
MENSTRUAL HYGIENE: KNOWLEDGE AND PRACTICES AMONG ADOLESCENTS IN RURAL AREAS

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Abstract

Adolescent girls constitute a vulnerable group, particularly in India where female child is neglected one. Menarche is the starting point of the reproductive process among women and thereby, the onset of menarche is considered an important event in the life of an adolescent girl. Menstruation is still regarded as something unclean or dirty in Indian society. 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. 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). The interplay of socio-economic status, menstrual hygiene practices and RTI are noticeable. Today millions of women are sufferers of RTI and its complications and often the infection is transmitted to the offspring of the pregnant mother. 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 women.

Key Words: *Adolescents, Knowledge, Practices & Reproductive health*

INTRODUCTION

Adolescence – a period of transition between childhood and adulthood is a significant period of human growth and maturation. The health of adolescents has attracted global attention in recent years and the case is no different in India. The adolescent girls in India are facing innumerable troubles due to lack of right kind of information regarding their own physical and sexual developments. (Jagathambal and Nalini Devi, 2002). Adolescence in girls is a turbulent period, which includes stressful events like menarche, considered as a landmark of female puberty. One might expect that menarche will be positively received by young women; however negative responses such as shame, fear, anxiety and depression are more common. 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. (Deo and Ghattargi, 2005). Myth, mystery and superstition have long enveloped the facts about menstruation. In India even mere mention of the topic has been a taboo in the past and even to this date the cultural and social influences appear to be hurdles for advancement of the knowledge of the

subject(Audinarayana et al., 2005).. There is a substantial lacuna in the knowledge about menstruation among adolescent girls. Several research studies have revealed this gap and they showed that there was a low level of awareness about menstruation among the girls when they first experienced it.

Many studies have revealed that most of the adolescent girls had incomplete and inaccurate information about the menstrual physiology and hygiene. It also revealed that mothers, television, friends, teachers and relatives were the main sources which provided information on menstruation to the adolescent girls.(Goyal RC,2010)

2. Objectives

1. To assess the adolescent knowledge on puberty, menstruation and menstrual hygiene.
2. To suggest appropriate strategies to meet the reproductive health needs of adolescents in rural areas.

3. Methodology

The study was carried out on a sample of 400 adolescents aged 15-19 years selected from two districts of TamilNadu . The sample for the study was selected based on the multistage random sampling procedure. After the selection of districts, one Primary Health Centre (PHC) was selected from each of the selected districts. In the next stage, two sub-centres were selected at random from the selected PHC. In the next stage, two villages were selected at random from each sub-centre. A sample of 50 adolescents was selected from each village using systematic random sampling procedure.

4. Puberty and Menstruation

4.1 Knowledge about menstruation

The percent distribution of adolescent mothers by their knowledge about menstruation is presented in Table 4.1. Nearly one fourth (23.7 per cent) adolescent mothers reported that menstruation was waste blood coming out, 17.5 per cent reported that it was pubertal changes, 12.8 per cent reported that it was a growth indicator and 46 per cent didn't know anything about menstruation.

Table 4.1 Percent distribution of adolescent mothers by their knowledge about menstruation

Knowledge about menstruation	Number N=400	Percent
Waste blood coming out	95	23.7
Pubertal changes	70	17.5
Growth indicator	51	12.8
Don't know	184	46.0

4.2 Knowledge on normal duration of menstrual cycle by selected

background characteristics

The percent distribution of adolescent mothers by their knowledge on the normal duration of menstrual cycle is presented in table 4.2. About four fifths (79.7 per cent) of adolescent mothers reported that it was between 26 to 30 days and the rest reported either below 25 days (10.8 per cent) or more than 30 days (9.5 per cent). The knowledge on the duration of menstrual cycle was more among adolescent mothers who were literate and primary (91.7 per cent) compared to others. The knowledge on the duration of menstrual cycle did not vary much among adolescent mothers of different religion and caste groups. Standard of living also did not show any consistent trend on the knowledge of adolescent mothers on the duration of menstruation cycle.

The proportion of adolescent mothers having correct knowledge about normal duration of menstrual cycle increased with monthly family income. It has increased from 74.1 per cent for mothers who had a monthly income of Rs.≤1000 to 80.1 per cent for monthly income of Rs.1001 – 2000 and to 83.8 per cent for Rs.2001 and above. Adolescent mothers' knowledge about normal duration of menstrual cycle did not vary much due to type of family.

Table 4.2 Percent distribution of adolescent mothers by their knowledge about normal duration of menstrual cycle and selected background characteristics

Background characteristics		Normal duration of menstrual cycle			χ^2	DF	P-value
		21 – 25 days	26 – 30 days	More than 30 days			
All	400	10.8	79.7	9.5			
Education of respondent							
Illiterate	63	15.9	81.0	3.2	13.910	6	0.031**
Literate and primary	72	4.2	91.7	4.2			
Middle	123	12.2	76.4	11.4			
High school and above	142	10.6	76.1	13.4			
Religion							
Hindu	344	11.3	79.9	8.7	2.369	2	0.306
Non-Hindu	56	7.1	78.6	14.3			
Community							
SC / ST	154	13.6	79.9	6.5	5.143	4	0.273
MBC	86	8.1	82.6	9.3			

BC & others	160	9.4	78.1	12.5			
Standard of living							
Low	306	9.8	81.0	9.2			
Medium	59	10.2	72.9	16.9	@	@	@
High	35	20.0	80.0	--			
Monthly family income (in Rs.)							
≤ 1000	85	15.3	74.1	10.6			
1001 – 2000	216	10.6	80.1	9.3	3.567	4	0.468
2001 and above	99	7.1	83.8	9.1			
Type of family							
Nuclear	225	11.6	79.6	8.9	0.515	2	0.723
Joint	175	9.7	80.0	10.3			
Exposure to mass media							
Listening to radio							
Yes	183	13.7	80.3	6.0	6.996	2	0.030**
No	217	8.3	79.3	12.4			
Watching television							
Yes	242	10.3	80.6	9.1	0.261	2	0.879
No	158	11.4	78.5	10.1			
Going to movie							
Yes	51	15.7	68.6	15.7	4.586	2	0.101
No	349	10.0	81.4	8.6			
Reading newspapers/ magazines							
Yes	59	8.5	13.6	13.6	1.561	2	0.458
No	341	11.1	80.1	8.8			
Level of exposure							
No exposure	96	11.5	79.2	9.4			
Low	140	8.6	80.7	10.7	3.195	6	0.784
Medium	112	10.7	82.1	7.5			
High	52	15.4	73.1	11.5			
Level of autonomy							

Low	130	9.2	76.9	13.8			
Medium	134	15.7	74.6	9.7	11.657	4	0.020**
High	136	7.4	87.5	5.1			

*P<0.01, **P<0.05, ***P<0.10

@ χ^2 not calculated as some of the cell frequencies are less than 5.

Exposure to mass media such as listening to radio, watching television did not make much difference in the knowledge of adolescent mothers on the normal duration of menstrual cycle. Going to movies and reading newspapers / magazines seemed to have negative effect on the knowledge of adolescent mothers on normal duration of menstrual cycle. Overall, the results showed that exposure to mass media is not having much influence on the knowledge of mother on normal menstrual cycle.

The level of autonomy seemed to have significant association with the knowledge of adolescent mothers on normal duration of menstrual cycle. The correct knowledge on the duration of menstrual cycle was highest at 87.5 per cent among those who had high level of autonomy compared to others.

Overall, it is observed that education of respondents, exposure to radio and level of autonomy were having significant influence on the adolescent mothers' knowledge on the duration of menstrual cycle.

4.3 Knowledge on number of days of bleeding during menstruation by selected background characteristics

The percent distribution of adolescent mothers by their knowledge on number of days of bleeding during menstruation by selected background characteristics are presented in table 4.3. The normal duration of bleeding during a menstruation is about 4-5 days. But it may vary from person to person. More than half (52.7 per cent) of adolescent mothers reported that it was between 4-5 days; 33 per cent reported that it was between 1 to 3 days and 14.3 per cent reported that it might be continued for more than 6 days. The results showed that, most of the adolescent mothers were having correct knowledge on the normal duration of bleeding during menstrual cycle. The correct knowledge on the duration of bleeding was more among literates and primary (58.3 per cent) than others.

Knowledge of adolescent mothers on the normal duration of menstrual bleeding was more among Hindus than Non-Hindus. There was not much difference in the knowledge of adolescent mothers on the menstrual bleeding among adolescent mothers of various caste groups.

Proportion of adolescent mothers with correct knowledge in the duration of bleeding increased with increase in standard of living. It has increased from 51.3 per cent for low standard of living to 54.2 per cent for medium standard of living and to 62.9 per cent for high standard of living. Higher proportion (59.6 per cent) of adolescent mothers in high income family (Rs.2001 and above) had correct knowledge about the duration of menstrual bleeding than others.

Higher proportion (57.1 per cent) of adolescent mothers in joint family system had correct knowledge on the duration of menstrual bleeding than those in nuclear family system (49.3 per cent). Exposure to mass media and the level of autonomy of adolescent mothers did not make much difference in the knowledge of adolescent mothers on the duration of menstrual bleeding.

Overall, it is observed that adolescent mothers who were literates, Hindus, having high standard of living and high family income and those living in joint family system had better knowledge on the duration of bleeding during menstruation than others.

Table 4.3 Percent distribution of adolescent mothers by their knowledge about duration of bleeding during menstruation and selected background characteristics

Background characteristics	N	Number of days bleeding			χ^2	DF	P-value
		1 - 3 days	4 - 5 days	6 - 7 days			
All	400	33.0	52.7	14.3			
Education of respondent							
Illiterate	63	36.5	41.3	22.2	8.378	6	0.212
Literate and primary	72	25.0	58.3	16.7			
Middle	123	35.0	52.8	11.4			
High school and above	142	33.1	54.9	12.0			
Religion							
Hindu	344	32.8	54.1	13.1	3.183	2	0.204
Non-Hindu	56	33.9	44.6	21.4			
Community							
SC / ST	154	35.7	51.9	12.3	1.489	4	0.829
MBC	86	31.4	54.7	14.0			
BC & others	160	31.3	52.5	16.3			
Standard of living							
Low	306	35.3	51.3	13.4	5.099	4	0.277
Medium	59	30.5	54.2	15.3			
High	35	17.1	62.9	20.0			
Monthly family income (in Rs.)							
≤ 1000	85	30.6	52.9	16.5	3.634	4	0.458
1001 – 2000	216	35.2	49.5	15.3			
2001 and above	99	30.3	59.6	10.1			

Type of family							
Nuclear	225	33.8	49.3	16.9	3.746	2	0.154
Joint	175	32.0	57.1	10.9			
Exposure to mass media							
Listening to radio							
Yes	183	30.1	53.6	16.4	2.015	2	0.365
No	217	35.5	52.1	12.4			
Watching television							
Yes	242	31.4	55.0	13.6	1.201	2	0.549
No	158	35.4	49.4	15.2			
Going to movie							
Yes	51	39.2	49.0	11.8	1.092	2	0.579
No	349	32.1	53.3	14.6			
Reading newspapers/ magazines							
Yes	59	32.2	59.3	8.5	2.200	2	0.333
No	341	33.1	51.6	15.2			
Level of exposure							
No exposure	96	34.4	50.9	15.6			
Low	140	35.7	50.7	13.6	1.899	6	0.929
Medium	112	28.6	57.1	14.3			
High	52	32.7	53.8	13.5			
Level of autonomy							
Low	130	29.2	53.1	17.7			
Medium	134	34.3	53.0	12.7	2.463	4	0.651
High	136	35.3	52.2	12.5			

4.4 Type of absorbent used by selected background characteristics

Type of absorbent used during menstruation is an important indicator of the menstrual hygiene followed by the adolescent mothers. Hence, in order to assess the menstrual hygiene practices of adolescent mothers, information was collected on the type of absorbent used during menstruation. The results of the analysis of data presented in table 4.4 revealed that more than three fourths of adolescent mothers (78 per cent) were using old cloth and undergarments during menstruation; 13 per cent were using both old cloth and sanitary napkins and only 9 per cent of adolescent mothers were using sanitary napkins.

The use of sanitary napkins has increased with the increase in education. It has increased from 1.6 per cent among illiterates to 16.9 per cent among those who had high school and above level of education. The use of old cloth seemed to decrease with increase in education. It has decreased from 98.4 per cent among illiterates to 61.3 per cent among those who had high school and above level of education.

The practice of using sanitary napkins was higher among Non-Hindu adolescent mothers (14.3 per cent) compared to Hindus (8.1 per cent). The use of old cloth and undergarments was higher among Hindus (80.2 per cent) compared to Non-Hindu adolescent mothers (64.3 per cent). The χ^2 test of significance indicates a significant relationship between religion and type of absorbent used during menstruation. Though there was no significant association between the use of sanitary napkins and community, the results showed that use of sanitary napkins was highest at 10.6 per cent among backward and other community, compared to 4.7 per cent among most backward caste and 9.7 per cent among scheduled caste and scheduled tribe. The use of old cloth was highest around 76-80 per cent among all caste groups.

Standard of living seemed to have significant influence on the use of sanitary napkins among adolescent mothers. The use of sanitary napkins increased with the increase in standard of living. It has increased from 6.5 per cent for low standard of living to 13.6 per cent for medium and to 22.9 per cent for high standard of living. The use of old cloth decreased from 84.3 per cent for low standard of living to 61.0 per cent for medium and to 51.4 per cent for high standard of living.

Table 4.4 Percent distribution of adolescent mothers by type of absorbent used at the time of menstruation by selected background characteristics

Background characteristics	N	Absorbent used			χ^2	DF	P-value
		Old and undergarment	Cloth Old clothes & Napkins	Napkins			
All	400	78.0	13.0	9.0			
Education of respondent							
Illiterate	63	98.4	--	1.6			
Literate and primary	72	91.7	4.2	4.2	@	@	@
Middle	123	78.9	14.6	6.5			
High school and above	142	61.3	21.8	16.9			
Religion							
Hindu	344	80.2	11.6	8.1	7.150	2	0.028*
Non-Hindu	56	64.3	21.4	14.3			*

Community							
SC / ST	154	79.2	11.0	9.7			
MBC	86	80.2	15.1	4.7	3.392	4	0.495
BC & Others	160	75.6	13.8	10.6			
Standard of living							
Low	306	84.3	9.2	6.5			
Medium	59	61.0	25.4	13.6	32.65	4	0.000*
High	35	51.4	25.7	22.9	4		
Monthly family income (in Rs.)							
≤ 1000	85	87.1	9.4	3.5		4	
1001 – 2000	216	77.3	12.5	10.2	7.271		0.122
2001 and above	99	71.7	17.2	11.1			
Type of family							
Nuclear	225	79.1	13.8	7.1	2.360	2	0.301
Joint	175	76.6	12.0	11.4			
Exposure to mass media							
Listening to radio							
Yes	183	76.0	13.7	10.4	1.010	2	0.603
No	217	79.7	12.4	7.8			
Watching television							
Yes	242	69.4	17.8	12.8	21.37	2	0.000*
No	158	91.1	15.7	3.2	8		
Going to movie							
Yes	51	54.9	27.5	17.6	18.24	2	0.000*
No	349	81.4	10.9	7.7	4		
Reading newspapers/ magazines							
Yes	59	45.8	25.4	28.8	47.62	2	0.000*
No	341	83.6	10.9	5.6	7		

Level of exposure							
No exposure	96	92.7	5.2	2.1			
Low	140	81.4	10.7	7.9	@	@	@
Medium	112	74.1	17.9	8.0			
High	52	50.0	23.1	26.9			
Level of autonomy							
Low	130	80.0	10.8	9.2			
Medium	134	79.9	13.4	6.7	2.597	4	0.627
High	136	74.3	14.7	11.0			

*P<0.01, **P<0.05, ***P<0.10

@ χ^2 not calculated as some of the cell frequencies are less than 5.

The practice of using sanitary napkins increased with the increase in the monthly family income. It has increased from 3.5 per cent for adolescent mothers with monthly family income of Rs.1000 or less to 11.1 per cent those who had a monthly family income of Rs.2001 and above. However, the differences were not statistically significant. The practice of using old cloth decreased with increase in monthly family income.

The practice of using sanitary napkins was higher (11.4 per cent) among adolescent mothers in joint family system than among adolescent mothers in nuclear family (7.1 per cent).

Exposure to mass media significantly increases the menstrual hygiene practices among adolescent mothers. The use of sanitary napkins was comparatively more among adolescent mothers who had been exposed to various mass media such as radio, television, movies and newspapers/magazines.

The practice of using sanitary napkins during menstruation increased with the increase in the level of exposure to mass media. It has increased from 2.1 per cent for those who had no exposure to 7.9 per cent for those who had low level of exposure, 8 per cent for those who had medium level of exposure and to 26.9 per cent for those who had high level of exposure to mass media. The practice of using old cloth decreased with increase in the level of exposure to mass media. It has decreased from 92.7 per cent for those who had no exposure to 81.4 per cent for those who had low level of exposure and to 74.1 per cent for those who had medium level of exposure to mass media and 50 per cent for those who had high level of exposure to mass media.

The use of sanitary napkins was 9.2 per cent for low level of autonomy, 6.7 per cent for medium and 11.0 per cent for high level of autonomy. The use of old cloth decreased with increase in the level of autonomy. It has decreased from 80.0 per cent for low autonomy to 79.9 per cent for medium and to 74.3 per cent for high autonomy.

Overall, it is observed that the use of sanitary napkins during menstruation was observed to be high among educated mothers, Non-Hindus, Backward Caste adolescent mothers, adolescent mothers

with high income and high standard of living, adolescent mothers living in joint family system, and among those who had high level of exposure to mass media and high level of autonomy.

4.5 Number of times absorbent changed during menstruation period

The percent distribution of adolescent mothers by number of times absorbents were changed during menstruation period is presented in table 4.2.5. It is good to change the absorbent thrice a day during the menstruation period. The results showed that 61 per cent of adolescent mothers used to change the absorbent twice a day, 19.2 per cent change the absorbent thrice a day, 12 per cent used to change the absorbent once a day, 6 per cent have the habit of changing it four times and above and only 1.8 per cent were changing it for once in two days.

Table 4.5 Percent distribution of adolescent mothers by number of times absorbent changed during menstruation period

Number of times of absorbent changed	Number N=400	Percent
Once in a day	48	12.0
Twice in a day	244	61.0
Three times a day	77	19.2
Four times and above	24	6.0
Once in two days	7	1.8

4.6 Experience of physiological discomforts during menstruation

The percent distribution of adolescent mothers according to their experience of physiological discomforts during menstruation is presented in table 4.6. It is found that more than 50 per cent had reported to have experienced any one of the physiological discomforts during the menstrual period.

Table 4.6 Percent distribution of adolescent mothers by their experience of physiological discomforts during menstruation

Experience of physiological discomforts	Number N=400	Percent
Yes	218	54.5
No	182	45.5

4.7 Type of physiological problems experienced during menstruation

The percent distribution of adolescent mothers by type of physiological problems experienced during menstruation is given in table 4.7. "Stomach pain" was the major problem reported by more than 66.5 per cent of adolescent mothers. Body ache was reported by 12 per cent. The other problems reported were general weaknesses, head ache, vomiting and leg pain.

Table 4.7 Percent distribution of adolescent mothers by type of physiological problems during menstruation period

Physiological problem	Number N=218	Percent
Stomach pain	145	66.5
General weakness	15	6.9
Head ache	5	2.3
Body ache	27	12.4
Vomiting	12	5.5
Leg pain	14	6.4

4.8 Place of treatment of physiological problems experienced during menstruation

The percent distribution of adolescent mothers by their place of treatment for their physiological problems is given in table 4.8. Among those who had reported physiological problems during menstruation, only 32.5 per cent had sought treatment. Among those who had availed treatment, 46.5 per cent got treatment from government sectors like government hospital, primary health centre and sub-centre, 26.7 per cent got treatment from private clinics, 18.3 per cent had their own medication by getting medicine from local medical shop and the rest (8.5 per cent) had home treatment for their problems.

Table 4.8 Percent distribution of adolescent mothers got treatment for their physiological problem during menstruation period

Place of treatment	Number N=71	Percent
GH/PHC/SC*	33	46.5
Private clinic	19	26.7
Home treatment	6	8.5
Local medical shop	13	18.3

*GH – Government Hospital PHC – Primary Health Centre SC – Sub Centre

4.9 Summary and Conclusion

The analysis of data on the puberty and menstruation of the adolescent mothers revealed that substantially higher proportion (46 per cent) of adolescent mothers had reported to have no knowledge about menstruation. Nearly four-fifths of adolescent mothers (79.7 per cent) reported correctly that the normal duration of menstruation is about 26-30 days. The correct knowledge on the duration of a menstrual cycle was more among adolescent mothers who were literates and primary (91.7 per cent) compared to others. The per cent of adolescent mothers' knowledge about normal duration of a menstrual cycle increased with monthly family income. Adolescent mothers'

knowledge about normal duration of menstrual cycle did not vary much due to type of family. Exposure to mass media was not having much influence on the knowledge of mother on normal duration of menstrual cycle. The level of autonomy seemed to have significant association with the knowledge of adolescent mothers on normal duration of a menstrual cycle.

It is observed that literates, Hindus, high standard of living and high family income adolescent mothers and those living in joint family system were having more knowledge on the duration of bleeding during menstruation than others.

The use of sanitary napkins during menstruation was observed to be high among educated mothers, Non-Hindus, backward caste adolescent mothers, adolescent mothers with high income and high standard of living, adolescent mothers living in joint family system and among those who had high level of exposure to mass media and high level of autonomy.

More than half of the adolescent mothers (54.5 per cent) reported to have experienced physical discomforts during menstruation. Nearly two thirds of the adolescent mothers (66.5 per cent) reported "stomach pain", during menstruation. The other problems reported were general weaknesses, head ache, vomiting and leg pain. Government hospital was the main source of treatment for 46.5 per cent of adolescent mothers followed by private clinics (26.7 per cent), local medical shop and home treatment (18.3 per cent each).

This study has highlighted the need of adolescent girls to have accurate and adequate information about menstruation and its appropriate management. Formal as well as informal channels of communication such as mothers, sisters and friends, need to be emphasized for the delivery of such information. Reproductive health in general and adolescent reproductive health needs in particular are poorly understood and ill served in India. In a country in which adolescents aged 10-19 represent over one fifth of the population, the health consequences of this neglect take on enormous proportions. The emerging issues identified in this study include the low level of knowledge on puberty and menstruation minimal safe hygienic practice during menstruation. The teaching of hygienic practices related to menstruation should be linked to an expanded health education. This is important for the girls so they can gain knowledge on the physiology of the reproductive system, information on reproductive tract infections, sexually transmitted infections and other reproductive health issues. For maximum impact on reproductive health, skilled birth attendants and emergency obstetric services must be closely linked within a strong health system.

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