the intervention significantly favourable changes were observed in the knowledge of teachers regarding nightfall and genital hygiene but not for the pubertal changes. The knowledge of pubertal changes increased significantly with the increase in educational status of the teachers which was not seen for that of genital hygiene and nightfall [Table/Fig-4].

Only 33 (21.3%) of the teachers had adequate knowledge about STD's. After the educational intervention significant favourable changes were observed as the number of teachers having adequate knowledge about STD's increased to 68(43.9%). Although majority 91(58.7 %) of teachers had adequate knowledge about the routes of transmission of HIV/AIDS still their number increased to 119(76.8%)

after intervention which was found to be statistically significant. Only 54 (34.8%) of teachers had adequate knowledge about prevention of HIV/AIDS which increased significantly to 89 (57.4%) after the intervention. With the increase in educational status of the teachers significant increase was observed in their knowledge about the routes of transmission and prevention of HIV/AIDS, but not for STD's [Table/Fig-5].

Majority 92 (59.4%) of teachers were not imparting sex education to the boys in their schools. After intervention a significant decrease in this trend was observed as their number decreased to 54 (34.8%) [Table/Fig-6].

## DISCUSSION

The baseline knowledge of the teachers in most of the aspects of reproductive health was found to be low. A significant increase in the knowledge was observed post-intervention in most of the above areas. In the present study, more number of teachers were aware of the psychosocial problems of adolescent boys as compared to the physical and sexual problems which are considered as a normal part of the developmental process. It is important to have knowledge about adolescent problems as various studies on school going children and adolescents revealed that the prevalence of psychosocial problems in them is in the range of 20% - 33%. In a study done by Anees Ahmed et al., among 390 male adolescents in rural and urban schools of Aligarh, the overall prevalence of psychosocial problems was found to be 17.9% [7].

It was observed in the present study that majority of the teachers were aware about the pubertal changes but not about the genital hygiene. After intervention significant favourable changes were observed in this aspect. In a study done by Chitra on 108 teachers from 48 schools in Darjeeling it was observed that 0 - 36% of teachers had correct knowledge about age of an adolescent, puberty and related issues. Significant favourable changes were observed after sensitization among them in almost all the issues and problems of adolescents [8].

In the present study only 21.3% teachers had adequate knowledge about different STDs, their symptoms and methods of prevention. However, statistically significant change was seen after the intervention as the teachers having adequate knowledge increased to 43.9%. A similar study conducted by Gupta et al., in 8 schools in Rajouri district of Jammu and Kashmir on 100 teachers revealed that only 4% and 9% knew gonorrhoea and syphilis to be STDs although almost all of them knew AIDS to be an STD [9].

In the present study, majority of the teachers had adequate knowledge about the routes of transmission of HIV/AIDS. Although majority of the teachers were already aware about this topic still a statistically significant increase was seen after the intervention. A similar study done by Chitra in Darjeeling revealed that 75.9% to 94.4% of teachers had correct knowledge regarding routes of transmission of HIV. Another study done by Gupta et al., in Rajouri district of Jammu and Kashmir observed that the awareness of teachers on transmission of AIDS was reasonably good. Multiple sexual partners were felt to be important for transmission by 78% of the respondents. Blood transfusion (69%) and transmission from infected mother to foetus (52%) were also known to the respondents [8,9].

The present study showed that majority of the teachers was already aware about the methods of prevention of AIDS. Similar results were seen in the study conducted by Gupta et al., which revealed that the awareness of teachers on prevention of AIDS was reasonably good. 95% knew that condom always protects against HIV. 81% knew that use of tested blood protects against HIV. 32% and 39% knew that using safe needles and sticking to one sexual partner protects against HIV respectively [9].

It was observed in the present study that less than half of the teachers imparted sex education to their students. However, after being provided with the necessary information and encouragement majority of the teachers started discussing these topics. Similarly in a study by Badhan et al., it was observed that 60 % of teachers had discussed about topic of HIV/AIDS with their students [10]. Similar results were seen in a study conducted by Toor et al., on 50 teachers in 3 schools of Ludhiana district of Punjab which concluded that the teachers dominantly show positive attitude towards sex education but they require special training in discussing sexuality with students [11].

The importance of the role of teachers in providing sex education has also been stressed upon in a number of other studies. A study done by Bhasin and Aggarwal among 476 senior secondary school teachers in Delhi revealed that majority of school teachers (73%) were in favour of imparting sex education to school children. School teachers were considered by 69.4% of the teachers to be the most appropriate persons for providing sex education [12]. In a study conducted by Bharatwaj et al., in Pondicherry, the need for sex education to the students was felt by the teachers and also a need for their special training by doctors and psychologists in conducting sex education was felt by 86% of the teachers [13]. In another study done by N Kotwal it was observed that the teachers overwhelmingly favoured reproductive health education program [14].

## LIMITATIONS OF THE STUDY

This study focused only on male teachers and their role in providing reproductive health education to the adolescent boys in schools, while female teachers were left out although female teachers can also be helpful in imparting reproductive health education to their male students. Girls and the knowledge about their reproductive health were purposefully omitted as already a number of studies are available on this topic.

## CONCLUSION

The baseline knowledge of the teachers in most of the aspects of the reproductive health of adolescents was found to be low. However, significant favourable changes in the knowledge of the

teachers were observed after the reproductive health education was provided to them. This study highlights the need for regular training of the teachers in reproductive health education. It also emphasises on the proactive role that the teachers must play in imparting reproductive health education to the adolescents. This can greatly contribute towards building a healthy and safe future for adolescents who are the future of our nation.

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### PARTICULARS OF CONTRIBUTORS:

1. Assistant Professor, Department of Community Medicine, Daya Nand Medical College and Hospital, Ludhiana, India.
2. Professor and Head, Department of Community Medicine, Government Medical Colleg, Amritsar, India.
3. Ex-Professor and Head, Department of Community Medicine, Government Medical Colleg, Amritsar, India.
4. Associate Professor, Department of Community Medicine, Government Medical Colleg, Amritsar, India.
5. Assistant Professor, Department of Community Medicine, Daya Nand Medical College and Hospital, Ludhiana, India.
6. Associate Professor, Department of Community Medicine, Daya Nand Medical College and Hospital, Ludhiana, India.
7. Professor, Department of Community Medicine, Daya Nand Medical College and Hospital, Ludhiana, India.
8. Ex-Medical Officer, School Health Programme, NRHM section, Civil Surgeon Office, Ludhiana, India.

### NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Pushapindra Kaushal,  
Assistant Professor, Department of Community Medicine, Old DMC, Civil Lines, Ludhiana, Punjab-141001, India.  
E-mail : drpushindrakaushal@yahoo.co.in

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