

# Interventional study to assess knowledge and practice among rural adolescent girls regarding menstruation and their perception of taboos

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■ **ABSTRACT** : Adolescence in girls is a turbulent period, which includes stressful events like menarche, considered as a landmark of female puberty. Menstruation is generally considered as unclean in the Indian society particularly in rural areas. Menstrual practices are still shrouded by taboos and socio-cultural restrictions. Isolation of the menstruating girls and restrictions being imposed on them in the family, have reinforced a negative attitude towards this phenomenon. Adolescent girls remain ignorant of the scientific facts and hygiene practices which sometimes result into adverse health consequences. There is a substantial lacuna in the knowledge towards menstruation among adolescent girls. Thus the present study was undertaken to assess the awareness of rural adolescent girls regarding menstruation and reproductive health aspects through an intervention study. A total of 200 adolescent girls in the age group of 12 to 16 years were selected randomly from four government schools from Badgaon village of Rajasthan. The study adopted a pretest – post test design with an intervention for a period of five days. Post testing was done after the intervention and data was analyzed using using SPSS version 11.0 windows. Results revealed that the knowledge of girls regarding menstruation and reproductive health aspects improved significantly after intervention. Thus the study clearly showed that educational intervention programme can bring about a desirable change in the knowledge among adolescent girls regarding reproductive health.

■ **KEY WORDS**: Adolescents, Attitude, Intervention, Knowledge, Rural area, Taboos

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The World Health Organization (WHO) has defined adolescence as the age group of 10-19 years. Adolescence in India has been defined to be a period between 10-18 years. There are an estimated 200 million adolescents in India who comprise one-fifth of the total Indian population (Jain *et al.*, 2009).

Menstruation is a phenomenon unique to the females. The onset of menstruation is one of the most important changes occurring among the girls during the adolescent years. The first menstruation (menarche) occurs between 11 and 15 years with a mean of 13 years (Dasgupta and Sarkar, 2008). Among all the

developmental milestones associated with the adolescent years, menarche may be the most important. The onset of the first menstrual period is a qualitative event of major significance in a woman's life, denoting the achievement of a major functional state. The bodily changes associated with puberty will have an impact in the girl's physical, psychological and social development (Tiwari *et al.*, 2006). Hence, adolescent girls constitute a vulnerable group, particularly in India where female child is discriminated in the society. Menstruation is still regarded as something unclean or dirty in India and the reaction to menstruation depends upon awareness and knowledge about the subject. The manner in which a girl learns about menstruation and its associated changes may have an impact on her response to the event of menarche. Although menstruation is a natural process, it is linked with several misconceptions and practices, which sometimes result into adverse health outcomes (Dasgupta and Sarkar, 2008). Adolescents' problems constitute a bulk of morbidities which are generally unrecognized and uncared furthering the disease burden. A large variety of morbidities such as nutritional deficiency disorders (stunting, wasting), menstrual disorders, etc. prevail among adolescents. RTIs STIs/HIV/AIDS have already appeared as serious problems which can further complicate existing problems like teenage pregnancies, unsafe abortions (Jain *et al.*, 2009). These complex psycho-social morbidities and high risk behaviour of adolescents have been recognized as a threat to survival, growth and development. It has been reported that as many as 40-45 per cent of the adolescent girls have menstrual problems. These are mainly due to psycho-social stress and emotional changes (Jain *et al.*, 2009). Moreover poor personal hygiene and unsafe sanitary conditions have also primarily resulted in gynecological problems among the adolescent girls (Bhatia and Cleland, 1995). Also there has been high prevalence of reported cases of infections due to lack of hygiene during menstruation (Mehra, 1995 and Margaret, 1997). It was also reported that repeated use of unclean napkins or the improperly dried cloth napkins before its reuse results in harboring of micro-organisms and causing vaginal infections (Paul, 2007). Therefore hygiene-related practices of women during menstruation are of considerable importance, as it has a health impact in terms of increased vulnerability to reproductive tract infections (RTI). There is interplay of socio-economic

status and menstrual hygiene practices which lead to increased risk of RTI. Millions of women suffer from RTI and its complications even leading on to the infection being transmitted to the offspring from the pregnant mother (Dasgupta and Sarkar, 2008). Women having better knowledge regarding menstrual hygiene and safe practices are less vulnerable to RTI and its consequences. Therefore, increased knowledge about menstruation right from childhood may escalate safe practices and may help in mitigating the suffering of millions of would be mothers (Tiwari *et al.*, 2006).

## ■ RESEARCH METHODS

The present study was undertaken with the objective to elicit (1) knowledge regarding menstruation, beliefs and perceptions of taboos among rural adolescent school girls; (2) to find out the status of menstrual hygiene among rural adolescent girls and (3) To assess their knowledge regarding nutrition and health. The sample for the study comprised of 200 rural adolescent girls in the age range 12-16 years selected from four schools *i.e.* G.Sr. Senior secondary school S. Badi, Girls secondary school, GSS Bhuwana school and GGS Senior secondary school of Badgaon village, Udaipur (Rajasthan). Simple random sampling method was used to select the respondents for the study.

### Pre-test :

A need assessment survey was conducted among adolescent girls with the help of self constructed menstrual awareness inventory to identify the areas where adolescents lack knowledge or had incorrect information. The Menstrual awareness inventory was further subdivided into sub aspects such as information about menarche, perception about menstruation, practices of menstrual hygiene, restrictions practiced during menstruation, knowledge regarding nutrition and health. Also general background proforma was developed to seek general details such as respondents name, age, class etc. On the basis of results obtained, appropriate need based intervention package was developed to cover the gap and address those areas where adolescent girls needed relevant information.

### Intervention :

A comprehensive health education programme was organized for rural adolescent girls. The contents of the

package included anatomy and physiology of female reproductive system, physical and psychological changes during puberty, process of menstruation, social and religious taboos associated with menstruation, menstrual hygiene, RTIs, balanced diet and nutrition. The intervention package was delivered for a period of five consecutive days. Training methods included didactic lecture followed by interactive sessions. Audio visual aids such as power point presentation, videos, charts, flashcards, and leaflets were used. Then post testing was done to assess the gain in knowledge and results were obtained.

### Post-test :

The effect of education programme 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 frequency and percentages and paired t test was used to test the effect of intervention.

## ■ RESEARCH FINDINGS AND DISCUSSION

Table 1 shows the findings of the research and a clear presentation of the data in frequencies and percentages. Adolescent girls previously had less knowledge regarding Menstruation and reproductive health and it improved significantly with the intervention programme. The concept of adolescence was known by only 26 per cent girls which improved to 89 per cent following intervention. Knowledge regarding puberty and changes that occur during puberty was also found to be less *i.e.* 20.5 per cent and 33.5 per cent which increased to 93.5 per cent and 94.5 per cent, respectively after the intervention. Although more than half of the rural adolescent girls could answer the female reproductive organs however very less percentage 16.5 per cent were aware regarding female hormones, this percentage increased to 90 per cent after intervention. As far as knowledge of adolescent girls regarding menstruation is concerned only 23.5 per cent of them considered it to be a normal physiological process, whereas rest of them

Sr. No.	Items/Questions	Pre-test		Post-test	
		F	%	F	%
1.	Concept of adolescence	52	26	178	89
2.	What is puberty	41	20.5	187	93.5
3.	Changes that occur in girls at puberty	67	33.5	189	94.5
4.	Female reproductive organs	148	74	194	97
5.	Female reproductive hormones	33	16.5	180	90
6.	What is menstruation	47	23.5	196	98
7.	Source of menstrual blood	109	54.5	198	99
8.	Menarche	67	33.5	186	93
9.	Duration of menstruation	156	78	192	96
10.	Cause of menstruation	60	30	181	90.5
11.	Interval between two menstrual cycle	88	44	187	93.5
12.	Initially menstruation is irregular and quantity of bleeding varies however after few cycles it becomes normal (agree)	18	9	188	94
13.	Ovulation is release of mature egg from ovary	69	34.5	192	96
14.	Fertilization is fusion of sperm and ovary	38	19	196	98
15.	Period of gestation	88	44	198	99
16.	Legal marriageable age for girls	85	42.5	196	96
17.	Legal marriageable age for boys	78	39	198	99
18.	Aware about RTI's and its symptoms	30	15	180	90
19.	Aware about HIV, its transmission	46	23	188	94
20.	Aware regarding consequences of adolescent pregnancy	21	10.5	192	96
21.	Do they know that excessive bleeding during menstruation can lead to anaemia	27	13.5	196	96
22.	Methods of contraception and family planning	29	14.5	184	92
23.	Prenatal diagnostic tests	14	7	176	88

considered as impure blood, however this percentage improved to 98 per cent post intervention. Only 54.5 per cent girls knew the correct source of menstrual blood which increased to 99 per cent after intervention. Knowledge regarding duration, cause of menstruation and interval between two menses before the intervention was 78 per cent, 30 per cent and 44 per cent, respectively which improved to 96 per cent, 90.5 per cent and 93.5 per cent, respectively. Only 9 per cent girls agreed to the fact that initially menstruation is irregular and quantity of bleeding varies however, after few cycles it becomes normal, later this percentage improved to 94 per cent. Only 34.5 per cent and 19 per cent girls had prior knowledge regarding process of ovulation and fertilization and this improved 96 per cent and 98 per cent, respectively. 44 per cent girls were aware regarding period of gestation which improved to 99 per cent. Only 42.5 per cent and 39 per cent girls could correctly answer the legal marriageable age for girls and boys and this increased to 96 per cent and 99 per cent, respectively. Few percentage of girls *i.e.* 15 per cent and 23 per cent were aware regarding reproductive tract infections and HIV which increased to 90 per cent and 94 per cent, respectively. The percentage of girls who were aware

regarding consequences of adolescent pregnancy and excessive bleeding during menstruation can lead to anaemia were very less *i.e.* 10.5 per cent and 13.5 per cent, respectively but after intervention it improved to 96 per cent. Prior to intervention only 14.5 per cent and 7 per cent of girls had knowledge regarding methods of contraception and family planning and prenatal diagnostic tests but this improved to 92 per cent and 88 per cent, respectively following intervention process.

Table 1a clearly reveals that the results obtained after the intervention reveal significant ( $P \leq 0.05$ ) improvement in the knowledge regarding menstruation and reproductive health among rural adolescent girls.

Table 2 depicts the practice of menstrual hygiene among rural adolescent girls. The results reveal that majority of girls *i.e.* 93 per cent used cotton cloth as absorbent during menstruation. Prior to intervention only 60.5 per cent girls revealed cleaning of genitals during menstruation which later increased to 94.5 per cent. High percentage of girls *i.e.* 90 per cent reported bathing during menstrual cycle which further increased to 99 per cent after intervention. 80 per cent girls reported wrapping the used absorbent in paper and throwing in the place identified for solid waste disposal and after intervention

Table 1a : Knowledge and awareness regarding menstruation and reproductive health			(n=200)
	Pre test	Post test	
Mean	7.06	21.76	
SD	7.69	4.11	
S.E. $\pm$	0.54	0.29	
t value	27.198		

Table 2 : Practice of menstrual hygiene among adolescent girls				(n=200)	
Sr. No.	Items/Questions	Pre test		Post test	
		F	%	F	%
1.	Absorbent they use	186	93	180	90
2.	Cleaning of genitals	121	60.5	189	94.5
3.	Bathing during menstruation	180	90	198	99
4.	Disposal of waste cloth/sanitary pad	160	80	171	85.5
5.	Aware whether poor hygiene during menstruation can cause infection	128	64	188	94
6.	One should use clean sanitary napkin/cloth and change them regularly to maintain genital hygiene (agree)	94	47	190	95

Table 2a : Practice of menstrual hygiene among adolescent girls			(n=200)
	Pre test	Post test	
Mean	4.35	5.58	
SD	1.97	1.23	
S.E. $\pm$	0.14	0.09	
t value	12.28		

this practice was followed by 85.5 per cent girls. The awareness of girls, that poor menstrual hygiene could cause infection increased from 64 per cent to 94 per cent. Also following the intervention process 95 per cent girls agreed that one should use clean sanitary napkin/ cloth and change them regularly to maintain genital hygiene.

Data presented in Table 2a depicts significant ( $P \leq 0.05$ ) improvement in the scores of adolescent girls regarding practice of menstrual hygiene after the intervention programme.

Data presented in Table 3 highlights the frequency and percentage distribution of adolescent girls regarding

restrictions practiced during menstruation. The results reveal that social and religious taboos regarding menstruation were widely prevalent and deeply ingrained in belief system of adolescent girls. Majority of the rural adolescent girls held the opinion that during menstruation they should avoid visiting kitchen, touching stored food, and should eat in separate utensils, stay at home, not involve in outdoor activities etc. Also 97 per cent girls avoided discussing their problems with anyone due to feeling of shame. However with the help of appropriate audio visual aids used in the intervention process these beliefs or taboos were significantly ( $P \leq 0.05$ ) reduced (Table 3a).

Table 3 : Restrictions practiced during menstruation		(n=200)			
Sr. No.	Items/Questions	Pre test		Post test	
		F	%	F	%
1.	Avoid visiting kitchen/religious places	193	96.5	60	30
2.	Not touching stored food/Pickle	191	95.5	71	35.5
3.	Isolation/eating in separate utensils	187	93.5	22	11
4.	Staying at home	180	90	28	14
5.	Not involving in outdoor activities	182	91	34	17
6.	Avoid discussing problems with anyone	194	97	70	35

Table 3a : Restrictions practiced during menstruation		(n=200)	
	Pre test	Post test	
Mean	5.64	1.43	
SD	1.24	2.13	
S.E.±	0.09	0.15	
t value		26.51	

Table 4 : Knowledge regarding nutrition and health		(n=200)			
Sr. No.	Items/Questions	Pre test		Post test	
		F	%	F	%
1.	Nutrition during adolescence	41	20.5	174	87
2.	Importance of nutrition during adolescence	54	27	176	88
3.	Consequences/Risks	60	30	169	84.5
4.	Problems associated with inadequate intake	56	28	185	92.5
5.	Diet during pregnancy	83	41.5	189	94.5
6.	Food sources rich in iron	68	34	188	94
7.	Consumption of tea/coffee decreases Fe absorption	21	10.5	184	92
8.	Consumption of Vit C increases Fe absorption	13	6.5	190	95
9.	Extra salt is injurious	108	54	198	99
10.	Iodised salt consumption	160	80	198	99
11.	Vit A deficiency	43	21.5	180	90
12.	Food sources of Vit A	30	15	170	85
13.	Iodine deficiency	55	27.5	186	93
14.	Anaemia and its symptoms	28	14	178	89
15.	Balanced diet and exercise	71	35.5	183	91.5

Table 4 a : Knowledge regarding nutrition and health		(N=200)
	Pre test	Post test
Mean	4.46	13.74
SD	5.10	3.45
S.E.±	0.36	0.24
t value	25.432	

Table 4 shows the knowledge of the rural adolescent girls regarding various aspects of nutrition and health. Prior to intervention girls had little knowledge however significant ( $P \leq 0.05$ ) improvement in knowledge was observed after the intervention programme. Prior to intervention very few adolescents had knowledge regarding nutrition and its importance in adolescence and risks associated with inadequate intake this improved significantly following the intervention. Only 41.5 per cent girls knew about what diet should be consumed during pregnancy which further increased to 94.5 per cent. Only 34 per cent adolescents knew regarding food sources rich in iron this later increased to 94 per cent. The nutritional facts such as consumption of tea/coffee decreases iron absorption and vit. C increases it were lesser known by respondents but this improved later 92 per cent and 95 per cent, respectively. Information related to other aspects such as iodised salt consumption, vit. A deficiency and food sources rich in vit. A, iodine deficiency also improved. Only 14 per cent of girls were aware regarding anaemia and its symptoms, however this percentage later increased to 89 per cent. Very few adolescent girls had prior knowledge regarding balanced diet and exercise and its importance for health *i.e.* 35.5 per cent this increased to 91.5 per cent following intervention.

The present study revealed that adolescent's girls lacked appropriate knowledge about menstruation and menstrual hygiene in the pre-programme phase. Also it was observed that there was wide prevalence of social taboos and myth regarding menstruation among rural adolescent girls. The study is in line with study conducted in Mansoura, Egypt, among 664 adolescent school girls of 14 to 18 years of age, the results of which revealed that different aspects of personal hygiene were generally found to be unsatisfactory, such as not bathing during menstruation with lack of privacy being an important problem (El-Gilany and Badawi, 2005). Also study conducted in Amritsar City among 10<sup>th</sup> class adolescent girl students of senior secondary schools, revealed that

different types of restrictions were practiced by most of the adolescent girls possibly due to ignorance and false perceptions regarding menstrual process (Kaur *et al.*, 2012).

### Conclusion :

The study highlighted the need of adolescent girls to have accurate and adequate information about menstruation and its appropriate management. Girls should be well versed before the age of menarche about the physiology of menstruation, the process involved and its importance etc. Education regarding reproductive health and hygiene should be included as a part of school curriculum. Menstrual hygiene and social taboos followed during menstruation are issues needed to be addressed at all levels. Formal as well as informal channels of communication such as mothers, sisters and friends, need to be emphasized for the delivery of such information especially in rural areas. Mothers are primarily responsible for the communication of such type of information. This will help girls to take it positively. As the results of the study suggest that intervention programme improved adolescent girl's knowledge regarding reproductive health and menstrual hygiene. Thus such educational programmes must be given due importance to safeguard the health of adolescent girls.

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### ■ REFERENCES

- Bhatia, J. and Cleland, J. (1995).** Self-reported symptoms of gynecological morbidity and their treatment in south India. *Studies Family Planning*, **4** : 203-216.
- Dasgupta, A. and Sarkar, M. (2008).** Menstrual hygiene: How hygienic is the adolescent girl? *Indian J. Community Med.*, **33**: 77-80.

**EI-Gilany, A.H. and Badawi, K. (2005).** Menstrual hygiene among adolescent school girls in Mansoura, Egypt. *Reprod Health Matters*, **13** : 147-52.

**Jain, K., Garg, S.K., Singh, J.V., Bhatnagar, M., Chopra, H. and Bajpai, S.K. (2009).** Reproductive health of adolescent girls in an urban population of Meerut, Uttar Pradesh. *Health & Population: Perspectives & Issues*, **32** : 204-209.

**Kaur, K., Arora, B., Singh, G.K. and Neki, N.S. (2012).** Social beliefs and practices associated with menstrual hygiene among adolescent girls of Amritsar, Punjab, India. *J. Internat. Med. Sci. Academy*, **25** : 2-7.

**Margaret, E.G. (1997).** *Watering the neighbours garden*. New

Delhi. Population Council. Working Paper. No. 7.

**Mehra, E.S.(1995).** *Adolescent girl: An Indian perspective*. New Delhi. Mamta Health Institute for Mother and Child.

**Paul, D. (2007).** A report of an ICMR funded research project: knowledge and practices of adolescent girls regarding reproductive health with special emphasis on hygiene during menstruation. New Delhi. National Institute of Public Cooperation and Child Development (NIPCCD).

**Tiwari, H., Tiwari, R. and Oza, U.N. (2006).** Knowledge, attitudes and beliefs about menarche of adolescent girls in Anand district, Gujarat. *Eastern Mediterranean Health J.*, **12** : 3-4.

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