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Original Research Article

Assessment of effect of family life education on the knowledge about reproductive health among adolescent girls in schools located in urban area

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ABSTRACT

Context: Adolescence is a transitional period between childhood and adulthood it is a prime time for health promotion. Among adolescents, girls constitute a more vulnerable group. Family life education has due importance in adolescent stage of life to make them aware about reproductive health issues.
Aim: To assess change in knowledge about reproductive health among adolescent girls after family life education intervention.
Settings and Design: This is a descriptive longitudinal study was conducted over the period of 18 month conducted on 150 girls.
Material s and Methods: Semi structured questionnaire was used as tool to assess knowledge score of pre and post-test. Family life education intervention was given. Pre and post intervention scores were analyzed.
Statistical Analysis: All responses were tabulated by using Microsoft-Excel 2010 Software. Change in knowledge about reproductive health after intervention was assessed by using Mc-Nemar test.
Results: Significant improvement in knowledge about all components of Reproductive health after intervention was seen. In pre intervention 37(25.30%) participants had good knowledge score and its number significantly increased to 143(95.3%) after intervention.
Conclusions: The results of this study suggest that Family life education can improve knowledge about various components of reproductive health in adolescent girls. Such educational programs must be given due importance.
Key Messages: Family life education improves knowledge about reproductive health.

1. Introduction

Adolescence is a transitional period between childhood and adulthood. WHO defines adolescent as an individual in the 10-19 years age group.[1] Among adolescents, girls constitute a more vulnerable group, also they are more susceptible biologically to sexually transmitted diseases (STDs). Girls are often very ignorant of how their body functions in terms of sex and reproduction. These girls need special care in view of their role in shaping the health and wellbeing of the present as well as future generations. Also adolescence is a prime time for health promotion and to encourage them to establish healthy patterns of behaviour. What is learnt at this impressionable stage of life in terms of knowledge has a lasting impact on the entire lifespan of the individual. Family life education (FLE) refers to a broad program designed to impart knowledge/training regarding values, attitudes and practices affecting family relationships.[2,3] The WHO report (2003) and previous studies in India[2–5] on family life education documented that its promotion has

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resulted in positive sexual behaviour.[4] Also in the study conducted by Niharika Tripathi et al among youth in India, they found that youth who received FLE were relatively more aware about reproductive health issues than their counterparts.[5] Keeping in mind all these issues, we have conducted this study among adolescent girls. Family life education intervention was given and then pre and post knowledge score were used to assess effectiveness of family life education on the knowledge about reproductive health.

2. Materials and Methods

Present study is descriptive longitudinal study. It was conducted among 9^{th} standard girls of 2 municipal secondary schools located in urban area of Mumbai. Study was conducted over 1 year 6 month from June 2016 to November 2016.

Sample size was calculated by using formula $n = \frac{Z2(P1Q1)+(P2Q2)}{d2}$. P_1 and P_2 i.e. change in knowledge about reproductive health components after health education, was 33.7% to 97.4% in previous study.[6]

(P_1=33.7% Q_1=66.3% $P_{2=}$ 97.4% Q_2=2.6%, d=8%, = 143)

Total 9th class girls of both schools were 150, all students willing to participate were included in study.

2.1. Selection and description of participants

Convenient sampling was used keeping in view about problems regarding permission and time constraint to conduct study it was decided to select only 2 municipal secondary schools. All the girls of 9th class from selected schools were included, since most of them have achieved menarche and mature enough to understand the reproductive health problems. Also girls in this age group have more need of family life education. Those students whose parents gave consent to participate in study were included in the study. Students with slow learning disorder were excluded.

2.2. Questionnaire

To construct the questionnaire 5 focus group discussions (FGD) were conducted in both schools with 8 girls in each group. A flip chart devised by UNICEF was used as reference point for discussion in FGDs, to develop the course, content of the sessions, education tool during family life education session. menstruation, adolescence, marriage, pregnancy, contraception, HIV and STI these issues were discussed in the FGDs. Based on observation of FGDs semi-structured questionnaire was prepared in accordance with the study objectives.

Questionnaire was developed in Marathi and English language and pilot study conducted and questionnaire was modified and validated.

Reliability On measuring test retest good reliability achieved. This final questionnaire was used for pre intervention and post-intervention.

Questionnaire included socio demographic information, information about menarche, questions regarding knowledge of reproductive health components-menstruation(10 questions), adolescence(3question), marriage and pregnancy(-12que), contraception (3 questions), HIV and STI(7 questions). Out of 35 questions for 31questions correct answer was given 1 mark and incorrect answer was given 0 mark. For 4 questions (Que no -12, 27, 28, 31) with multiple correct responses scoring was done as No knowledge= 0, Partial knowledge=1and Complete knowledge= 2. (31+8=39). Total score of whole questionnaire was divided into two categories.

1. Below average score (<20 =Poor 2 Average and above (≥20 = Good.

After obtaining ethical clearance from the Institutional Review Board of the College, EC/97/2015 Ascent and consent taken from participants and then study initiated

Prior to start the study participants were divided into 6 batches. Sessions were conducted separately for each batch. Pretest was conducted before family life education session.

Content of session was same as topics discussed in the FGD and it was conducted in Marathi language as all participants were comfortable. Privacy and confidentiality during the health education session was maintained by separating boys from the class.

Post intervention change in knowledge of participants was tested by administering same questionnaire to participants after 3 months of completing health education session in the same way as pre intervention test conducted.

3. Statistical analysis

All responses were tabulated by using Microsoft-Excel 2010 Software.

Change in knowledge about reproductive health after intervention was assessed by using Mc-Nemar test. Various graphical methods were used.

4. Results

hows socio demographic information of adolescent girls of schools located in urban area participants.

Out of 150 students, 114 (76%) were 14 years and 36(24%) 15 years of age.

Maximum participants 110 (73.3%) were Hindus. Maximum i.e. 106 (70.7%) belonged to nuclear family followed by 32 (21.3%) Joint family. Socio-economic status as per modified Kuppuswamy's socio-economic scale maximum participants 83(55.3%) belonged to lower middle class, followed by 56 (37.3%) to upper middle and 11(7.3%) belonged to upper lower class.

Maximum number of mothers i.e. 54 (36%) were educated up to secondary school followed by 48(32%)

Table 1: Socio-demographical characteristics of the shows socio demographic information of adolescent girls of schools located in urban area

Sociodemographic characteristics		Frequency	Percentage
Age	14 year	114	76.0
	15 year	36	24.0
Religion	Hindu	110	73.3
	Buddhist	30	20.0
	Other	10	6.7
Family type	Nuclear	106	70.7
	Joint	44	29.3
Education of mother	Completed Secondary	92	61.3
	Higher secondary and above	58	38.7
Fathers education	Completed Secondary	69	46.0
	Higher secondary above	81	54.0
Socioeconomic status(modified Kuppuswami scale)	Upper-middle	56	37.3
	Lower- middle	83	55.3
	Upper-lower	11	7.3
Menarche achieved	Yes	126	84
	No	44	26

up to higher secondary and fathers of maximum girls 61 (40.7%) were educated up to secondary school level, followed by 51(34%) up to higher secondary. Out of 150(n) 126 participant achieved menarche.

Out of 126 participant who have achieved menarche maximum of them 61 (48.4%) have achieved menarche at age 12 years and 51 (40.4%) achieved at 13 years of age, whereas 7 (5.5%) achieved menarche at 11 years and 7(5.5%) got at 14 years of age. Mean age at menarche was 12.46 years.

Table 2 shows change in knowledge score after intervention. Knowledge score about Menstrual hygiene was good in 27 (18.0%) participants which significantly increased to77(51.3%) after intervention, Also we found that prior to intervention 37(24.7%) participants have good score for knowledge about menstruation which significantly increased to 111(74.0%) after intervention. McNemar Value= <0.0001.

Prior to intervention only 35(23.3%) were able to mention all body changes during puberty out of these maximum were aware about breast development and start of menses, 45% were able to tell atleast 1 change in body whereas 32% participants could not tell about single change in body during puberty. Following intervention 85(56.7%) were able to tell all body changes during puberty, 43.3% participants were able to tell at least 3 body changes.

Only 25 (16.7%) participants were aware of hormone as cause of physical changes in adolescent which increased to 142(94.7%) after intervention around half of the participants 73(48.7%) had overall good knowledge score about adolescence phase of life and significant improvement in numbers 148(98.7%) noted following intervention. McNemar Value=<0.0001.

Prior to intervention 87(58%)of participants were aware about legal age of marriage for girls and around half of the study subjects knew about ideal age for pregnancy and 74 (49.3%) participants had correct knowledge about mode of conception. Overall knowledge score of pregnancy was good in (36%)54 participants before intervention and it improved significantly to143 (95.3%)following intervention. McNemar Value=<0.0001.

Around two third of participants 106(70.7%) were not aware about contraception and nobody was aware about tubectomy and vasectomy before intervention, Overall knowledge about contraception improved significantly after intervention from 44(29.3%) to124 82.7%. McNemar Value=<0.0001.

Prior to intervention only one third participants 49(32.7%) were aware about STI and few of them were able to tell route of transmission of STI. Around one third of the participants could tell route of transmission of HIV but nobody had complete knowledge about it.

Also 30(20%) girls had misconception that HIV can be transmitted through social interaction with infected person, 16(10.7%) had that by mosquito bite both of which reduced to 0 after the intervention. After intervention Good knowledge score about misconception increased significantly from 56 (37.3%) to150 (100%). McNemar Value=<0.0001.

Overall knowledge score regarding HIV and STI was good in 19(12.7%) participants which improved significantly by 50% i.e 139(92.7%) after intervention. McNemar Value=<0.0001.

In preintervention maximum participants 38(25.3%) had good knowledge about all components of reproductive health and number of participants significantly improved to 147 (98.0%) after intervention. McNemar Value=<0.0001.

Figure 1 Shows knowledge improvement in various components of reproductive health after intervention.X-axis shows percentage of change in knowledge of

Table 2: Knowledge score of reproductive health components before and after intervention

S.No	Reproductive health component	Good Knowledge Score before intervention	Good Knowledge Score after Intervention	Macnemar Value
1	Menstruation	37(24.7%)	111(74.0%)	<0.0001
2	Menstrual hygiene knowledge	37(24.7%)	77(51.3%)	<0.0001
3	Adolescent phase of life	73(48.7%)	148(98.7%)	<0.0001
4	Pregnancy	54(36.0%)	143(95.3%)	<0.0001
5	Contraception	44(29.3%)	124(82.7%)	<0.0001
6	HIV & STI	19(12.7%)	139(92.7%)	<0.0001
7	Misconception about HIV & STI	56(37.3%)	130(86.7%)	<0.0001
8	Overall good score	38(25.3%)	147(98.0%)	<0.0001

participants regarding reproductive health components after intervention. Y- axis shows names of various reproductive health components.

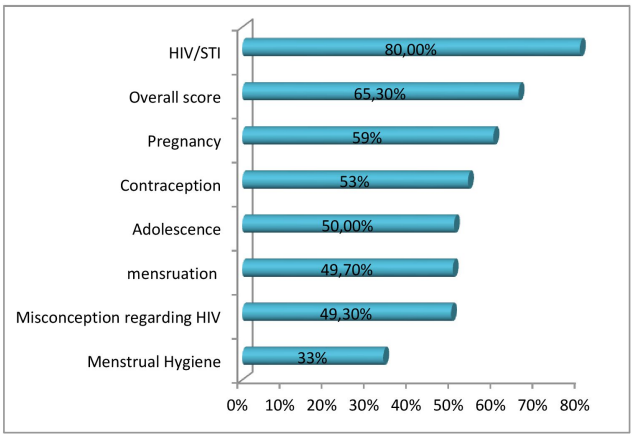

Fig. 1: Improvement in knowledge regarding components of reproductive heath following intervention

Overall knowledge of participants improved by 65.3%, knowledge about menstruation and menstrual hygeine was improved by 49.7% and 33% respectively after intervention. Knowledge about adolescence phase of life was improved by 50% and knowledge about pregnancy was improved by 59% after intervention. Knowledge about contraception was Improved by 53% after intervention. Knowledge about HIV & STI was improved by 80% after intervention. Maximum improvement 80% was seen in knowledge about HIV and STI component.

5. Discussion

In the study maximum participants belonged to lower middle class and mean age of menarche in the study area was found to be 12.46 year . We found that 9^{th} class girls have poor knowledge about all components of reproductive health particularly about HIV and STI. Also only one fourth participants had good knowledge score about menstruation and hygiene, this may be because they are getting knowledge about this components from their mother, sister and friends and following same. They are lacking scientific knowledge. This matches with study done by. Emanshokry Abd Allah et al.[7] Study reveals improvement in good score of knowledge about menstrual hygiene, adolescence phase, marriage, pregnancy, contraception, HIV and STI following intervention. This improvement is contributed to educational intervention done during study.

Similar to our study findings other studies reported that there was a remarkable increase in knowledge regarding minimum age at marriage, early sign of pregnancy, and antenatal care in pregnancy.[8–13] We found among all components of reproductive health, particularly knowledge about STI and HIV component is least. This may be due to they haven't even heard about this term and stigma associated with STI and HIV. Similar to this Sathe and Patanwar et al also found lack of knowledge particularly about sexually transmitted infections and HIV among adolescents.[14,15] Also many of them had misconceptions that HIV can be transmitted through mosquito bite and social interaction Similar misconception has been reported in a study done by Srivastava A et al and Garg N et al.[16,17] This shows that participants don't have scientific knowledge about HIV and STI. We found maximum improvement 80% in this component after intervention, this proves effectiveness of our family life education intervention.

Similar to our study, poor baseline knowledge and significant increase in knowledge after intervention has been observed in other studies.[18–22]

Secondly we found even after intervention there is not 100% improvement in any component of reproductive health, and least improvement seen in menstrual hygiene knowledge .Also all participants could not mention all puberty changes before and after intervention this shows their ignorance toward their selves body and also may be due to we conducted single session and there is 3 months gap between intervention and post test during which participants might have forgotten about some changes, this suggests reinforcement of knowledge is necessary. Study conducted by Joseph et al also concluded in their study among school teachers that reproductive health education should be imparted in the school.

6. Conclusion

The results of this study suggest that family life education is effective and it can improve knowledge about various components of reproductive health in adolescent girls. Such educational programs with long term reinforcement must be given due importance in future.

7. Source of Funding

None.

8. Conflict of Interest

None.

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