

## **Knowledge and attitude about reproductive health among rural adolescent girls in Kuppam mandal: An intervention study**

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### **Abstract**

Adolescents in rural areas may face troubles due to lack of right kind of information regarding their own physical and or sexual developments. The need to address this problem through health education by health professionals needs to be ascertained. The objective is to determine the effectiveness of a reproductive health education intervention programme in improving the knowledge of adolescent girls aged between 14-19 years in Kuppam mandal, chittoor dt, Andhra Pradesh. The study was carried out over a period of 8 months. A total of 656 girls in the age group of 14-19 years were randomly selected from 3 high schools (class X) & 3 intermediate colleges(class XI &XII) in kuppam mandal, chittoor dt, Andhra Pradesh. The reproductive health education package developed in consultation with parents, teachers & adolescents was used to educate the girls. A 50 item structured questionnaire was used to test the knowledge of all the participants about the reproductive health before & after the education session. The data was tabulated & analyzed using SPSS version 11.0 for windows .Findings were described in terms of proportions & percentages, chi square test was used to test the effect of intervention. Reproductive health Knowledge score improved significantly after intervention. A significant increase in overall knowledge regarding menstrual cycle, ovulation, fertilization & pregnancy by 44.5% was noted (95%CI=42.5,46.5;P<0.001); knowledge regarding contraception improved remarkably from 33.7% to 97.4%(P<0.0001);A significant improvement in the knowledge about transmission & prevention of STDs was noted after intervention (P<0.0001). A reproductive health education intervention programme improves the knowledge & attitude among rural adolescent girls regarding reproductive health

**Keywords:** Knowledge, adolescent girls, rural area, reproductive health education, intervention

*Accepted February 23 2011*

### **Introduction**

Adolescents are an important resource of any country. According to the WHO expert committee, adolescence is defined as the period between 10-19yrs, the 2<sup>nd</sup> decade of life[1].Adolescents comprise 20% of the world's total population[2].out of 1.2 billion adolescents worldwide,about 85% live in developing countries[3].In India there are 190 million adolescents comprising 21% of India's total population[4].Adolescent pregnancies constitute 10-15% of total pregnancies in India.This is largely attributed to early marriage,a culture widely prevalent in the whole of Indian subcontinent,besides Africa[5]. The age at marriage is quite low in rural areas & adolescent girls in these communities fall into fertility trap quite early. These situations predispose girls to teenage pregnancy

that may have more immediate effect on their life than any other problem[6].The changing moral & social values and shift in the standard of societal behavior from conservatism to liberal interaction between both sexes is attributed largely to exposure to the media especially television and movies. Adolescents find themselves sandwiched between a glamorous western influence and a stern conservatism at home, which strictly forbids discussion on sex. This dichotomy aggravates the confusion among adolescents [7]. This has led to increase in pre-marital sexual activity, pregnancy among unmarried girls apart from the increasing incidence of abortion & STDs [8,9]. Among adolescents, girls are particularly vulnerable, not only because they are more likely to be coerced invariably for unprotected sex than Boys, but also they

are more susceptible biologically to STDs including HIV infection [10].

In order to lead a healthy, responsible & fulfilling lives & protect themselves from reproductive health problems youngsters need to be knowledgeable about themselves & need adequate information about the physical, psychological changes that take place during puberty, menstruation, pregnancy & child birth [11]. The need to address these problems through reproductive health education has been recognized at various national & international forums. Among the several options available, creating awareness among adolescents appears to be an important tool [13]. However adolescent education programmes in India face many challenges. A lot of debate is going on about how much of the reproductive health contents should be taught? Whether teachers should impart this knowledge or should it be imparted by health professionals [9,10].

The study was taken up keeping in mind that Kuppam being a small town comprising predominantly of rural population, the study population represents rural adolescent girls from southern India. The knowledge & awareness levels about reproductive health among rural adolescent girls may not be similar to that of their counterparts from urban areas. The need for this study was felt considering the fact that many studies on reproductive health education intervention had focused on urban population, slums in cities etc., but none from a rural area. In addition to this, Andhra Pradesh has the second highest number of HIV cases in the country, with a prevalence of 0.90% [14,15] & the prevalence is high in the 15-45 years age group (88.7% of all cases) indicating that assessment of knowledge & awareness levels about reproductive health among adolescents is an important issue based on which the education intervention program can be decided.

This study was conducted to assess the knowledge & awareness levels of adolescent girls about reproductive health & to develop a reproductive health education package for adolescent girls of Kuppam mandal, Chittoor dt (Andhra Pradesh, India), & to evaluate the effectiveness of reproductive health education by health professionals in improving the knowledge, perceptions & attitude of adolescent girls about reproductive health.

## Materials and Methods

This was an intervention study & the study population included girls from 3 intermediate colleges (class XI & XII) & 3 high schools (Class X) of Kuppam mandal in Chittoor district (Andhra Pradesh). The demographic pattern according to census 2001, shows that females consti-

tute about 49% of the total population with agriculture as the main occupation. The female literacy rate is about 58% & that of males is about 75%. Kuppam mandal (taluka) consists of several villages & majority of the students travel to Kuppam for schools & colleges. The sampling design was a stratified cluster sampling. The students were stratified on the basis of the year (class X, XI, XII). Each division in a stratum was taken as a cluster. A cluster of 40 to 50 students was found to be feasible for intervention. Of the 22 clusters, 15 clusters were randomly selected and considering a dropout rate of 10% and design effect of 2, a total of 656 students were included in the study. Willingness to participate in the study was obtained by a verbal consent from the students after taking written consent and requisite permission from school and college principals after explaining the objective of the study. To ensure confidentiality students were asked not to furnish their names.

### *Reproductive health education package*

In consultation with parents, teachers and adolescents, contents of the reproductive health education were finalized. It was designed to cover the gaps in the knowledge of the adolescents keeping in view the age group of the adolescents and the cultural sensitivities of parents and teachers. The contents included anatomy and physiology of male and female reproductive system, physical and psychological changes during puberty, adolescence, conception and contraception, STDs including HIV/AIDS, using a simple language and culture sensitive terms.

### *Pre test*

A total of 656 adolescent girls participated in the pre-test assessment. A pre tested 50 item structured questionnaire was administered, which tested the knowledge and perceptions of the study population on puberty changes, menstruation, maintaining hygiene during menstruation, regarding ovulation and fertilization, conception, changes during pregnancy, antenatal care, and also on contraception and STDs.

### *Intervention*

A health education programme was organized in 6 sessions, each session lasting for two hours on 6 consecutive days. Programme included a didactic lecture by one of the educators followed by interactive sessions. Audio visual aids such as power point presentation using LCD projector, video films, charts, posters were used. The topics included were on anatomy and physiology of male and female reproductive system, physical changes during and after puberty, menstrual cycle, pregnancy, antenatal care, various methods of contraception. The lectures were followed by interactive session with the students.

**Post Test**

The effect of education program was evaluated immediately following intervention with a post test questionnaire. The data was analyzed using the statistical package for social sciences (SPSS) version 11. The data was analyzed using proportions and percentages and chi-square test was used to test the effect of intervention.

**Results**

Table 1 shows the demographic profile of the study population of the 656 students 554 students were in the age group of 16-17 years with a mean of 16.68 years .Table 2 shows that the students' knowledge about puberty changes improved significantly after intervention (p<0.005). Students had a good knowledge regarding age at first menses and maintaining hygiene during menses at pre-test. About 49.5% of the students were not aware about ovulation. Their knowledge about ovulation improved from 49.5% to 96.1% (p<0.001), and regarding menstruation & menstrual hygiene, improved significantly from 78.3% to 96.4% and from 92.5% to 98.9% respectively after intervention (p<0.005). Table 3 shows that only about 74.2% of participants were aware about missed period as the first sign of pregnancy.The intervention significantly improved participants' knowledge (p<0.001).

Table 4 shows that awareness of students regarding different contraceptive methods. It was observed that their

knowledge was poor during pre-test and remarkable improvement was noted following intervention (p<0.0001)

Table 5 shows the knowledge of the participants regarding STDs especially HIV/AIDS and its prevention. Their knowledge improved remarkably following intervention (p<0.0001)

**Table 1. Demographic profile of study population**

Demographic variable	(n-656)	
	No	%
<i>Age group(yrs)</i>		
15-15.9	56	8.5
16-16.9	224	34.1
17-17.9	330	50.3
18-18.9	42	6.4
19-19.9	4	0.6
<i>Socio-economic status</i>		
Lower	338	51.52
Middle	212	32.31
Upper	106	16.15
<i>Education</i>		
Class 10 <sup>th</sup>	113	17.22
Class 11 <sup>th</sup>	355	54.11
Class 12 <sup>th</sup>	188	28.65

**Table 2. Knowledge related to puberty,menstruation & menstrual hygiene**

	Pre-test (n-656)		Post-test (n-656)		'p'
	No.	%	No.	%	
Usual age of first menses(9-16yrs)	625	95.2	656	100	<0.05
Usual interval between 2 Menstrual cycles (1 month)	514	78.3	633	96.4	<0.05
Ovulation is release of matured Egg from the ovary	325	49.5	631	96.1	<0.001
Sanitary napkin/clean cloth should be used during menses,& also changed regularly	642	97.8	656	100	<0.05
breasts enlarge in puberty	608	92.6	656	100	<0.05
hips broaden in puberty	572	87.1	651	99.2	<0.05
pubic hair grow in puberty	593	90.3	654	99.6	<0.05

**Table 3.** knowledge related to pregnancy & antenatal care

Questions	Pre-test(n-656)		post-test(n-656)		'p'
	no	%	no	%	
First sign of pregnancy is (missed period)	487	74.2	654	99.6	<0.05
Fusion of sperm with the ovum is called(fertilization)	495	75.4	642	97.8	<0.001
Regular antenatal check up is essential during pregnancy (agree)	583	88.8	637	97.1	<0.001
Baby develops in uterus(yes)	538	82.0	652	99.3	<0.001
Proper diet,rest & mild exercise is essential during pregnancy (agree)	475	72.4	645	98.3	<0.001
Breast feeding should start soon after birth of the baby (agree)	603	91.9	651	99.2	<0.005

**Table 4.** Knowledge about various contraceptive methods

Questions	pre-test(n-656)		post-test(n-656)		'p'
	no	%	no	%	
Do not know	435	66.3	4	0.6	<0.0001
Oral contraceptives	228	34.7	639	97.4	<0.0001
Condoms	184	28.0	613	93.4	<0.0001
IUCD/copper -T	96	14.6	598	99.1	<0.0001
Tubectomy	102	15.5	587	89.4	<0.0001
Vasectomy	54	8.2	78	11.8	<0.05
Small family norm means Family with 2 children (agree)	644	98.1	656	100	>0.05

**Table 5. Knowledge about STDs**

Questions	pre-test (n-656)		post-test(n-656)		'p'
	No	%	No	%	
Sex with multiple partners Can cause STDs(agree)	32	4.8	610	92.9	<0.0001
Sex with condom is safe sex (agree)	49	7.4	626	95.4	<0.0001
AIDS can be prevented by Condom (agree)	105	16.0	641	97.7	<0.0001
AIDS can be prevented by Single sex partner(agree)	92	14.0	639	97.4	<0.0001
AIDS can be prevented by Safe blood(agree)	140	21.3	634	96.6	<0.0001
AIDS can be prevented by Sterile needles & syringes(agree)	178	27.1	651	99.2	<0.0001

## 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 with relation to knowledge of participants about puberty, menstrual cycle, pregnancy, contraception and also transmission and prevention of STDs. Various studies have shown the effectiveness of intervention in increasing the knowledge of reproductive health [12,13,16,17]. Studies conducted in developed countries have also shown that girls have good knowledge & use contraceptives to prevent unwanted pregnancies[22]. The present study indicates that the adolescent girls in rural areas are still ignorant about many aspects of reproductive health especially regarding contraceptive methods. The findings of this study regarding awareness of girls about contraception concur with findings of some of the other Indian studies [19,20,21]. Similar findings have been noted in other developing countries as well [18,22,23]

A comprehensive adolescent reproductive health program can provide right information at right age. Teachers in schools and colleges often find it difficult to discuss the topics related with reproduction. It is commonly observed that they ask students to read these topics on their own from the text book. They are often unable to break the barrier of hesitation. Parents' position in this regard is more sensitive. They also lack the confidence and skills to address the psychosocial and sexuality related problems of adolescents. Reproductive health education by a health professional has become acceptable for adolescent girls in urban areas, however acceptability in rural areas and among non school-going adolescents need to be as-

certained before universal application of the proposed reproductive health education package [16]. Intervention in the form of health education increases the awareness level among adolescent girls especially in rural areas like Kuppam where majority of them belong to low socio economic status, thus empowering them to take care of their own health as well as protect themselves from possible health problems like unwanted pregnancies, risk of STDs in their future life

## Conclusion

This study suggest that reproductive health education by health professionals can improve the knowledge and perceptions of adolescent girls especially in rural areas. Such educational intervention programs must be given due importance, which will help the adolescent girls to take care of their own health and protect themselves from the risk of STDs etc.

## Acknowledgment

The authors thank all the teachers & students involved in the study for their cooperation

## Limitations of the study:

The study has certain limitations in terms of sample size. There is need for more such studies particularly from rural areas, as the assessment of knowledge and awareness is crucial before initiating educational intervention programs, especially in states like Andhra Pradesh where the

prevalence of HIV cases is quite high, to educate the people from an early age.

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