

## An Educational Intervention study of awareness regarding health issues among school going adolescents in rural Ahmedabad

Divya Barot<sup>1</sup>, Yash Shah<sup>2\*</sup>

<sup>1</sup>Assistant Professor, Community Medicine Department, Dr. M. K. Shah Medical College, Ahmedabad, Gujarat, India

<sup>2</sup>Assistant Professor, Community Medicine Department, Dr. M. K. Shah Medical College, Ahmedabad, Gujarat, India

Received: 17-11-2021 / Revised: 24-12-2021 / Accepted: 16-01-2022

### Abstract

**Background:** Adolescence is a crucial period for healthy development in both psychological and physical terms. Awareness is one major factor for development of this group of population.

### Objectives:

1. To assess the awareness level of adolescent girls regarding health aspects
2. To find the effectiveness of intervention in improvement of their knowledge level.

**Materials & Methods:** An educational intervention study was conducted among 172 adolescent girls of a Girls school in Bavla Taluka of Ahmedabad district. A predesigned questionnaire was used to assess awareness. Educational material was delivered followed by a post intervention assessment after three months. Statistical analysis was done using MS Excel V. 2010 and Epi info software 7.0. The chi-square test was applied as non-parametric test of statistical significance. **Results:** After intervention the knowledge was significantly increased about minimum age for marriage in girls (91%) and boys (91%), menstrual health problems (85%) and their precautions (90%) and general health problems (100%). Though the awareness about Reproductive tract infections and sexually transmitted infection was only 16% in the adolescent girls. **Conclusion:** School based educational approach was effective in enhancing awareness of adolescents but it is important to note that with such one-time activity the impact was not expected to be long lasting.

**Key words:** Adolescence, Awareness, Infections

This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.

### Introduction

Adolescence is a crucial period for healthy development in both psychological and physical terms. It is a stage of development transition, i.e., a bridge between childhood and adulthood. It is the stage of development of adult mental process and about adult identity and transition from total socio-economic dependent to relative independent[1].

The WHO has defined adolescence as:

- a) Progression from appearance of secondary sex characteristics (puberty) to sexual and reproductive maturity.
- b) Development of adult mental processes and adult identity[2].

Adolescent girls of age 13 to 19 years constitute nearly 66 million of population in India. The lives of these girls are characterized by limited education, lack of knowledge pertaining to social as well as health aspects and also limited influence on decisions affecting their lives. During this period, attitudes, beliefs and values tend to settle into a pattern, out of which emerges the shape and directions of one's life style[1]. For young girls in India, poor nutrition, early childbearing and reproductive health complications compound the difficulties of adolescent physical development. Women's reproductive health is largely influenced by their health status during infancy, childhood and adolescence

Thus, awareness is one major factor for development of this group of population because of the fact that these adolescent girls would be the future housewives.

Every year adolescents give birth to 15 million infants and globally girls aged 15-19 years are twice as likely to die from childbirth as are women in their twenties, while girls younger than age 15 face a risk that is five times as great[3].

More adolescent girls die from pregnancy related causes than from any other causes. This risk is aggravated by their lack of information about reproduction and sexuality, misconceptions and little access to family planning and reproductive health services[4]. A study by Dongre et al. (2006) showed that the school health education program with active involvement of school teacher lead to improvement in personal hygiene in school children and reduction in related morbidities[5].

The present study was conducted with the aim of ascertaining the awareness level of adolescent girls regarding health aspects and to find the effectiveness of an educational intervention method in improvement of their knowledge level. The study adopted a pretest – posttest design with an intervention for a specific period.

### Materials & methods

An educational intervention study comprising issues on menstrual problems, marriage, pregnancy, family planning and health problems was conducted among students of 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> standard in a randomly selected Girls school in Bavla Taluka of Ahmedabad district. The permission was taken from the District Health Authority and School Principal. A predesigned, pretested questionnaire was used to assess awareness of the respondents regarding health issues before and after the intervention. Educational material was delivered using lecture-cum- discussion method and demonstration by charts and projector followed by a post intervention assessment after three months. Scoring was done and all correct responses were given equal weightage. Changes in scores were analyzed using appropriate statistical procedure.

\*Correspondence

**Dr. Yash Shah**

Assistant Professor, Community Medicine Department, Dr. M. K. Shah Medical College, Ahmedabad, Gujarat, India.

E-mail: [dryash93@gmail.com](mailto:dryash93@gmail.com)

A sample group of 172 adolescent girls of age 13 to 18 years were selected by stratified sampling method from all classes in school from Bavla, Ahmedabad district. The questionnaire consisted of Socio-demographic profile and a General Awareness schedule. The Socio-demographic profile comprised of general information on age, ordinal position, family type, educational status, etc. The general awareness schedule consisted of specific information on health aspects, hygiene, nutritional aspects, general health problems, menstrual health problems and problems related to reproductive health. A pretest-posttest design was used for the study with intervention for three months duration. The intervention was done by giving lectures, Demonstration of various posters, banners and charts, doing role play and using videos and practical examples from social media. The data

was then statistically analyzed using appropriate software and using tests of significance to see the effect of intervention on girls.

**Results**

The background of a person helps in revealing possession of certain knowledge and qualities. The background information of the adolescent girls is given in table 1, according to which majority of the girls (52.91%) were in the age group of 15 to 16 years followed by 32.56% in the age group of 13 to 14 years. Majority of the girls came from nuclear families (54.65%) and had small family size of one to four members while 45.35% of the girls belong to joint families. The educational level of the parents reveals that majority of the parents of the respondents were educated at least up to middle and high school.

**Table 1: Sociodemographic profile of study population**

	No.	Percentage (%)
<b>Age of Respondents</b>		
13 to 14 years	56	32.56
15 to 16 years	91	52.91
17 to 18 years	25	14.53
<b>Family type</b>		
Nuclear	94	54.65
Joint	78	45.35
<b>Father's education</b>		
Illiterate	12	6.98
Upto primary	29	16.86
Secondary and higher secondary	91	52.91
Graduation	24	13.95
Post-graduation	16	9.30
<b>Mother's education</b>		
Illiterate	18	10.47
Upto primary	37	21.51
Secondary and higher secondary	89	51.74
Graduation	21	12.21
Post-graduation	7	4.07

**Table 2: Awareness regarding marriage and birth spacing**

Sr. No		Pre-intervention		Post-intervention	
		No. (n=172)	%	No. (n=172)	%
1	Legal age at marriage: Boys (21yrs)	65	37.79	157	91.28*
2	Legal age at marriage: Girls (18yrs)	98	56.98	157	91.28*
3	Ideal age at marriage (20-30 yrs)	36	20.93	151	87.79*
4	Minimum Spacing b/w 2 children (3yrs)	45	26.16	165	95.93*

\* Significant:

P < 0.05

Table 2 shows that proportion of students with correct response regarding minimum age of marriage for boys at 21 years increased from 37.79% to 91.28%, and for girls at 18 years increased from 56.98 to 91.28% in post intervention. After intervention 87.79% of the participants have considered that ideal age of marriage for both girls and boys are between 20 to 30 years. Also, the knowledge that minimum spacing between two children should be minimum 3 years has shown significant increase from 24.8 to 95.9 %.

**Table 3: Awareness regarding Menstrual Health Parameters**

Sr.no.	Parameters	Pre-intervention		Post-intervention	
		No. (n=172)	%	No. (n=172)	%
1	Knowledge of Secondary Sex Characteristics	43	25	107	62.20*
2	Timing of Appearance (Menarche)				
	No knowledge	55	31.98	32	18.60*
	12 to 13 years	89	51.74	97	56.40**
	14 to 15 years	28	16.28	43	25**
3	Problems During Menstrual Periods				
	Stomach ache/pain in lower abdomen	152	88.37	170	98.83*
	Backache	120	69.77	145	84.30*
	Tiredness	128	74.42	138	80.23**
	Itching	44	25.58	55	31.97**
	Body ache	52	30.23	80	46.51*
	Other symptoms	22	12.79	55	31.98*
4	Precautions during menstruation	76	44.19	155	90.12*

\* Significant: P < 0.05

\*\*Not significant: P > 0.05

Table 3 shows that only 25% of the participants observed to have knowledge about secondary sex characteristics at time of pretest and 44.19% girls know about precautions during menstruation which converted into 62.20% for secondary sex characteristics and 90.12% for knowledge about precautions during menstruation and statistically significant. Also, majority (75%) of the girls did not know about the timing of appearance of secondary sexual characteristics. Majority of the girls faced problems during menstrual periods and pain in lower abdomen or stomach ache (as perceived by them)

(88.37%) followed by backache (69.77%) and tiredness (74.42%). 12 % girls had also perceived other symptoms like nausea, Vomiting, Fever etc. according to their knowledge. After doing intervention for the menstrual health problems and showing the girls various methods for disposal of sanitary napkins, how and which precautions to take throughout menstrual periods and its importance the significant improvement seen in precautions to be taken during menstruation which is important for hygiene and sanitation.

**Table 4: Awareness regarding various health problems**

Sr.no.	Parameters	Pre-intervention		Post-intervention	
		No. (n=172)	%	No. (n=172)	%
1	Knowledge of General Health Problems Cold /Cough /Fever/ /Headache /Backache	145	84.30	172	100*
2	Knowledge About Water Borne Diseases /Food Borne diseases				
	Diarrhea	130	75.58	162	94.18*
	Fever/Typhoid	63	36.63	135	78.49*
	Stomach related problems	84	48.84	159	92.44*
3	Knowledge About Nutritional Deficiencies				
	Beriberi	32	18.60	99	57.56*
	Night blindness	57	33.14	118	68.60*
	Anemia	74	43.02	165	95.93*
	Rickets	22	12.80	87	50.58*
	Scurvy	18	10.47	72	41.86*

\* Significant: P < 0.05

Table 4 shows awareness regarding general health problems increased up to 100% after post-test. There was also increase in the responses about the knowledge regarding different nutritional deficiencies but major impact was seen in knowledge about anemia which increases 95% after post-test. Although there was only half of the girls were aware about the nutrition or specifically vitamin related deficiencies like Beriberi, Night blindness, Rickets and scurvy even after intervention. During the pretesting phase, less percentage of girls had knowledge about water and air-borne diseases which increased significantly after post-test.

**Table 5: Awareness regarding Reproductive health problems in adolescents**

Parameters	Pre-intervention		Post-intervention	
	No. (n=172)	%	No. (n=172)	%
STI/RTI	29	16.86	78	45.35*
Pregnancy results from Intercourse	102	59.30	168	97.67*
Missed Period as an early sign of pregnancy	47	27.33	136	79.07*
Family planning method	58	33.72	149	86.63*
Legal abortion in unmarried women	45	26.16	112	65.11*
Ideal child bearing age	108	62.79	132	76.74*

\* Significant: P<0.05

Table 5 shows that the knowledge about Reproductive tract infections and sexually transmitted infection was only 16% in the adolescent girls which increased up to 45% after 1 month intervention. Majority (97%) of the girls were aware about that pregnancy results from intercourse and one third girls were knowing to take missed period should be taken as a first sign of pregnancy after post-test. There is remarkable increase was seen in the perception of knowledge regarding family planning method and legal abortion in unmarried woman which was 86.63 and 65.11 respectively. The percentage of girls knowing about the ideal child bearing age was however found to be good after intervention and majority (43.7%) perceived the age of 26 to 30 years as ideal child-bearing age followed by 31.2% for 18 to 25 years.

#### Discussion

Adolescence is a crucial period for healthy development in both psychological and physical terms. The study was conducted to see the knowledge and awareness about the important issues among Adolescence and to increase their knowledge regarding Marriage and family planning, Reproductive health problems and common health problems by doing intervention and assessing their knowledge status afterwards.

The study concluded that majority of the girls were from nuclear families. The mean  $\pm$  SD age of study participants was  $15.3 \pm 1.6$  years. The study shows that proportion of students with correct response regarding minimum age of marriage for men and girls was one third of participants at pre intervention stage which was increase

up to 91.28%, in post intervention which suggests that the knowledge about legal age criteria was present in more Adolescents. In a study done by Gupta Neeru, Mathur AK, Singh MP, Saxena NC awareness of legal minimum age of marriage was present in more than half of adolescents[6].

Girls in the stage of adolescence need special care particularly in shaping their health and wellbeing. They need to be well informed about each and every aspect of health and other related areas including reproductive health. It was observed that very less percentage of girls knew about reproductive organs and secondary sexual characteristics (25%) at the time of pretest. It was very interesting to note that in spite of the girls studying in 8th, 9th and 10th standards, they did not have knowledge about primary and secondary sexual characteristics. This may be due to that sex is considered to be very sensitive topic and matters related are generally not discussed openly with teachers and parents. But after intervention through discussions an increase was seen in their knowledge levels. Also, majority of the girls did not know about the timing of appearance which seems to improve after intervention. Large number of rural and urban population believes that menstruation contaminates the body and makes it unholy. As a consequence, the girls often see themselves as impure, unclean and dirty. According to Nutrition Foundation of India, the average age at menarche is 13.4 years, yet 50 % of girls aged 12 to 15 years do not know about menstruation[7]. This lack of information can be attributed to a veil of secrecy that surrounds menarche. This study shows that majority of the women

knew about the problems occurred during menstruation like lower abdominal pain, back pain and tiredness as perceived by them.

Health awareness is one of the major indicators which reveal a person's knowledge about health problems. It was observed that awareness regarding general health problems was 84% which was increased completely after post-test. This was specifically seen in the problems of cold, backache and fever. A study by Nair and Nair (2002) revealed that a considerable percentage of women knew about problems like general weakness, pain in abdomen, pain in legs and back[8]. Very less percentage of girls had knowledge about water and food borne diseases during pretest. But this knowledge increased considerably after intervention and majority of the girls related stomach problems as water and food borne diseases. The present study indicates that adolescent girls have very less knowledge regarding nutrition or vitamin requirement and deficiencies related to them due to their deprivation or fewer intakes and the awareness was increased among half of the study population. The results are in concurrence with the study by Saibaba et al. (2002) which revealed that use of educational aids through intervention have a positive effect on the nutritional knowledge of girls which may ultimately improve their nutritional status[9]. The intervention for Anemia has shown significant influence among adolescent girls and made them aware about the iron requirement and the causes for anemia in adolescent age so the awareness has shown profound increase among girls during post test.. Also, in a study done in Haryana (SWACH 1998) involving intervention to adolescent girls it was seen that knowledge and awareness of the girls regarding anemia and iron rich foods like jaggery and black gram increased invariably[10].

Girls in the stage of adolescence need special they need to be well informed about each and every reproductive health problem which arises during their age and beyond. Awareness plays a pivotal role in motivating women to have a favorable attitude towards family planning and to adopt family planning behavior. The spread of RTIs (Reproductive tract infections) and STD (Sexually transmitted disease) in India has a major health threat. The present study indicates that the awareness regarding STI/RTI was very less in the pretest phase and even after considerable efforts during intervention only 45% girls have knowledge regarding them which was very less. Similar findings were observed in study done by Bang et al. 1989 that Indian women suffer from RTI and in most of the situation, it is because of lack of awareness[11]. A study done by Bang and Bang has shown the same findings that many Indian women suffer from RTI and in most of the situation due to lack of awareness is responsible for that[12]. In a study by Kumar and Sinha (2005), 46.8 percent of women were aware of STIs in districts of Jharkhand[13]. In a study by (Parchure and Warvadekar 2005) it was revealed that awareness about RTI, STI and HIV-AIDS among women was very low in Madhya Pradesh[14]. Majority of the girls were aware about that pregnancy results from intercourse and missed period should be taken as first sign the reason for that is because of social media effect. The percentage of awareness among girls regarding family planning method increase up to two third (86%) after intervention which suggests that strong motivation can help which is very important during this age. Although the girls have very little knowledge about legal abortion and MTP act.

#### Conclusion

The present study showed that a school based educational approach was effective in enhancing awareness of adolescents regarding reproductive health issues and different problems expected to occur during Adolescence and in future. However, it is worth mentioning that with such onetime activity the impact was not expected to be long lasting. So, we required repeated intervention or the important health related problems knowledge should be added among curriculum.

#### Acknowledgements

1. I would like to thank all the participants who have honestly participated with their full co-operation and provided their valuable time for the study.

2. I am also grateful to authors/editors/ publishers of all those articles & journals from where the literature for this study has been reviewed and discussed.

#### References

1. Shubhangna Sharma, Shipra Nagar, Goldy Chopra; Health Awareness of Rural Adolescent Girls: An Intervention Study. J Soc Sci, 2009; 21(2): 99-104.
2. Shirur RR 2000. Reproductive and Sexual Health Education for Adolescents Needs and Assessment. New Delhi: Discovery Publishing House.
3. WHO. Towards adulthood: exploring the sexual and reproductive health of adolescents in South Asia. Available from: [http://www.who.int/reproductivehealth/publications/towards\\_adulthood/towards\\_adulthood.pdf](http://www.who.int/reproductivehealth/publications/towards_adulthood/towards_adulthood.pdf) [Last accessed on 2008 Nov 12]
4. Priyanka Mukhopadhyay, Bhaskar Paul. An educational intervention study on improving awareness regarding some reproductive health issues among female school going adolescents; Indian J. Prev. Soc. Med. 2009; 40(1 & 2) :1.
5. Dongre AR, Deshmukh PR, Garg BS 2006. The Impact of School Health Education Programme on Personal Hygiene and Related Morbidities in Tribal School Children of Wardha District. Indian Journal of Community Medicine, 2006;31(2): 81-82.
6. Gupta N, Mathur AK, Singh MP, Saxena NC 2004. Reproductive health awareness of school going unmarried rural adolescents. Indian Journal of Pediatrics, 2004;71: 797 -801.
7. Anonymous. 2005. Women in Dynamics of Nutrition and Health Behaviour. Food and Nutrition News, 1- 2.
8. Nair SN, Nair PS 2002. Reproductive health among rural women in Kerala.
9. Saibaba A, Ram MM, Ramana Rao GV, Devi U, Syamala TS .Nutritional status of adolescent girls of urban slums and the impact of IEC on their nutritional knowledge and practices. Indian Journal of Community Medicine, 2002;28(4):1.
10. Survival for Women and Children Foundation (SWACH) 1998. Prevention and Control Of Anemia in Pregnant Women and Adolescent Girls in Rural Areas of Haryana, Haryana: India: SWACH.
11. Bang RA, Bang AT, Baitule M, Chaudhary Y, Sarmukaddam S, Talc O. High Prevalence of Gynaecological Diseases in Rural Indian Women. Lancet, 1989; 1:85-88.
12. Bang RA, Bang A 1993. Reproductive Health in Rural India. In: Elton Kessel Gulardi H Wiknjastro, Anna Alisjahbana (Eds.): Maternal and Infant Mortality- closing the Gap between Perinatal Health Services. North Carolina: Chapel Hill, pp. 100-105.
13. Kumar D, Sinha AK 2005. Study on the Awareness of RTI, STI and HIV / AIDS in Jharkhand. In: KKN Sharma (Ed.): Reproductive and Child Health Problems in India. Delhi: Academic Excellence, pp. 429 – 441.
14. Parchauri N, Warvadekar J 2005. Awareness of RTI, STI and HIV-AIDS in Madya Pradesh. In: KKN Sharma (Ed.): Reproductive and Child Health Problems in India. Delhi: Academic Excellence, pp. 458-480

**Conflict of Interest: Nil Source of support: Nil**