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Menstrual Practices and Reproductive Problems: A Study of Adolescent Girls in Rajasthan

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This article sheds light on some important issues related to menstrual practices and its association with reproductive morbidity among girls. The study indicates that a significantly large proportion of girls were not aware of menstruation when they first experienced it. Mothers, sisters and friends were found to be the major source of information. Much of this information imparted to a young girl is in the form of restrictions on her movements and behaviour. More than three-fourths reported using old cloth during menstruation, and a large proportion of them were reusing the same during subsequent periods. Regression analysis in this study identified schooling, residential status, occupation of father, caste and exposure to media to be the major predictors of safe menstrual practices among adolescent girls in Rajasthan. Importantly, this study found a significantly strong relationship between practices during menstruation and prevalence (reported symptoms) of RTIs. The prevalence of RTIs was more than three times higher among girls having unsafe menstrual practices. The article makes a strong case that ignorance, false perceptions and unsafe practices regarding menstruation are not uncommon among adolescents in the study area, having serious implications for reproductive and sexual health. Further, the study demonstrates that among the determinants for reproductive morbidity, practices during menstruation appear to be the most dominant factor. These findings reinforce the need to bring them out of traditional beliefs, misconceptions and restrictions, and encourage safe and hygienic practices.

The onset of menstruation is an important physiological change in adolescent girls. It is defined as the initiation of uterine bleeding and is often marked as a potential entry into sexual relationships and reproduction. First menstruation is often a traumatic and very negative experience for young girls in most parts of India (George 1994). As many as 40–45 per cent of adolescent girls report menstrual problems. These are mainly due to psychosocial stress

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and emotional changes (Chakravarty 1989). Patton and others (1996) in their study found that menarche emerged as the strongest predictor of depression and anxiety among adolescent girls. Even after the addition of measures of perceived social stress to a multivariate model, the association of depression and anxiety with menarche persisted. Besides, as the physiological process of menstruation is still regarded as an unclean state, such perceptions segregate girls from the activities of normal life, such as bathing, swimming and exercise (Rierdan and Rise 1995). Several traditional beliefs, misconceptions and practices are linked with the issue of menstruation, which make girls vulnerable to depression and stress as well as reproductive problems.

A large proportion of adolescent girls suffer from various gynaecological problems, particularly menstrual irregularities such as hypermenorrhoea, hypomenorrhoea, menorrhagia and dysmenorrhoea. For instance, in a study conducted in Mumbai, nearly 55 per cent of the girls were found to be suffering from dysmenorrhoea (Vaidya et al. 1998). Similarly, a study in Gambia found that reports of dysmenorrhoea were highest among younger women (15–24 years) than higher age groups (Walraven et al. 2002). The study also indicated that menstrual disorders were associated with infertility, reproductive tract infections, pelvic tenderness and genital prolepses.

Health behaviours and practices vary from culture to culture, and ignorance of culturally divergent beliefs and practices may lead to failure in health care delivery (Spector 1991, 1995). It has been held that due to lack of information on this natural phenomenon, many girls get frightened by menstrual flow and are unable to manage it in a safe manner. Unsafe practices during menstruation lead to reproductive tract infections and other reproductive health problems. The study conducted by Narayan and others (2001) indicated that white discharge is significantly related to the level of hygiene as measured by the index of hygiene. Odds of reporting white discharge were 2.7 times higher when the index was poor than when it was high. Patterns of menstrual hygiene that are developed in adolescence are likely to persist into adult life.

Given the increasing importance of reproductive health of adolescent girls, it is crucial to study issues related to menstrual practices, especially in the context of their socioeconomic environment. Equally crucial is to examine the association of menstrual practices with reproductive morbidity. The understanding of such issues will help health planners and providers to plan intervention strategies that promote healthy behaviour among adolescent girls.

The Sociocultural Context

The present study was carried out in Rajasthan, which has been one of the most critical states of India regarding a majority of the indicators related to demographic, infrastructure and socioeconomic development. The economy of the state is characterised by slow growth, wide gap between state and national per capita income, inadequate infrastructure and low productivity in many sectors. Thirty-one per cent of rural families live below the poverty line. There is a strong son preference in most parts of the state, and girls tend to be discriminated against in the family. Schooling of girls, particularly in rural areas, is very poor. For example, only 19 per cent of girls in rural areas in the age group of 15–17 years and 45 per cent in the age group of 11–14 years attended schools (NFHS-2) (IIPS and ORC Macro 2000). Gender discrimination could be one of the major hindrances in the schooling of girls as it has been a traditionally male-dominated society. Girls are deprived of nutrition, access to health care, opportunities for education and employment. They are taken out of school as they reach menarche. They work in home, look after siblings and assist their mothers in the fields. Girls in the state are also married early.

The level of awareness about reproductive need and rights is very low. A study conducted in 21 districts of the state revealed that only 23 per cent of girls were aware of issues related to health, nutrition and family life (Goyal and Khanna 2003). Very few of the girls had information about menstruation at the time of their first period. There are several misconceptions and traditional beliefs regarding menstruation, and practices during menstruation are mostly unsafe and unhygienic (Gupta and Jain 1998). Studies also indicate that a large proportion of girls suffer from reproductive health problems and very few of them seek treatment for the same. In view of these studies, it is crucial to examine the issues related to menstrual practices among adolescent girls in their sociocultural context, and to understand the association of menstrual practices with reproductive morbidity.

Method

The data used in this analysis have been drawn from a situational analysis study carried out to assess the sexual and reproductive health needs of adolescent boys and girls. The situation analysis is based on both qualitative and quantitative data collected from rural and urban areas of Ajmer district of

Rajasthan. The qualitative methods included focus group discussions (FGDs) and key informant interviews. The quantitative methods involved sample survey of schoolgoing and out-of-school girls.

The sample size for the survey was fixed at 800 adolescent girls, with equal representation of urban–rural and schoolgoing and out-of-school girls. With around 91 per cent response rate, 730 girls were interviewed. Besides, eight FGDs and key informant interviews were also conducted. The data were collected from eight rural and eight urban localities.

For the rural sample, selection of villages was done considering the availability of school facilities. Urban wards were considered as urban study localities. Since the urban localities are compact, all urban wards have easy access to the educational facilities available in the town. Hence, the selection of rural and urban localities was done through a systematic random sampling procedure.

To draw the sample of adolescents, an appropriate sampling frame was desirable. None of existing data (including house listings carried out for 2001 Census) provided information on the number of adolescents in a household, particularly with respect to their schooling status. To develop a sampling frame, a detailed house listing exercise was carried out in all the selected rural and urban areas. A systematic random sampling procedure was adopted to draw the sample independently from every study locality. The data collection was carried out from April to July 2002.

Sample Characteristics

The girls in the sample were in the age group of 13–19 years with a mean age of 15.8 years (Table 1). Nearly one-third of the girls belonged to Scheduled Castes and Scheduled Tribes, while the rest were from the other castes. Nearly 17 per cent belonged to Muslim communities. Almost 84 per cent of the girls were never married, whereas the rest were married at least once. A majority (70 per cent) was living in nuclear families. Information on the occupation of father shows a mixed picture, with agriculture, labour work, business and service being represented. However, a large proportion are involved in shop/business or service. A higher proportion of girls in rural areas reported their fathers to be occupied in agriculture or as labourers, whereas a higher proportion of girls in urban areas reported their fathers' occupation as service or business.

Table 1
Profile of Respondent Girls

Profile	*Per cent*
Age (years)	
13–15	45.8
16–19	54.2
Mean age	15.8
Caste	
Scheduled Castes	15.5
Scheduled Tribes	17.3
Others	67.2
Religion	
Hindus	82.3
Muslims	17.1
Others	0.5
Marital status *(Guana)*	
Never married	84.1
Married	15.9
Type of family	
Nuclear	70.2
Joint	29.8
Occupation of father	
Agriculture	14.2
Labourer	18.9
Shop/business	30.1
Service	26.3
Retired/unemployed	2.7
Others	7.8
Schooling	
Schoolgoing	51.0
Out of school	49.0
	(Total [*N*] = 730)

Study Findings

The study reveals that out of 730 girls covered under the study, 84 per cent had attained menarche by the time of survey (Table 2). The proportion of girls attaining menarche was higher in urban areas (92 per cent) than rural (77 per cent). The mean age at menarche was found to be 13.2 years. The mean was slightly lower for girls belonging to urban areas as compared to rural ones. This is consistent with the findings of other studies that suggested

that socioeconomic and living conditions were found to be closely associated and inversely correlated with age at menarche (Liestol 1982; Marshall and Tanner 1986; Sabu et al. 1999). Schooling status seems to have marginal effect on the age of menarche.

Table 2
Information about Menarche

	Residence		*Schooling*		
	Urban	*Rural*	*School-going*	*Out of school*	*Total*
Percentage of girls attained menarche	91.5	76.9	82.5	85.9	84.2
Mean age of menarche	13.1	13.3	13.2	13.1	13.2
Per cent aware about menstruation during menarche	12.1	2.8	9.8	5.9	7.9

Awareness Regarding Menstruation

In this study nearly 92 per cent of the girls were not aware about the natural phenomenon of menstruation among women. The situation was even worse in rural areas where the awareness was hardly 3 per cent (Table 2). Other studies also indicate low level of awareness among girls regarding menstruation. Gupta and Jain (1998) in their study found that only 65.8 per cent girls had information about the onset of menses before it started (this study included only school- and college-going girls, who are likely to have better access to information either from peers in school/college or mothers). A study conducted by UNICEF also found that only 38 per cent of the girls were not aware of the menstruation at the time of their first period.

It was reported during FGDs that most of the girls came to know about menstruation when they first started menstruating and found it unusual or abnormal. In a majority of the cases, the girls were frightened to see and feel the bleeding. For instance, a girl suddenly saw blood spots on her skirt in school. Worried about it, she rushed home and started weeping; finally, out of fear and shame, she told her mother about it.

During the discussions some of the girls stated that they were not aware about phenomenon of menstruation, but they observed that the females in their family keep themselves away from certain activities for two to three days every month. When they asked their mother or other family members about it, either no reason was stated or they were told that they had become unclean as 'the cow has touched' or 'the lizard has touched', hence the women kept away from cooking and other activities.

Most of the girls got first information about menstruation from their mothers. The proportion of girls getting information from mothers was higher in urban areas than in rural areas, which may be due to the higher level of awareness among urban mothers (Table 3). The other major informants about menstruation were sisters and friends. Surprisingly, teachers have an almost negligible role in providing information about menstruation. In the Indian cultural context, girls have very limited options to seek information about sexual and reproductive health issues. Consequently, discussion on these issues are held either with their mothers or peers. The studies conducted in different parts of the country indicate mother and peers as the major source of information on menstruation (Gar et al. 2001; Gupta and Jain 1998; Narayan et al. 2001).

Table 3
First Informant Regarding Menstruation (%)

Sources	*Urban*	*Rural*
Mother	66.8	55.1
Teacher	0.3	0.4
Sister	17.8	16.4
Friend	8.2	17.2
Others	6.8	10.9

Beliefs Regarding Menstruation

During group discussions as well as in individual interviews, it was reported that girls had several traditional beliefs regarding practices during menstruation. Nearly 70 per cent believed that menstruation is not a natural process (Table 4). Every four out of five girls believed that one should not attend religious rituals during menstruation. More than one-fourth believed that one should not cook during menstruation. It can also be observed that such beliefs were more prevalent among urban girls as compared to those living in rural areas. However, a higher proportion of rural girls than urban girls believe that menstruation is not a natural process.

It was reported that the girls had several restrictions during menstruation. They were not allowed to enter or touch any item in the kitchen. In rural areas especially, girls during menstruation are instructed not to pass through crossroads since it is believed that during this period they may be caught by evil spirits and become mad. Gupta and Jain (1998) noted many restrictive practices being followed by women during their menstrual period. Restriction on doing domestic work like cooking, restriction on going to temples and

carrying out *poojas*, are some of the customs still being followed strictly in almost all parts of the state.

Table 4
Beliefs about Menstruation

Percentage of girls who believe that:	*Residence*		*Schooling*		*Total*
	Urban	*Rural*	*School-going*	*Out of school*	
One should not wash hair during menstruation	1.9	0.5	1.6	1.3	1.5
Menstruation is not a natural process	57.2	82.5	63.9	75.9	69.8
One should not attend religious rituals during menstruation	85.2	74.9	77.9	82.1	80.0
One should not cook during menstruation	36.8	15.8	33.0	19.3	26.3

The girls reported that such beliefs and practices make their situation even worse. When they are asked not to enter the kitchen, not to perform rituals, etc., all family members, including males, come to know about it. It makes their situation more miserable, embarrassing and painful.

Practices during Menstruation

It was revealed during the focus group discussions and interviews with adolescent girls that they had very little idea about hygienic practices during menstruation. Table 5 shows that three-fourths of the girls use old cloth during their periods. Only one-fifth reported using readymade sanitary pads. The practice of using cloth during menstruation was higher among rural and out-of-school girls. A small proportion of girls were also using new cloth or cotton. Practices during menstrual periods seem to vary significantly according to residential and schooling status. The use of readymade sanitary pads was higher among urban and schoolgoing girls as compared to those living in rural areas and not going to school. These findings are consistent with findings of other studies conducted in India. Gar and others (2001) in their study found that of 380 women, 2.9 per cent were using sanitary napkins or new cotton, the rest were either using old or worn clothes.

It was reported during the FGDs that a large proportion of the girls reused the old cloth during subsequent periods. The usual practice is to wash the cloth with soap after use and keep it at some secret place till the

next menstrual period. To keep the cloth away from eyes of others, these are sometimes kept at most unhygienic places. This practice was found in other studies as well in different settings. For instance, Walraven and others (2002) in their study found that menstrual cloths are source of vulnerability and potential embarrassment. If a man sees a menstrual cloth, both the man and women are embarrassed, and great efforts are made to avoid such a situation.

Table 5
Use of Material during Menstruation (%)

	Urban	*Rural*	*School-going*	*Out of school*	*Total*
N	330	281	307	304	611
New cloth	4.8	3.2	6.2	2.0	4.1
Old cloth	64.2	89.0	62.2	88.9	75.6
Cotton	0.3	0.7	0.7	0.3	0.5
Sanitary pads (readymade)	30.7	6.4	30.9	8.1	19.5

Problems during Menstruation

It was reported that adolescent girls suffer from various reproductive health problems associated with menstruation. Nearly 70 per cent in the study area reported problems during menstruation. This was higher among out-of-school girls (74 per cent) than those going to school. No significant difference was found between urban and rural girls as far as reporting of menstrual problems was concerned.

Among those who reported problems, a major one was 'abdominal pain', which was reported by more than 80 per cent of the girls. 'Irregular periods' was reported by nearly 53 per cent. The other problems were 'body/head ache', 'weakness', 'irritation', 'pain/burning during urination' and others. Table 6 also indicates that the proportion of girls reporting irregular periods is higher among rural girls, whereas abdominal pain is reported more by urban ones. Reporting of body/head ache was also higher among urban girls than those living in rural areas.

The data also revealed that, of those who reported problems during menstruation, only one-third sought treatment. Moreover, the proportion of those who sought treatment was higher in rural areas (36 per cent) than urban (28 per cent). The proportion was higher among schoolgoing girls (34 per cent) as compared to those out of school (30 per cent).

Table 6
Reported Symptoms of RTIs among Girls

	School-going	*Out of school*	*Urban*	*Rural*	*Total*
Percentage of girls reporting symptoms of RTIs (*N*=730)	19.9	33.8	25.8	27.6	26.7
Reported Symptoms (%)*					
White discharge	39.1	42.1	60.6	21.8	41.0
Burning during urination	18.9	30.5	27.7	24.8	26.2
Pain in lower abdomen	45.9	37.2	29.8	50.5	40.5
Itching	1.4	2.5	2.1	2.0	2.0
Pain during intercourse	1.4	3.3	3.2	2.0	2.6
Irregular periods	31.1	31.4	17.0	44.6	31.3

Note: *Of those who reported symptoms of RTIs.

Prevalence of RTIs/STIs

It was found that nearly 27 per cent of the girls reported some symptoms of RTIs/STIs (Table 6). The prevalence of symptoms was significantly higher among out-of-school girls than those going to school. The prevalence was slightly higher among rural girls.

The major reported symptoms of RTIs/STIs among girls were white discharge and pain in the lower abdomen (41 per cent each). It was observed that the reporting of white discharge was higher in urban and out-of-school girls as compared to the rural and schoolgoing girls, whereas a higher proportion of rural and schoolgoing girls reported lower abdomen pain. Irregular periods were reported by 31 per cent. Nearly 26 per cent also reported burning during urination. Other symptoms included itching and pain during intercourse.

Studies also suggest that vaginal discharge is frequently the most common gynaecological symptom reported by both rural and urban Indian women (Bang and Bang 1994; Koenig et al. 1998; Narayan and Srinivasan, 1994; Patel 1994). The study conducted by Gupta and Jain (1998) in Rajasthan also revealed a high reporting of white discharge among adolescent girls. However, the results must be viewed with a caution since these are based on reported symptoms.

Multivariate Analysis

Interviews and focus group discussions suggested that the practices during menstruation among adolescent girls varied according to their socioeconomic

and demographic characteristics. In order to identify the factors that influence safe menstrual practices among adolescent girls, a logistic regression analysis was employed. Here, the dependent variable was 'safe practice of menstruation'. It is a dichotomous variable taking a value of '1' if the adolescent girl followed safe practices of menstruation and '0' otherwise. Here, 'safe practices of menstruation' referred to use of either readymade sanitary napkins or new cloths. The independent variables were schooling, residential status, caste, religion, occupation of father, working status, family type and exposure to media. The results of the regression analysis are presented in Table 7.

Table 7
Odds Ratios from Logistic Regression Analysis Assessing Association of Selected Background Characteristics of Adolescent Girls and Safe Menstrual Practices

Characteristics	*Odd ratios*	*Significance at 95 % confidence interval*
Schooling		
Schoolgoing (reference)	2.45	0.0000
Out of school	1.00	
Residential status		
Urban (reference)	1.38	0.0923
Rural	1.00	
Caste		
General castes (reference)	1.86	0.0027
Scheduled Castes/Tribes	1.00	
Religion		
Hindu (reference)	1.10	0.6025
Muslims	1.00	
Occupation of father		
Service/business (reference)	1.51	0.0237
Others	1.00	
Working status		
Working	0.86	0.5752
Not working (reference)	1.00	
Family		
Nuclear	0.98	0.9176
Joint (reference)	1.00	
Exposure to media		
Exposed (reference)	1.44	0.0720
Unexposed	1.00	
Chi-square (*df*)	95.8 (10)	0.00

Logistic regression identified schooling, residential status, occupation of father, caste and exposure to media to be the major predictors of safe menstrual practices among adolescent girls in Rajasthan. The analysis shows that

the schoolgoing girls are 2.4 times more likely to adopt safe practices during menstruation as compared to out-of-school girls. Girls whose fathers were involved in service or business are more likely to adopt safe practices as compared to those whose fathers are labourer or involved in agriculture. Caste was also found to be significantly associated. Girls from general castes were 1.8 times more likely to adopt safe practices as compared to those belonging to Scheduled Castes or Scheduled Tribes. However, religion, family structure and working status did not show significant association with menstrual practices.

Similarly, variations were also observed in the prevalence of RTIs among adolescents with different socioeconomic characteristics. Therefore, to find the important factors affecting prevalence of RTIs after considering all the variables together, again a logistic regression model was used. For this we regressed the prevalence of RTIs among adolescents on variables such as schooling, residential status, caste, religion, occupation of father, exposure to media and menstrual practices.

The odds ratios computed through logistic regression found menstrual practices, schooling, exposure to media and occupation of father to be the major predictors of prevalence of RTIs among adolescents in Rajasthan (Table 8). It revealed that there was a highly significant relationship between safe menstrual practices and prevalence of RTIs. Girls using unsafe practices during menstruation had thrice the risk of getting RTIs compared to those having safe practices.

Similarly, out-of-school girls were at around 1.6 times higher risk of having RTIs as compared to those attending schools. Girls whose fathers were labourer or involved in agriculture had increased odds for prevalence of RTIs as compared to those whose fathers were involved in service or business.

Table 8
Odds Ratios from Logistic Regression Analysis Assessing Association of Selected Background Characteristics and Prevalence of RTIs among Adolescent Girls

Characteristics	*Odds ratios*	*Significance at 95% confidence interval*
Schooling		
Schoolgoing (reference)	1.00	
Out of school	1.62	0.0198
Residential status		
Urban (reference)	1.00	
Rural	1.42	0.0907

(*Table 8 Contd.*)

(*Table 8 Contd.*)

Characteristics	*Odds ratios*	*Significance at 95% confidence interval*
Caste		
General castes (reference)	1.00	
Scheduled Castes/Tribes	1.09	0.7068
Religion		
Hindu (reference)	1.00	
Muslims	0.52	0.0335
Occupation of father		
Service/business (reference)	1.00	
Others	1.69	0.0110
Exposure to media		
Exposed (reference)	1.00	
Unexposed	1.53	0.0031
Menstrual Practices		
Safe	1.00	
Unsafe	3.07	0.0000
Chi-square (*df*)	97.98 (9)	0.00

Girls living in rural areas had slightly higher odds for prevalence of RTIs as compared to their urban counterparts; however, the relationship does not seem to be significant. Although religion shows significant association with prevalence of RTIs, caste does not.

Discussion

The onset of menstruation is one of the most important changes occurring among the girls during the adolescent years. Although it is a natural process, it is linked with several misconceptions and practices, which sometimes result into adverse health outcomes. This study sheds light on some of the important issues related to the awareness and practices during menstruation among girls.

The study indicates that a significantly large proportion (more than 90 per cent) of girls were not aware about menstruation when they first experienced it. Most were frightened, embarrassed and disturbed due to ignorance about such a natural process. There was a general opinion that this would not have been so painful and disturbing if they had had prior knowledge about it. Some other studies of Indian women also have established that

young girls are generally told nothing about menstruation until their first personal experience of it (for example, George 1994). A study of women in Mumbai noted: 'The silence surrounding menstruation burdens young girls by keeping them ignorant of this biological function' (ibid.: 179). Even after the attainment of menarche, very little information is given to young girls about the physiological processes involved and the hygienic practices to be followed. The events and experiences surrounding menarche can be a significant influence on young girls' view of themselves as well as on their understanding of reproductive health issues, and on appropriate behaviour for hygienic management of menstruation. The findings of this study reinforce that this reticence about giving relevant information to adolescent girls is indeed widespread. The attention paid to a girl's first menstruation would appear to provide an opportunity for imparting health education, including genital hygiene.

Adolescent girls who are fortunate enough to be given relevant textbooks and health education materials by their teachers gain some information about reproductive functioning and reproductive health problems from school sources. But a great deal of their scant knowledge is dependent on informal communications with peers and family members. This study found mothers, sisters and friends to be the major source of information. Much of the information about menstruation imparted to a young girl is in the form of restrictions on her movements and behaviour. These restrictions are rooted with superstitions about the possible harmful effects of her 'polluting touch' and the equally polluting potential of the menstrual cloth. The restrictions and other traditional features affecting adolescent girls are stronger in rural areas. In the urban sector, girls from poorer families also report both poorer hygiene practices and more traditional restrictions and beliefs. Gar et al. (2001) in a study attempted to understand the experience of menstruation in the sociocultural context of an urban Indian slum. Women stated that they were given very limited information during their first period and that this information was given only once, that is, that periods came every month and to use a cloth for absorbing the blood. Many women were not told how often the cloth should be changed. However, though studies indicate that the levels of information about menstruation, genital hygiene and related reproductive health issues are gradually increasing, it appears to be a very slow process (Narayan et al. 2001). Constant efforts are needed to expedite this process, especially for the rural, poor and out-of-school girls.

More than three-fourths of girls reported using old cloth during menstruation, and a large proportion of them were reusing the same during

subsequent periods. Old cloth was the preferred and cheapest material used. All kinds of old, ragged and rejected clothes (old cotton saris) are kept by women for this purpose. It is a general practice not only in Rajasthan, but in other parts of the country as well. Gar et al. (2001) in their study found that of the 380 women studied, 2.9 per cent were using sanitary napkins or new cotton, the rest were either using old or worn cloth. Narayan et al. (2001) examined the social dimensions of menarche and menstruation in urban and rural areas near Pondicherry. The majority of urban and rural young women (12–17 years) used 'old cloth' and only 5.2 per cent used commercially available disposable napkins. The places where the cloth was stored were observed and found in many cases to be most unhygienic.

This study indicates that a large proportion of girls suffer from reproductive health problems. The reports of white discharge among adolescent girls in the study suggests a significant incidence of gynaecological morbidity, but these data should be interpreted cautiously. As pointed out by Koenig and others (1998) as well as researchers in other countries, the correspondence between women's self-reported white discharge and detectable infections is rather low. Clearly, some of the reported white discharge reflects reproductive tract infections (RTIs). On the other hand, some of the reported complaints may be excessive worry about 'normal' vaginal secretions. Despite the lack of strong correspondence between women's reports of white discharge and the presence of detectable RTIs, these manifestations are experienced by girls as problematic illness.

The regression analysis in this study indicates association of background characteristics and safe menstrual practices. It identified schooling, residential status, occupation of father, caste and exposure to media to be the major predictors of safe menstrual practices among adolescent girls in Rajasthan. Schooling was found to be having a significant impact on menstrual practices. Other studies also suggest that a higher proportion of urban and schoolgoing girls have safe practices during menstruation as compared to those not attending schools and living in rural areas. The study by Bhatia et al. (2001) also examined menstrual practices among schoolgirls. The results of the study found that the majority (52.5 per cent) of urban girls were using commercially available sanitary napkins and 70.7 per cent of rural girls were using simple clothes during menstruation, 19.2 per cent of them reusing them. Girls living in urban areas, attending schools and having access to media are better informed about reproductive health issues. A significant association of these factors with safe menstrual practices offers an opportunity that increased knowledge may escalate safe practices.

Importantly, this study found a significantly strong relationship between practices during menstruation and prevalence (reported symptoms) of RTIs. The prevalence of RTIs was more than 3 times higher among girls having unsafe menstrual practices. Since the menstrual practices are associated with background characteristics, the association of these with prevalence of RTIs is also reflected in the regression analysis. These findings are consistent with the findings of the study conducted by Narayan et al. (2001) in south India. It revealed that the reporting of a white discharge was significantly higher among rural girls and those with lower socioeconomic status and was negatively associated with the hygiene score.

The present paper makes a strong case that ignorance, false perceptions and unsafe practices regarding menstruation are not uncommon among adolescents in the study area, which result in serious implications for their reproductive and sexual health. Further, the study demonstrates that among the determinants for reproductive morbidity, practices during menstruation appear to be the most dominant factor. These findings reinforce the need to bring them out of tradtional beliefs, misconceptions and restrictions, and encourage safe and hygienic practices.

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