Knowledge and practice of adolescent girls about menstruation: A Cross-sectional study

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Abstract— *Adolescence constitutes about 20 % of world's population. Reproductive and sexual health problems are quite common in adolescent girls in India. Bad menstruation hygiene may lead to reproductive health problems. Unsafe menstrual practices expose them to risk thrice as much of contracting RTI, therefore it is important how adolescent girls maintain hygiene during menstruation. This study was conducted to assess knowledge and practices regarding menstruation in adolescent girls. Total 376 eligible adolescent girls were studied, out of that 337 (89.62%) knew about menstruation and out of them 45.10% considered that menstruation starts at puberty, followed by physiological process (34.42%) & sign of reproductive maturity (12.46%) while 39.76% respondents thought it to be due to out flow of dirty blood. Out of 337 who knew about menstrual-cycle, only13.64% knew the fact that conception is not possible during menstrual-cycle. 59.94% respondents had prior knowledge of menarche and majority (51.54%) had this knowledge from their mothers. Out of 325 girls, who were having menstrual period, although 214 (65.84%) were using sanitary napkins but remaining 34.16% were using cloths. When association of this practice with education was evaluated it was found that above primary educated were significantly more (P< 0.001) in using sanitary napkins than girls of up to primary educated (69.47% v/s 40%). When change of material used during menstruation was asked, twice and more was answered in 194 (59.06 %), which was mot found to be associated with education (p=0.65). It was concluded that majority knew about menstruation but practice was not hygienic as they were using cloths and majority of them were less educated. So main emphasis should be given to female education.*

Keywords: Adolescent Girls, Menstruation, Knowledge and Practices.

I. INTRODUCTION

Adolescence' is Latin in origin, derived from 'Adolescere' which means to grow into Adulthood. Internationally, UN agencies like WHO/UNICEF/ UNFPA as well as RCH in India defines them between age group 10-19 years.[1]

Biologically it starts with the onset of puberty and ends when the ability to Reproduce effectively begins.[7] Also described as 'period of transition' in which although, no longer considered a child, the young person is not yet considered an adult.[2] Thus it is a transitional period between childhood and adulthood beginning from the initial appearance of secondary sexual characteristics to complete sexual maturity. It is a turbulent time, when rapid physical changes occur with addition of 5 kg body weight and 10 cm. heights per year, so they require good nutrition with higher content of Protein, Vitamin, Mineral and Calcium.[3]

Adolescence constitutes about 20 % of world's population. Every one person in five, 1.3 Billion in all

is an adolescent.[4]

In India adolescents account for 243 million (20 % of the population)[5] and there are 15.23 million adolescents in Rajasthan, which constitutes about 22 % of the total population of the state.[6]

Sex ratio in Rajasthan and India is 926 and 940 females respectively per 1000 males.[6] 10-14 years and 15-19years old constitute 12 % and 10% of the total population respectively.[7]

Reproductive and sexual health problems are quite common in adolescent girls in India e.g. Menstrual-disorders, pre-marital sex, Teenage Pregnancy, unprotected sex and unwanted/ unplanned pregnancy and STD etc.[8]

Various factors like age, genetic and biological factors, socio-economic class, culture and relationship with family and peers affect psychological growth and awareness of adolescents.

It is culturally supported belief that adolescent girls are unclean during menstruation. Moreover unsafe menstrual practices expose them to risk thrice as much of contracting RTI, therefore it is important how adolescent girls maintain hygiene during menstruation

The lack of knowledge puts the adolescent girl at risk of unplanned pregnancy /Teenage-adolescent pregnancy which are high risk and leads to increase in morbidity like Anemia, Retarded fetal growth, premature birth and complications during labor which may even lead to death. Pregnant adolescent below the age of 18 years is at 2.5 times higher risk and more likely to die than a pregnant woman between 18-25 years.[8] Bad menstruation hygiene may lead to reproductive health problems.[9]

So this study was conducted to assess knowledge, attitude and practices regarding menstruation in adolescent girls of field practice area of Urban Health Training Centre (UHTC) attached to SMS Medical College, Jaipur (Rajasthan) India.

II. METHODOLOGY

This community based observational type of observational study was conducted in field practice area of Urban Health Training Centre (UHTC) attached to Community Medicine department of SMS Medical College, Jaipur (Rajasthan). This study was conducted to assess knowledge, attitude and practices regarding menstruation in adolescent girls.

All the married/ unmarried adolescent girls aged between 13 years to 19 years residing in Sushilpura, Sodala, Jaipur, were included in this study. Nonresponsive and girls who had not given written inform consent for the study was excluded. Finally 376 eligible adolescent girls were studied.

House to house survey of the eligible subjects was done by the researcher herself using a pre-designed and pretested schedule. In the survey detailed in-depth interview of the subjects was conducted regarding their knowledge attitude and practices related to menstruation were done of each subject and responses were recorded.

The data generated was analyzed using Microsoft MS Excell 2007 and statistical software Primer version6. Quantitative data were expressed in mean ± SD and qualitative data were expressed in percentage & proportion. Significance of difference in means data was found with unpaired 't' test and significance of difference in proportions was found with Chi-square test. For significance 'p'value <0.05 was considered significant.

III. RESULT

Mean age of studied adolescent girls was 15.5 years with **standard deviation** of 1.90 years. Majority (45.74%) was from 15 to 17 years age group, followed by 13 to 14 years (36.43%) and only 17.81 % were from age group 18 to 19 years. (Figure 1)

Regarding age at menarche, most (88.30%) of the girls belonged to range of 12-14 yrs., followed by range of 15-17 yrs.(7.38%) and 9-11 yrs.(4.30%). Mean age of menarche in adolescent girls of study group was 13.7 years with standard deviation of 1.07years. (Figure 2)

Figure 1
Age wise distribution of adolescent girls

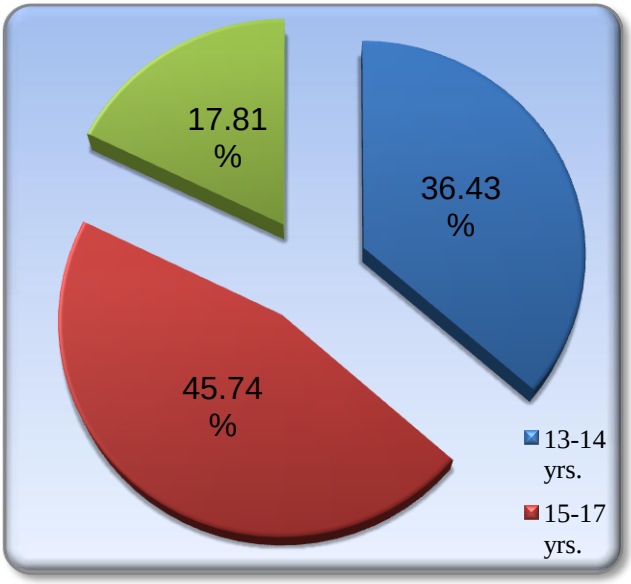
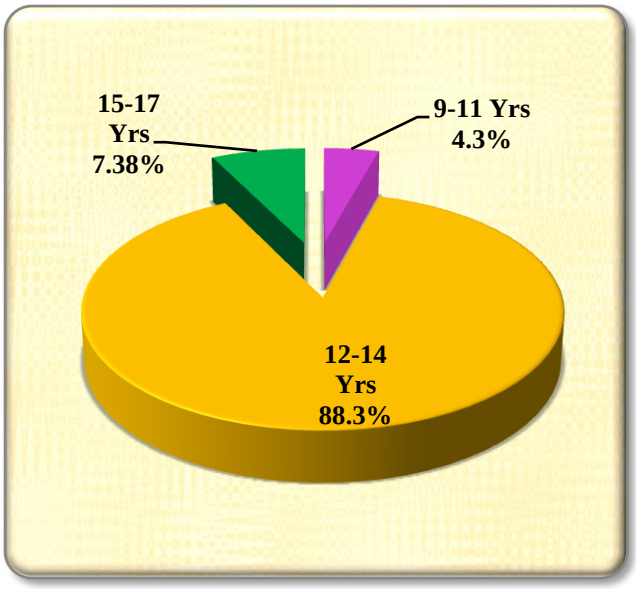


Figure 2
Age at menarche wise distribution of adolescent girls



Out of total 376 respondents**,** majority (89.62%) knew about menstruation and out of them 45.10% considered that menstruation starts at puberty, followed by physiological process (34.42%) & sign of reproductive maturity (12.46%) while 39.76% respondents thought it to be due to out flow of dirty blood. (Figure 1 & Table 1)

Figure 3
Knowledge about Menstruation

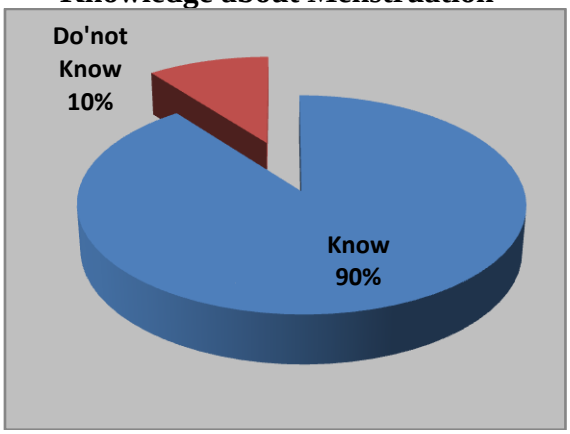


Figure 4
Possibility of conception during Menstruation

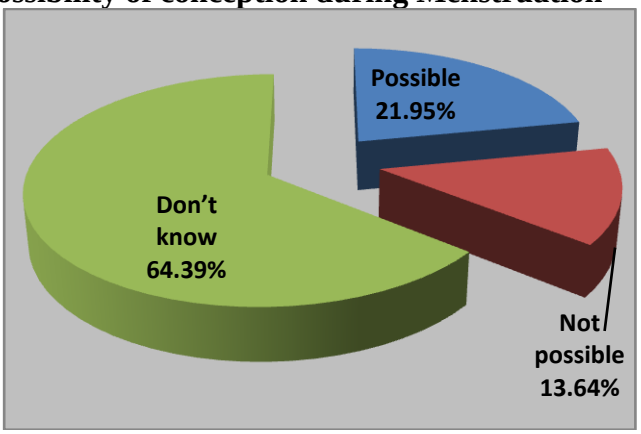


Table 1
Distribution of Adolescent Girls according to their Knowledge about Cause of Menstrual Cycle*(N=337)

S. No.	Knowledge	Number	Percentage (%)
1	Dirty blood comes out	134	39.76
2	Starts at puberty	152	45.1
3	Sign of reproductive maturity	42	12.46
4	Physiological process	116	34.42
5	Responses obtained per respondent	1.31	

Multiple response table

Among those adolescent girls who had knowledge of menstrual cycle (N=337), Only13.64% of the respondents knew the fact that conception is not possible during menstrual-cycle. (Figure 4)

Out of 337 respondents who knew about menstrual cycle 59.94% respondents had prior knowledge of menarche. And out of them (202), most (51.48) of the adolescent girls got the information about menarche from their mothers, followed by sisters (23.26), friends (15.34) and teachers (7.42). Only few of them got this information from cousin sister (6.93), others (4.45), books/newspaper (3.96), TV/Radio/Internet (1.48) and grandmother (1.48). (Table 2)

Table 2
Distribution of Adolescent Girls according to their Source of Prior Information about Menarche*(N=202)

S. No.	Source	Number	Percentage (%)
1	Mother	104	51.48
2	Sister	47	23.26
3	Cousin	14	6.93
4	Grand Mother	3	1.48
5	Teacher	15	7.42
6	Friend	31	15.34
7	TV/Radio/Internet	3	3.96
8	Books/Newspaper	8	4.45
9	Others	9	
10	Responses obtained per respondent	1.15	

Multiple response table.

Out of total 376 adolescent girls, 325 were having menstrual period. Out of them although 214 (65.84%) were using sanitary napkins but remaining 34.16% were using cloths. When association of this practice with education was evaluated it was found that above primary educated were significantly more (P< 0.001) in using sanitary napkins than girls of up to primary educated (69.47% v/s 40%) (Table 3)

Table 3
Distribution of Adolescent Girls according to Material used by them during Menstruation & their Literacy Status

S. No.	Material used during Menstruation	Literacy		Total No. (%)
		Up to primary	Above primary	
1	Any cloth	5 (12.5)	1 (0.35)	6 (1.84)
2	Only clean cloth	19 (47.5)	86 (30.17)	**105 (32.30)**
3	Sanitary Pad	16 (40)	198 (69.47)	**214 (65.84)**
4	Total	40 (100)	285 (100)	325 (100)

Chi-square = 35.931 with 2 degrees of freedom; P < 0.001

When change of material used during Menstruation was asked, twice and more was answered in 194 (59.06 %), which was mot found to be associated with education (P=0.065). (Table 4)

Table 4
Distribution of Adolescent Girls according to Frequency of Changing Material used during Menstruation & their literacy.

S. No.	Frequency	Literacy		Total (%)
		Up to primary (%)	Above primary (%)	
1	**Once daily**	7 (18.91)	51 (17.70)	58 (17.84)
2	**Twice daily**	21 (56.75)	115 (39.93)	**136 (41.84)**
3	**>Twice daily**	7 (18.91)	50 (17.36)	**57 (17.53)**
4	**Whenever required**	2 (5.40)	72 (25)	**74 (22.76)**
5	**Total**	**37 (100)**	**288 (100)**	325 (100)

Chi-square = 7.819 with 3 degrees of freedom; P = 0.065

IV. DISCUSSION

The overall response rate of adolescent girls in the study group was found out to be 92 %. In the present study mean age of girls was 15.5 years with standard deviation of 1.90 years which was well comparable to mean age 14.56 years reported by Balasubramaniam.[10] and mean age 13.7 years in Singh et al.[11]

In Sarita agarwal et al[12] study of knowledge & attitude of adolescent girls towards reproductive health and related problems of chatisgarh, 2007, it was found that 76% girls were aware of physical signs of adolescence while 18% thought menarche to be the only sign of onset of adolescence.[12] Whereas in the present study majority (89.62%) of the adolescent girls knew about menstrual cycle. Out of those who knew about menstrual cycle, 34.42% knew that menstrual cycle is a physiological process in females, 45.10% knew that it starts at puberty. As many as 39.76% girls knew that dirty blood comes out in menstrual cycle. Only 12.46% considered it as a sign of reproductive maturity. This finding suggests that awareness regarding menstruation is improving. Menstruation is a normal physiological phenomenon was known to 79.4% girls in study conducted by Kundan mittal et al.[13]

In this study, mean age of menarche in adolescent girls was 13.7 years with standard deviation of 1.07 years. Similarly, the mean age of menarche in the Kundan mittal et al,[13] reported 13.1years and 13.6 years in the study group in Nair et al[14] study on awareness & practices of menstruation & pubertal changes amongst unmarried female adolescents,East-Delhi,2007.[15]

In present study most (59.94%) of the adolescent girls had prior information about menarche. Most (51.48%) of the adolescent girls got the information about menarche from their mothers, followed by sisters (23.26), friends (15.34) and teachers (7.42). Only few of them got this information from cousin sister (6.93), others (4.45), books/newspaper (3.96), TV/Radio/Internet (1.48) and grandmother (1.48). Similarly, mothers were the most important (47.4%) source of knowledge regarding menstruation among the study subjects followed by friends/peers (23.8%), teachers (4.9%), and mass media (4.8%) in study done by Kundan mittal et al.[13] Nearly half (45.7%) of the girls who had attained menarche and 29% of pre-pubertal subjects said that they had prior knowledge about menstruation. Mothers were the most common source(41%) of information about menstruation, followed by elder sisters (22.4%), friends (21%), relatives (6.7%), television (4.4%), books (3.3%), and doctors (1.1%) in study conducted by Nair et al.[14] The study done by Goyal et al[17] on reproductive health of adolescents in Rajasthan, IIHMR, Jaipur,2005, found that 65.8% girls had information about the onset of menses and a UNICEF study found that 38% girls were unaware of menstruation at the time of their first period.[15]

Most of girls (65.84%) used sanitary pad, 32.30% only clean cloth and very few (1.84%) used any cloth during menstruation in this study. Similarly, the majority (74.8%) of the girls used homemade sanitary pads, nearly 24% used ready-made sanitary pads, and 1.5% used cotton wool in study conducted by Nair et al.[14]

In the present study the personal hygiene habits during menstruation were good among adolescent girls and in most (41.84%) of the girls, the material used during menstruation was changed twice daily while 22.76% changed whenever required, 17.84% changed once daily and 17.53% changed thrice daily. Sarita agarwal et al[12] study of knowledge & attitude of adolescent girls towards reproductive health and related problems of chatisgarh,2007, 68% of English medium and 54% of Hindi medium took proper care of menstrual hygiene.[12] The above finding is indicative of improved awareness regarding hygienic practices during menstrual cycle.

V. CONCLUSION

This present study concludes that majority knew about menstruation but practice was not hygienic as they were using cloths and majority of them were less educated. So main emphasis should be given to female education.

CONFLICT OF INTEREST

None declared till now.

REFERENCES

[1]. WHO/UNFPA/UNICEF. The reproductive health of adolescents. Geneva: World health organization,1989.

[2]. Mc Cauley, A.P., Salter, C., 1995.Meeting the needs of young adults, Population reports,1995,series J, No. 41.p.6, Baltimore- John's Hopkins school of public health, Population Information Programme.

[3]. Patil SN, Wasnik V, Wadker. Health problems amongst Adolescent girls in rural areas of Ratnagiri District of, Maharashtra, India. Journal of Clinical and Diagnostic Research -JCDR, Vol:3,issue:5 pg:1784-1790, 2009.

[4]. UNFPA State of world population2004. The cairo census at ten: population, reproductive health & global effort to end poverty

[5]. UNICEF- state of worlds children 2011

[6]. Census 2011

[7]. WHO country co-operation strategy (2006-2011)

[8]. Creatsas, G., Elsheik, A., 2002.Adolescent pregnancy and its consequences. European Journal of Contraception and Reproductive Health Care 7,167-172

[9]. Kumar.R, Raizada A, Aggarwal AK, Kaur M. Adolescent behavior regarding reproductive health, Indian journal of pediatrics 2000;67:877-882

[10]. Balasubramanian, P..Health needs of poor unmarried adolescent girls : a community based studyin rural Tamil Nadu. Indian Journal of Population Education, March-June,2005: 18-33

[11]. Singh J, JV Srivastav AK, Suryakant. Health status of adolescent girls in slums of Lucknow. Indian Journal of Community Medicine, April-June 2006,31(2) :102-103

[12]. Sarita agarwal, Alfia Fatma, C.M. Singh :A study of knowledge and attitude of adolescent girls towards reproductive health and related problems.Indian journal of PSM, Vol.38 No. 1&2,2007

[13]. Kundan Mittal and Manish Kumar Goel' Knowledge Regarding Reproductive Health among Urban Adolescent Girls of Haryana Indian J Community Med. 2010 Oct-Dec; 35(4): 529–530

[14]. Nair P, Grover VL, Kannan AT. Awareness and practices of menstruation and pubertal changes amongst unmarried female adolescents in a rural area of East Delhi. Indian J Community Med 2007;32:156-7

[15]. Goyal, R.S. and Khanna, Anoop. (2005).Reproductive health of adolescents in Rajasthan : a situational analysis.Indian Institute of Health Management Research, Jaipur. Jaipur : IIHMR.35