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RESEARCH ARTICLE

MENSTRUAL HYGIENE PRACTICES AND TREATMENT SEEKING BEHAVIOUR FOR MENSTRUAL PROBLEMS AMONG UNMARRIED GIRLS IN UT, CHANDIGARH

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ABSTRACT

Menstruation is a physiological phenomenon unique to females that begins in adolescence. It is an important part of the female reproductive cycle. Although menstruation is a natural process, it is linked with several misconceptions and ignorance practices among young girls, which sometimes results into adverse reproductive health outcomes and may adversely affect their daily routine and quality of life. To explore the knowledge of menstrual hygiene practice and treatment seeking behavior for menstrual problems among unmarried girls, a community based cross-sectional study was conducted during April 08 to March 09 in Rural, Urban and Slum strata of UT Chandigarh. Methods And Materials-Stratified Multistage Random Sampling Design with probability proportional to size (PPS) was adopted and 744 respondents were selected. House-to-house surveys were conducted to collect the desired information by personal interview method. Results-The study showed maximum number of respondents (36%) attained menarche between 13-14 years of age. Branded napkins were found to be used by maximum number of respondents349 (46.9%). Abdominal pain was found to be the most common problem related to menstruation suffered by 429 (57.7%) respondents. Shyness was reported to be the main reason for not reporting to doctors for treatment by 58.8% of respondents. Conclusion-There is a need to impart health education to girls for clearing up their misconceptions and be offered them possible treatment options. Screening programs for menstrual related problems should be started at school level under School Health Programme.

INTRODUCTION

Girls constitute a more vulnerable group among adolescents particularly in developing countries. For girls, it is a turbulent period, which includes stressful events like menarche, considered as a land mark of female puberty (Bansal and Mehra, 1998) and it signals the possibility of fertility. Unmarried girls are prone to various reproductive health related problems. Majority of all diseases in females is due to irregular menses. Menstrual problems are common among young girls and deserve careful evaluation as uncorrected menstrual problems may adversely affect their daily routine and quality of life. Unmarried girls are prone to various menstrual problems like pain and discomfort, concerning menstruation. Complaints like heavy bleeding absence of menstruation, infrequent irregular painful menstruation cycles, and some symptoms related to fluctuating hormone levels like depression, breast tenderness and slight, temporary weight gain headache, rashes, muscle and joint pains, fatigue, agitation, over sensitivity of sounds etc are reported by menstruating females. Menstruation disorders are also responsible for emotional, physical, behavioral and dietary practice changes. Rigid adherence of traditional norms and practices, ignorance about menstruation, inadequate health care facilities separately for unmarried girls etc restrict their treatment seeking behavior for menstrual problems .Younis *et al*. (1993) reported that poor menstrual hygiene had a significantly higher risk of RTIs compared with better menstrual hygiene. Menstrual hygiene management practices developed in adolescence are likely to persist in adult life (Khanna *et al*., 2005). According to this study, due to lack of information on this natural phenomenon and practices, rural adolescent girls in India often manage menstruation in an unsafe manner that leads to reproductive tract infections (RTIs). Menstrual problems amongst adolescent girls have been discussed in several studies (Pragya Sharma *et al*., 2008; Bush *et al*., 1988; Singh *et al*., 1999 and Lee *et al*., 2006). A detailed account of menstruation in relation with the reproductive lives of women can be found in a study conducted by Singh (2006). Considerable number of menstrual problems can be prevented by creating awareness and by improving/modifying factors like lifestyle, environment, and practices during menstruation, dietary habits and cultural norms etc. Charturvedi and Chandra (1991) observed a clear relationship between menstrual attitudes, physical distress and premenstrual change among college students.

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In India, about 50% of rural adolescent girls have no information on or understanding of this basic biological process (CREA, 2005). Germain *et al*. (1992) have recommended interventions to change behavior directed toward improving menstrual hygiene as a strategy to prevent RTIs and to promote reproductive health. Chandigarh is the most economically advanced Union Territory (UT) of India. It is characterized by high population growth due to increasing migratory population and rapidly changing life style. Despite the fact that menstruation is closely associated with reproductive health matter of females, community based research on this particular topic has been relatively unexplored among unmarried girls of this population. Present study is based on some results of a detailed project funded by Department of Science and Technology, Chandigarh Administration.

This study aims to explore menstrual hygiene practices during menstruation adopted by unmarried girls in Chandigarh and their treatment seeking behavior for menstrual problems. Also to suggest a health educational package for healthy dietary and hygiene practices during menstruation for better reproductive health. This paper is based on some findings of a DST sponsored project and some findings of this project have been reported earlier in a recent paper "Menstrual pattern among unmarried women from Northern India" (Dinesh Kumar *et al*., 2013)

MATERIALS AND METHODS

Stratified multistage random sampling design with probability proportional to size (PPS) was adopted and 744 respondents were selected from 4 different selected wards/ strata. Only those unmarried girls who had already attained menarche more than one year back and their parents were willing to participate

Table 1. Menstrual problems by selected characteristics (N-744)

Characteristics	No.	Menstrual Problems		χ^2 (P-value)
		No	Yes	
Age				
10-12	20	09 (45.0)	11 (55.0)	χ^2= 8.6
13-15	282	88 (31.2)	194 (68.8)	(P=0.07)
16-18	240	89 (37.1)	151 (62.9)	
18-21	162	70 (43.2)	92 (56.8)	
22-25	40	11 (27.5)	29 (72.5)	
Mean ± SD	16.84±3.05	17.03±3.01	16.73±3.06	
Educational Status				
Literate / Just Literate	188	97 (51.6)	91 (48.4)	χ^2= 50.3
School Level	447	115 (25.7)	332 (74.3)	(P<0.001)
College Level	109	55 (50.5)	54 (49.5)	
Medium if studying presently (N=556)				
Hindi	356	90 (25.3)	266 (74.7)	χ^2= 23.4
English	122	59 (48.4)	63 (51.6)	(P<0.001)
Panjabi	78	21 (26.9)	57 (73.1)	
Total	556			
Type of Family				
Joint	133	44 (33.1)	89 (66.9)	χ^2= 0.74
Nuclear	601	220 (36.6)	381 (63.4)	(P=0.69)
Extended	10	03 (30.0)	07 (70.0)	
Educational Status of Mother				
Literate / Just Literate	323	117 (36.2)	206 (63.8)	χ^2= 17.7
School Level	287	83 (28.9)	204 (71.1)	(P<0.001)
College Level	134	67 (50.0)	67 (50.0)	
Occupation of mother				
Housewife	433	148 (34.2)	285 (65.8)	χ^2= 1.31
Others	311	119 (38.3)	192 (61.7)	(P=0.28)
Family Size				
Upto 3	100	39 (39.0)	61 (61.0)	0.97
4-5	384	132 (34.4)	252 (65.6)	(P=0.81)
6-8	229	84 (36.7)	145 (63.3)	
above 8	31	12 (38.7)	19 (61.3)	
Mean ± SD	5.15±1.67	5.12±1.69	5.16±1.66	
Socio-economic Status				
Low	219	83 (37.9)	136 (62.1)	χ^2= 12.6
Middle	364	110 (30.2)	254 (69.8)	(P=0.002)
High	161	74 (46.0)	87 (54.0)	
Discussant				
Mother	405	151 (37.3)	254 (62.7)	χ^2= 0.75
Others	339	116 (34.2)	223 (65.8)	(P=0.39)
Home Environment				
Religious	414	126 (38.2)	204 (61.8)	χ^2= 1.36
Non-Religious	330	141 (34.1)	273 (65.9)	(P=0.25)
Internet Exposure				
Yes	75	37 (49.3)	38 (50.7)	χ^2= 6.6
No	669	230 (34.4)	439 (65.6)	(P=0.01)
Age at Menarche				
Upto 13 years	518	170 (32.8)	348 (67.2)	χ^2= 6.9
14 years & above	226	97 (42.9)	129 (57.1)	(P=0.008)
Mean ± SD	13.02±1.13	13.14±1.23	12.96±1.06	
Overall	744	267 (35.9)	477 (64.1)	

in the study were included. Optimum sample size was calculated on the basis of a pilot survey using the formula: -

$N_{(optimum)} = (1.96)^2 P (1-P)/L^2$

Where

P = Prevalence of adolescent girls having some menstrual health problem.
L = Permissible error in estimation

House-to-house survey was conducted to collect the desired information by personal interview method.

Ethical Consideration: Informed consent following Ethical Guidelines of World Medical Association Declaration of Helsinki (World Medical Association Declaration of Helsinki, 2006) was taken. For respondents aged 18 years and above, informed consent was taken from respondents. Only respondents giving consent were interviewed in privacy ensuring confidentiality.

Statistical Methodology: Data analysis was done by using SPSS-16 Software.

RESULTS

Table 1 Shows menstrual problems in relation to several characteristics of interest. Among all 744 respondents, 477 (64.1%) faced menstrual problems some times during last one year. Menstrual problems were reported to be least by illiterate or just literate respondents (48.4%) and maximum by respondents educated upto school level. Maximum problems were reported by Hindi medium students (74.7%). Respondents of high socio-economic category suffered least menstrual problems (54.0%) and maximum among respondents of middle socio economic class. Respondents suffering from some menstrual problems were asked further details regarding their premenstrual problems as shown in Table 2. Abdominal pain (69.5%) followed by breast tenderness, (24.0%) were the most common complaints. Mood swings were reported by 33 respondents at this stage. Most of respondents (66.7%) reported these complaints one day prior to starting of menstrual cycle with mean number of 1.65 days.

Table 2. Respondents by pre menstrual problems

Problem and Prior Days	No (N=321)	%
Problem		
Abdominal pain	218	67.9
Breast tenderness	77	24.0
Depression or mood swing	33	33
Temperature change	32	10.3
Bloating of body	16	4.9
Any other	7	2.2
Days prior to menses problem starts		
1	214	66.7
2	32	9.9
3	44	13.7
4	6	1.9
5 and above	25	7.8
Mean ± SD	1.65 ± 1.18	

Table 3 shows information regarding menstrual hygiene practices like type of napkins and use thereof during menstrual cycle. Among all respondents, 132 (17.7%) were reluctant to give answer to question concerning type of napkins used. While remaining 612 (82.3%) were using some type of napkins, branded napkins were reported to be used by 349 (46.9%) respondents. Homemade napkins, dirty/old clothes were reported to be used by 133 (17.9%) respondents.

Table 3. Respondents by menstrual hygiene practices

Practice	No	%
(a) Types of Napkin Used		
No response	132	17.7
Home made by dirty/old cloths	133	17.9
Home made by clean /new cloths	99	13.3
Cotton roll	31	4.2
Branded Napkins	349	46.9
Any of the above type	612	82.3
(b) No. of Napkins during 1-2 days(N=612)		
1	58	9.5
2	251	41.0
3	195	31.9
4	73	11.9
5	22	3.6
6 & above	14	2.2
Mean ± SD	2.20 ± 1.44	
(c) No. of Napkins during 3-4 days (N=612)		
1	88	14.4
2	323	52.8
3	68	11.1
4	43	7.0
5	3	0.5
6	2	0.3
Mean ± SD	1.53 ± 1.21	
(d) Disposal of Napkins		
No response	63	8.5
Throw away openly	80	10.8
Disposal in garbage	463	62.3
Burried underground	37	5.0
Throw in flush	48	6.5
Re-use after washing	48	6.5
Any other	5	0.7
Total	744	100.0

Premenstrual problems of respondents in associated with several other factors are presented in Table 4. Pre-menstrual problems reported were more prevalent among younger girls. Age was significantly associated with pre-menstrual problems ($P<0.001$). Among school going girls, these problems were reported to be maximum (41.4%) followed by college going girls (23.9%). Hindi medium girls reported maximum problems (43.0%). Among currently studying girls the prevalence of pre-menstrual problems was higher (37.9%) as compared to overall prevalence (30.0%). Educational status as well as medium of education was significantly associated with pre-menstrual problems. These problems were reportedly least in case of nuclear families (29.3%). Mothers' education, family size and SES were other significantly correlates. In high SES class problems were comparatively lesser. Table 5 shows menstrual cycle by selected characteristics among all 613 respondents reporting menstrual history, 159 (25.9%) reported irregular menstrual cycle. Menstrual cycle was found to be significantly associated with educational status ($P= 0.01$), family size ($P= 0.006$) discussant ($P= 0.001$) and age at menarche ($P< 0.001$). No other characteristic listed in the table was found to be significantly associated with regularity of menstrual cycle.

Table 4. Respondents by problems before Mentruation with selected characteristics

Characteristics	χ2 (P-value)	Problems before menstruation		χ2 (P-value)
		No	Yes	
Age				
10-12	20	14 (70.0)	06 (30.0)	
13-15	282	191 (67.7)	91 (32.3)	χ^2=25.4 (P<0.001)
16-18	240	148 (61.7)	92 (38.3)	
18-21	162	134 (82.7)	28 (17.3)	
22-25	40	34 (85.0)	06 (15.0)	
Mean ± SD	15.84±3.05	17.14±3.22	15.13±2.46	
Educational Status				
Literate / Just Literate	188	176 (93.6)	12 (6.4)	χ^2=79.5 (P<0.001)
School Level	447	262 (58.6)	185 (41.4)	
College Level	109	83 (76.1)	26 (23.9)	
Medium (N=556)				
Hindi	356	203 (57.0)	153 (43.0)	
English	122	94 (77.0)	28 (23.0)	χ^2=15.5 (P<0.001)
Panjabi	78	48 (61.5)	30 (38.5)	
Total	556	345 (62.1)	211 (37.9)	
Type of Family				
Joint	133	86 (64.7)	47 (35.3)	χ^2=6.24 (P=0.04)
Nuclear	601	425 (70.7)	176 (29.3)	
Extended	10	10 (100.0)	0 (100.0)	
Educational Status of Mother				
Literate / Just Literate	323	245 (75.9)	78 (24.1)	χ^2=34.8 (P<0.001)
School Level	287	166 (57.8)	121 (42.2)	
College Level	134	110 (82.1)	24 (17.9)	
Occupation of mother				
Housewife	433	301 (69.5)	132 (30.5)	χ^2=0.12 (P=0.71)
Others	311	220 (70.7)	91 (29.3)	
Family Size				
Upto 3	100	92 (92.0)	08 (8.0)	
4-5	384	253 (65.9)	131 (34.1)	χ^2=26.8 (P<0.001)
6-8	229	151 (67.7)	74 (32.3)	
above 8	31	21 (67.7)	10 (32.3)	
Mean ± SD	5.15±1.67	5.0±1.74	5.49±1.42	
Socio-economic Status				
Low	219	161 (73.5)	58 (26.5)	χ^2=18.2 (P<0.001)
Middle	364	230 (63.2)	134 (36.8)	
High	161	130 (80.7)	31 (19.3)	
Discussant				
Mother	405	275 (67.9)	130 (32.1)	χ^2=1.9 (P=0.17)
Others	339	246 (72.6)	93 (27.4)	
Age at Menarche				
Upto 13 years	518	371 (71.6)	147 (28.4)	χ^2=2.06 (P=0.15)
Above13 years	226	150 (66.4)	76 (33.6)	
Mean ± SD	13.02±1.13	12.97±1.19	13.16±1.14	
Menstrual Cycle (N=613)				
Regular	454	271 (59.7)	183 (40.3)	χ^2=74.4 (P<0.001)
Irregular	159	122 (76.7)	37 (23.3)	
Overall	744	521 (70.0)	223 (30.0)	

Table 5. Mentruation cycle of respondents by selected characteristics (N-613)*

Characteristics	No.	Menstrual Cycle		χ2 (P-value)
		Regular	Irregular	
Age				
10-12	16	12 (75.0)	04 (25.0)	χ^2=5.4 (P=0.25)
13-15	236	170 (72.0)	66 (28.0)	
16-18	217	166 (76.5)	51 (23.5)	
18-21	121	93 (76.9)	28 (23.1)	
22-25	23	13 (56.5)	10 (43.5)	
Mean ± SD	16.56±2.79	16.56±2.71	16.57±3.01	
Educational Status				
Literate / Just Literate	118	86 (72.9)	32 (27.1)	χ^2=8.7 (P=0.01)
School Level	391	279 (71.4)	112 (28.6)	
College Level	104	89 (85.6)	15 (14.4)	
Medium (N=495)*				
Hindi	324	231 (71.3)	93 (28.7)	χ^2=6.2 (P =0.04)
English	113	94 (83.2)	19 (16.8)	
Panjabi	58	43 (74.1)	15 (25.9)	
Total	495	368	127	

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Type of Family				
Joint	112	85 (75.9)	27 (24.1)	χ^2=0.26 (P=0.80)
Nuclear	494	364 (73.7)	130 (26.3)	
Extended	07	05 (71.4)	02 (28.6)	
Educational Status of Mother				
Literate / Just Literate	253	178 (70.4)	75 (29.6)	χ^2=4.8 (P=0.09)
School Level	135	175 (74.5)	60 (25.5)	
College Level	125	101 (80.8)	24 (19.2)	
Occupation of mother				
Housewife	251	191 (76.1)	60 (23.9)	χ2=0.92 (P=0.34)
Others	362	263 (72.7)	99 (27.3)	
Family Size				
Upto 3	49	28 (57.1)	21 (42.9)	χ2=12.5 (P=0.006)
4-5	337	244 (72.4)	93 (27.6)	
6-8	197	159 (80.7)	38 (19.3)	
above 8	20	23 (76.7)	07 (23.3)	
Mean ± SD	5.33±1.58	5.43±1.54	5.06±1.64	
Socio-economic Status				
Low	199	153 (76.9)	46 (23.1)	χ^2=2.94 (P=0.23)
Middle	269	190 (70.6)	79 (29.4)	
High	145	111 (76.6)	34 (23.4)	
Discussant				
Mother	339	270 (79.6)	69 (20.4)	χ^2=12.3 (P=0.001)
Others	274	184 (67.2)	90 (32.8)	
Home Environment				
Religious	302	194 (64.2)	108 (35.8)	χ^2=29.9 (P<0.001)
Non-Religious	311	260 (83.6)	51 (16.4)	
Internet Exposure				
Yes	72	58 (80.6)	14 (19.4)	χ^2=1.79 (P=0.11)
No	541	396 (73.2)	145 (26.8)	
Age at Menarche				
Upto 13 years	454	282 (69.3)	125 (30.7)	χ^2=14.4 (P<0.001)
14 years & above	159	172 (83.5)	34 (16.5)	
Mean ± SD	13.10±1.13	13.21±1.15	12.79±1.01	
Menstruation Problem (N=613)				
Yes	382	260 (68.1)	122 (31.9)	χ^2=18.9 (P<0.001)
No	231	194 (84.0)	37 (16.0)	
Treatment Taken				
Yes	179	139 (77.7)	40 (22.3)	χ^2=1.7 (P=0.22)
No	434	315 (72.6)	119 (27.40	
Overall	613	454 (74.1)	159 (25.9)	

*Remaining 131 were non-respondents.

Table 6. Treatment seeking behaviour of respondents having menstrual problems by selected characteristics (N-477)

Characteristics	No.	Treatment Taken		χ^2 (P-value)
		Yes	No	
Age				
10-12	11	03 (27.3)	08 (72.7)	χ^2=21.5 (P<0.001)
13-15	194	81 (41.8)	113 (58.2)	
16-18	151	67 (44.4)	84 (55.6)	
18-21	92	22 (23.9)	70 (76.1)	
22-25	29	03 (10.3)	26 (89.7)	
Mean ± SD	16.73±3.06	16.06±2.30	15.82±2.31	
Educational Status				
Literate / Just Literate	91	09 (9.9)	82 (90.1)	χ^2=35.3 (P<0.001)
School Level	332	143 (43.1)	189 (56.9)	
College Level	54	24 (44.4)	30 (55.6)	
Medium*				
Hindi	266	113 (42.5)	153 (57.5)	χ^2=4.1
English	63	23 (36.5)	40 (63.5)	(P = 0.13)
Panjabi	57	31 (54.6)	26 (45.6)	
Total	386	167 (43.3)	219 (56.7)	
Type of Family				
Joint	89	34 (38.2)	55 (61.8)	χ^2=0.2
Nuclear	381	139 (36.5)	242 (63.5)	(P=0.90)
Extended	07	03	04	
Educational Status of Mother				
Literate / Just Literate	206	55 (26.7)	151 (73.3)	χ^2=16.9 (P<0.001)
School Level	204	94 (46.1)	110 (53.9)	
College Level	67	27 (40.3)	40 (59.7)	
Occupation of mother				
Housewife	336	147 (43.8)	189 (56.3)	χ^2=22.93
Others	141	29 (20.6)	112 (79.4)	(P< 0.001)

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Family Size				
Upto 3	61	7 (11.5)	54 (88.5)	χ^2=19.6 (P<0.001)
4-5	252	104 (41.3)	148 (58.7)	
6-8	145	58 (40.0)	87 (60.0)	
above 8	19	7 (36.8)	12 (63.2)	
Mean ± SD	5.54±1.45	5.45±1.39	5.16±1.66	
Socio-economic Status				
Low	136	44 (32.4)	92 (67.6)	χ^2=2.01 (P=0.36)
Middle	254	96 (37.8)	158 (62.2)	
High	87	36 (41.4)	51 (58.6)	
Discussant				
Mother	254	104 (40.9)	150 (59.1)	χ^2=3.8
Others	223	72 (32.3)	151 (67.7)	(P=0.06)
Home Environment				
Religious	204	97 (47.5)	107 (52.5)	χ^2=17.4 (P<0.004)
Non-Religious	273	79 (28.9)	194 (71.1)	
Menstrual Cycle				
Regular	454	139 (30.6)	315 (69.4)	χ^2=1.7
Irregular	159	40 (25.2)	119 (74.8)	(P=0.19)
Overall	477	176 (36.9)	301 (63.1)	

Table 7. Treatment seeking behaviour of respondents (N=477)

Behaviour Parameter	No	%
(a) Treatment taken		
Yes	176	36.9
No	301	63.1
(b) Source of Treatment (N=176)		
Allopathy	154	87.5
Ayurveda	9	5.1
Herbal medicines	8	4.5
Yoga/ physical exercise	3	1.7
Home-remedy	27	15.3
Any other	5	2.8
(c) Reasons of not approaching (N=301)		
Hesitation/ Shyness	177	58.8
Nobody to accompany	35	11.6
Fear	27	8.9
Non availability of Female Doctor	15	5.0
Rely on home remedy	11	3.6
Unspecified	10	3.2
(d) Place if allopathic treatment (N=154)		
Govt. Hospital	24	15.6
PHC/Sub-centre/Dispensary	37	27.0
Private Doctors	86	28.6
Any other	7	2.3
(e) Use of pain killers (N=744)		
Yes	187	25.1
No	557	74.9
(f) Source of advice if using painkillers (N=187)		
Doctor	158	84.5
Self medication	19	10.2
Family members	4	2.1
Friends	6	3.2
(g) Awareness of medication for preponement/postponement menses		
No	646	86.8
Yes	98	13.2
(h) Source of Awareness (N=98)		
Doctors	78	79.6
Family Members	4	4.1
Self	9	9.2
Friends	7	7.1
(i) Practice (N=98)		
Yes	25	25.5
No	73	74.5
(j) Problem Faced (N=25)		
Yes	4	16.0
N0	21	84.0
Reason of use (N=25		
Marriage in the family	2	8.0
Some religious occasions	3	12.0
Unspecified	20	80.0

Younger respondents as well as respondents of higher aged reported irregular cycle. Respondents educated upto school level only, were maximum sufferers (28.6%) as reported by them. Table 6 shows that overall satisfaction from problem sharing was 18.5%. Satisfaction in different categories shows that educational status of respondents but not of mother was significantly associated with problem sharing. Highly educated respondents were more satisfied with problem sharing. Among all 109 college going girls 101 (92.7%) felt satisfied with problem sharing. Satisfaction was more in case of house-wives mother. Maximum degree of satisfaction was from middle socio economic status wherein 343 (94.2%) of 364 respondents felt satisfied. Satisfaction rate for respondents having pre-menstrual problems was 93.7% as compared to 87.7% for respondents having no pre-menstrual problems. However, among all 477 respondents having menstrual problems, satisfaction rate was 85.4% as compared to 91.8% for other respondents. Awareness of medication for preponement/ postponement menses (Table 7). Among 98 (13.2%) respondents aware of such medication, 78 (79.6%) reported doctors to be the source of awareness. Practice of medication for this particular purpose was found to be only by 25 (25.5%) among such users. Among these 25 users 16% faced some problems after using such medication some time. About 80% respondents didn't give any specific reason for preponment and postponement of menstrual cycle at their choice, while some religious occasions (12 %) and marriage in the family (8%) were reasons reported by respondents given in favour of such medication.

DISCUSSION

Menstruation hygiene in the present study is far from satisfactory. Branded napkins were used only by 47% while about 18% used homemade napkins made by dirty cloths. Significantly large number of girls was ignorant about sanitary practices during menstruation and had false perceptions. Their traditional beliefs and misconceptions should be avoided. Among currently menstruating girls, ready-made pad users increased significantly, from 5.2% to 24.9%. Conversely, cloth users declined from 94.8% to 72.7% as impact of health education (Dongre *et al*., 2007). About 60% respondents in the present study used sanitary pads against 40% such girls in the study by Dasgupta and Sarkar (2008) and 32.2% found by Richa Richa Kushwaha (2004). In an another interventional study (World Medical Association Declaration of Helsinki, 2006), reusing of cloth declined from 84.8% to 57.1% and among the reusers of cloth, the practices of washing it with soap and water and sun drying increased from 86.2% to 94.2% and 78.4% to 90.0% respectively. In the present study 47% girls preferred branded napkin compared to 11% in a study by Dasgupta and Sarkar (2008). Among Rajasthani girls (Khanna *et al*., 2005), about 75% girls used old cloths during their periods. Only about 37% girls having some menstrual problems / complaints opted for treatment, mainly allopathic treatment 87.5% against only 14.7% respondents opted for treatment with allopathic Doctors and about 32.7 5 subjects never took a treatment in spite of having problems related with menstruation found in an another study (Pragya Sharma *et al*., 2008). About 36% respondents did not complain any problem in the present study. Shyness / hesitation followed by Reliance on home remedies came out to be the major reasons of not approaching for treatment in the present study. Use of pain killer in the present study was found to be 25% which is in agreement with 23% observed earlier (Pragya Pandey, 2003), but disagree with finding of an another study (Richa Kushwaha, 2004) reporting this percentage to be 10%. Drop-out from schools/colleges, decreased appetite, increased resting hours, physical discomfort etc were among some effects of menstrual problems on daily routine which could not be investigated in depth in the present study. Devi and Ramaiah (1994) have suggested approaches such as educational television programs, school nurses or health personnel, compulsory sex education in the school curriculum and education of parents.

Conclusion

Proper hygiene practices and selection of disposable sanitary menstrual absorbents should be discussed in health education programmes. Girls should be imparted health education for clearing up their misconceptions and be offered them possible treatment options. Screening programs for menstrual related problems should be started at school level under School Health Programme. The social mobilization skills of an Accredited Social Health Activist (ASHA), a village-based female health worker under the National Rural Health Mission (NRHM) of Government of India, could also be utilized for overcoming the social barriers to an effective community-based adolescent-friendly program.

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