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Effectiveness of Community Based Intervention on Reproductive Health Education among School Going Adolescent Girls in a Village of District in Andrapradesh

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ABSTRACT

Background: Study of Reproductive System and Reproductive health has been a matter of concern in indian cenario since ages and still continue to be stigmatized especially in non urban areas.

Methodology: It's a cross sectional intervention study (Pre & Post). Study Subject included adolescent girls from 11-16 yrs. Sample Size: 206. Lottery Method was used for sampling. Pilot study was conducted from 1st July to 31st August 2013 among 50 adolescent girl students (20% of the sample size) from Zilla parishad high school, Nidamanuru.

Results: Of the 250 study subjects, 20(8%) were age group of11-12yrs, 190 (76%) were 13-14 yrs were age group and 40 (16%) were 15-16yrs age group. Knowledge regarding risk with premarital sex is improved from 93.20% to 98.40% which is statistically highly significant. Knowledge about risk with unsafe sex (i.e Pregnancy, Unsafe sex) is increased from 7.21% to 65.16%, the response of girls after educational intervention is improved which is statistically highly significant.

Conclusion: Reproductive Health Education Intervention helped to improve the knowledge regarding reproductive health among adolescent girls.

Key Words: Adolescent Girls, Reproductive Health Education, intervention.

INTRODUCTION

According to the World Health Organization (WHO), adolescents are individuals aged 10-19Yrs[1], they are no longer children, not yet adults. Adolescents comprise 18% of the world's total population. Out of 1.2 billion adolescents, 88% live in developing countries and more than 50% of all adolescents live in Asia, India has the largest national population of adolescents 253 million, followed by China 207 million[2], adolescents are an important resource of every country. According to census 2011 report, 20.9% of population in India comprise of adolescents. The trend is static or small decreasing trend compared to 21.9% in 2001 census. But the number of adolescents is increasing to approximately 253.2millions. The rural and urban population constituted 22% and 19%.

By nature adolescents are energetic, enthusiastic, self-confident, self-esteemed and innovative, with significant drive, they will provide positive force for a nation and are responsible for its future productivity, provided they develop in a healthy manner[3].

In India by the age of 18 years, 54% adolescents are married, 25-35% of adolescent girls begin child bearing as early as 17 yrs and these adolescent pregnancies constitute 10 - 15% of total pregnancies[4,5]. In India, although abortion is legal, unsafe abortions account for 50% of all maternal deaths of girls between 15 and 19 years[6]. Early marriage, which is widely prevalent in Indian and African culture, is quite high in rural areas compared to urban areas and adolescent girls in these communities fall into fertility trap quite early. These situa-

tions predispose girls to teenage pregnancy that may have more immediate effect on their life than any other problem.

Reproductive health of adolescent girls is crucial since it determines the health of future generations to come. With urbanization and liberal attitudes in contemporary Indian society, there is an increased likelihood of indulging in sexual proximity at an early age, the burden of which is usually borne by the female sex. Hence, adolescent girls are at risk of unwanted pregnancy, reproductive tract infections (RTIs) and also a spectrum of social and psychological consequences such as discontinuation of education, forced early marriages, unplanned pregnancies, unsafe abortions, and depression.[7]According to the National Family Health Survey-4 data, 3.4% boys and 9.6% girls in India reported sexual debut before the age of 15 years[8].

According to NFHS-4 data , mean age at marriage for Indian women is 17yrs, 7.8% of adolescents have started child bearing, 56% are suffering with anaemia, 11% of unsafe abortions are seen in adolescent age groups. IMR for teenage mothers is 79%, the risk of maternal mortality is higher for adolescent girls, especially those under age 15, compared to older women[9].

OBJECTIVES

The study was conducted to assess the knowledge about reproductive health education among school going adolescent girls and to assess the impact of family life education with a special emphasis on reproductive health.

METHODOLOGY

This was an interventional study. Study period was 1st july2013 to 30th June 2014 conducted in Zilla parishad high school in Nidamanuru village**.** Total population of Nidamanuru was 8210 including 4135 males and 4075 females and 1618 adolescent strength. Adolescent girls aged 11-16yrs were study subjects. Sample size was calculated by using formula (n) = $4pq/l^2$ where p = 64.1% [10]; q = 34% and l = 10% of p, so, n =206. However, sample size of 250 school going adolescent girls were taken considering 20% additional samples.

Sampling method: Out of 50 mandals of krishna dist, Vijayawada rural was selected by simple random technique (by lottery method), under Vijayawada rural 19 villages are there, in that, Nidamanuru village was selected by simple random technique (by lottery method), Nidamanuru comes under the primary health centre area of kankipadu. List of schools obtained from District Educational Officer (DEO), one secondary school in Nidamanuru village, which is Zilla parishad high school where study has been conducted.

Inclusion criteria: High school girls aged 11-16yrs at Nidamanuru village were included in the study irrespective of attainment of menarche.

Exclusion criteria: High school girls age group of <11&>16yrs and or girls who are not available at the time of data collection were excluded.

Pilot study: was conducted from 1st July to 31st August 2013 among 50 adolescent girl students (20% of the sample size) from Zilla parishad high school, Nidamanuru.

Data collection: Data were collected from high school girls by personal interviewing using pre structured schedule which was field tested by a pilot study for quality control.

In the selected high school according to the registers, a total number of 670 girls were in the age group of 11-16yrs, from the 670 excluding the 10th class students from academic purpose, 568 girls were selected and numbered. By using systematic random technique based on the strength every second girl was selected for the study until the sample size of 250 was met. If any selected girl was found to be absent at the time of data collection, a second visit was made on the next day. If the girl was absent even after the second visit, adjacent girl was taken for the study.

They were divided into 8 batches, in each batch 31-33 students were included. In pre-test, a predesigned semi structured, pretested schedule in local language was used for personal interview for each batch in school working hours. After pre-test, educational intervention was conducted for 4 months, for each batch, every day one hour class was taken by using chalk & board, posters, charts, flip charts and video clips. The in house sessions were conducted by the principle investigator for all the batches. Thus each batch was given 15 sessions (which is equal to 15 hours of comprehensive teaching). After one month of intervention, post-test was conducted by using the same questionnaire which was used in pre-test.

RESULTS

Of the 250 study subjects, 20(8%) were age group of11-12yrs, 190 (76%) were 13-14 yrs were age group and 40 (16%) were 15-16yrs age group. Out of 250 students, 162(66.5%) belongs to Hindu religion, 63(23.27%) belongs to Christian religion and 25(10.22%) belongs to Muslim.(Table 1)

Table 1: Socio-Demographic Characteristic of the Study Population.

Characteristics of Study Subjects	N (%) (N=250)
Age	
11-12	20 (8)
13-14	190 (76)
15-16	40 (16)
Religion	
Hindu	162 (66.5)
Christian	63 (23.28)
Muslim	25 (10.22)
Mothers Education	
Illiterate	70 (29.19)
Primary	89 (35.38)
Secondary	82 (32.05)
Intermediate	7 (2.37)
Graduate	2 (1)
Socio- Economic Status (Modified B.G Prasad Classification)	
Class I	1 (0.69)
Class II	55 (21.43)
Class III	69 (28.14)
Class IV	109 (42.61)
Class V	16 (7.12)

Knowledge regarding small family norm was improved from 84.40% to 97.20% with educational intervention which is statistically highly significant ($p < 0.05$) Knowledge regarding gender discrimination is increased from 82.80% to 98.00% with educational intervention which is statistically highly significant. Knowledge regarding role of the father's chromosome in sex determination of the baby was improved to 58% from 16% after educational intervention which is statistically highly significant ($p < 0.05$).

Chi-Square calculation , taken as "know and don't know" as variables against pre-test and post-test results and the knowledge regarding pubertal changes (i.e Breast change ,Pubic Hair Growth , Mensturation, Acne etc) is found to be increased from 28.4% to 96 % after educational intervention which is statistically highly significant at chi-square =240.08 df=1 with $p<0.0001$.

Knowledge regarding functions of uterus (i.e Mensturation, Carrying of Baby) is increased from 0.40% to 46.00% through educational intervention which is statistically highly significant. Knowledge regarding risks associated teenage pregnancy is improved from 56.80% to 82.00% which is statistically highly significant. Knowledge regarding missed period is the early sign of pregnancy is improved from 64.8% to 84.8%, which is statistically highly significant.

Table 2: Effective Change in Knowledge of Study Subject after Intervention.

Questions Asked	Correct Knowledge		P- value
	Pre- Test	Post- Test	
Knowledge regarding small family norms	84.40%	97.20%	0.023
Knowledge regarding role of the father's chromosome in sex determination	16.20%	58.80%	0.0016
Knowledge regarding pubertal changes	28.40%	96.20%	0.0037
Knowledge regarding best absorbent (i.e Sanitary Napkin) for menstrual blood flow	82.40%	87.60%	0.978
Knowledge regarding the duration & frequency of menstrual cycle	84.80%	99.20%	0.914
Knowledge regarding missed period is the early sign of pregnancy	64.80%	84.80%	0.0483
Knowledge about risk with unsafe sex	7.21%	65.10%	0.0008

Knowledge regarding risk with premarital sex is improved from 93.20% to 98.40% which is statistically highly significant. Knowledge about risk with unsafe sex (i.e Pregnancy, Unsafe sex) is increased from 7.21% to 65.16%, the response of girls after educational intervention is improved which is statistically highly significant. About 70.80% girls aware about HIV/AIDS in pre test this percentage is increased to 96.40% after intervention which is statistically highly significant. 39.55% girls aware of that HIV/AIDS testing &treatment available at govt hospitals in pre test, this knowledge is increased with educational intervention to 86.72%, which is statistically significant. About 16.95% girls are aware that HIV positive mother can give birth to HIV negative baby with "ART" treatment in pre test after intervention 67.63% girls aware about it which is statistically highly significant. Only 6.21% girls know about HIV prevention before intervention which is increased to 87.55% after intervention which is statistically significant.

DISCUSSION

This study evaluated the effect of health education by health professionals on adolescent girls knowledge and attitudes towards reproductive health. Remarkable improvement was seen in relation with knowledge of participants about family life related issues, puberty, menstrual cycle, pregnancy, contraception and also transmission and prevention of STD's &HIV.

In the present study, majority of the girls were in the age group of 13-14yrs, mean age of study subjects is13.67± 0.90 yrs, In a study by *Ram R Bhattacharya SK et al*, on reproductive tract infection among female adolescents, with the sample size of

106 female adolescents aged 10 to 19 yrs, the mean age of the adolescent girls was 17.8 ± 0.82 yrs[11]. In our study Majority i.e 42.61% of the study subjects belong to class IV modified B.J.Prasad socioeconomic status followed by class III (28.14%) followed by class II (21.43%). In *K. Malleshappa et al*, study 51.52% belonged to lower class, 32.31%middle class[12].

In the present study, knowledge regarding gender discrimination is increased from 82.80% to 98.00%. According to *Ruchi Saxena* et.al, the study findings of in pre – test, 68% of unmarried girls & 72% of married women thought that female foeticide is right, after intervention it is decreased to 28% in unmarried girls & 20% in married women[13]. In the present study, knowledge regarding role of the father's chromosome in sex determination of the baby was improved significantly from 16.00% to 58.00%. A study from *Anjali Singh et al*, observed that 33.1% of the student had a misconception that sex of the child is determined in the womb, which was more prevalent among girls than boys[14]. It is found that in the present study knowledge regarding one or more of the pubertal changes in girls significantly improved from 2.8% to 77.60% after educational intervention. In the *Shobha P Shah et al*, study among adolescent tribal girls in rural Gujarat, it was found that 139 members didn't know cause for pubertal change[15].

In our study, 90.80% girls have Knowledge regarding menstrual cycle in the pre-test, it was improved to 98.00% in the post-test, Which is in accordance with an interventional study by *R.S.P.Rao et al*, where it is improved from 77.2% to 95.6% after intervention[16]. In our study Knowledge regarding the duration & frequency of menstrual cycle was improved from 84.80% to99.2% after educational intervention ,Which in accordance with Comparative Study by *Shubha Dube et al* on Knowledge, Attitude and Practice Regarding Reproductive health, revealed that 89 % of urban and 72 % of rural respondents reported that the physiological menstrual cycle duration is of 28 ± 4 days[17]. In the present study Knowledge regarding best absorbent for menstrual blood flow was improved from 82.40% to 87.60% after educational intervention. Above result is consensus with *Verma et al* study, on knowledge & practices about menstrual hygiene among higher secondary school girls in varanasi dist, 92.5% of girls aware that sanitary napkin is best absorbent for menstrual blood [18].

In this study knowledge regarding risks associated with teenage pregnancy is improved from 56.80% to 82.00%, Which is in accordance with *Priyanka Mukhopadhyay et al* , study, in this study this knowledge improved significantly from 52.9% in the pre test to 82.6% in the post test after intervention[19]. In this study 86.80% girls have correct knowledge regarding abortion in the pre-test it was improved to 99.20% in the post-test, after educational intervention. Result of the above study correlates with *Kotwal N, Khan et al*, study in which 86% study subjects have correct knowledge regarding abortion [20].

In this study 2.58% girls had knowledge regarding one or more contraceptive methods in the pre-test, it has been increased to 52.05% in the post-test. In a study by *Parwej Saroj et al*, it was found that knowledge regarding condoms as contraceptives increased from 48.4 % to 82.1% in conventional education group and 64% to 92% in peer education group, regarding oral pills as a contraceptive choice it was increased from 1% to 54% in conventional group and19% to 53.5% in peer education group[21]. In our study only 0.65% girls had knowledge regarding purpose of contraception in the pre-test, and it has been increased to 43.44% in the post-test. In a Cross Sectional Study by *Prateek S. Bobhate et al*, only 25.3% girls were aware of importance of birth spacing between two deliveries by contraceptives[22].

CONCLUSION

The present study was conducted to assess the base line knowledge of the adolescent girls and the subsequent change in the knowledge after health education sessions. In our study majority of the women belonged to socio-economic class III & IV. Following study showed that adolescent girls had good knowledge regarding menstrual hygiene, Best absorbent for menstrual flow. Girls had medium knowledge regarding missed period as early sign of pregnancy and girls had poor knowledge regarding pubertal changes, Purpose of contraception and Emergency Contraceptive pills. All these factors were improved after health education session which was analysed through post test.

Limitations: The study was limited to rural adolescent girls from a selected high school. Study included only high school adolescent girls hence results are not applicable to college going adolescents and out of school adolescents.

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