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# Psychology of Beliefs and Practices Relating to Menstrual Hygiene of Adolescent Girls in Rural, Islamabad, Pakistan

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**Abstract:**

**Objective:** It was observed in rural areas that, myth, mystery and superstition have long enveloped the facts about menstruation especially among adolescent girls. In girls, menarche starts during 10 to 19 years. Girls feel shy to discuss this topic openly. It was therefore considered relevant to assess the psychology of beliefs and practices relating to menstrual hygiene of adolescent girls aged 11-16 years old in regard to various aspects of menstruation, in rural area of Pakistan.

**Design:** The study applied was a descriptive survey.

**Place and Duration of study:** This study was carried out in BharaKahu Islamabad from Oct. 2014 to Nov. 2014.

**Patients and Methods:** A total of 416 post-menarche adolescent girl students aged 11–16 years, in grade 6–10, living with their parents were selected by random sampling and self-completed questionnaires. Collected data was analysed by using descriptive statistics, SPSS V.18.

**Results:** Of 416 participants, 63.0% respondents were 11–14 years old. 68.5% lived in a kacha house. 56.8% did not follow all menstrual hygiene practices recommended, they adopted menstrual practices based on the dominant sociocultural beliefs (51.0%) found in the BharaKahu society. A significant association ( $p=0.001$ ) was found between describe menstrual hygiene practices based on sociocultural beliefs. Cronbach's  $\alpha$  for CDI and PSS was 0.96 and 0.88 respectively.

**Conclusion:** Finding indicates that menstrual hygiene psychology and taboos are the issues. Factors most influential are sociocultural belief and both parents' education levels.

**Keywords:** Practices of menstrual hygiene, sociocultural beliefs, adolescent girl.

defines adolescent as individual between 10-19 years of age.<sup>1</sup>As they attempt to cross the threshold they face various physiological, psychological and developmental changes.<sup>2</sup>In the beginning of menstruation, a condition called PMDD (premenstrual dysphoric disorder).It was a mood disorder that accompanies the other premenstrual symptoms (PMS). The PMDD gets more severe as the period draws near, escalating the sufferer to a state of very high tension, anxiety and aggression.<sup>3</sup>The condition affects up to 8 percent of women. Menstruation was generally considered as unclean in some remote area of Pakistani society. Isolation of the menstruating girls and restrictions being imposed on them in the family, have reinforced a negative attitude towards this phenomenon.<sup>4</sup>

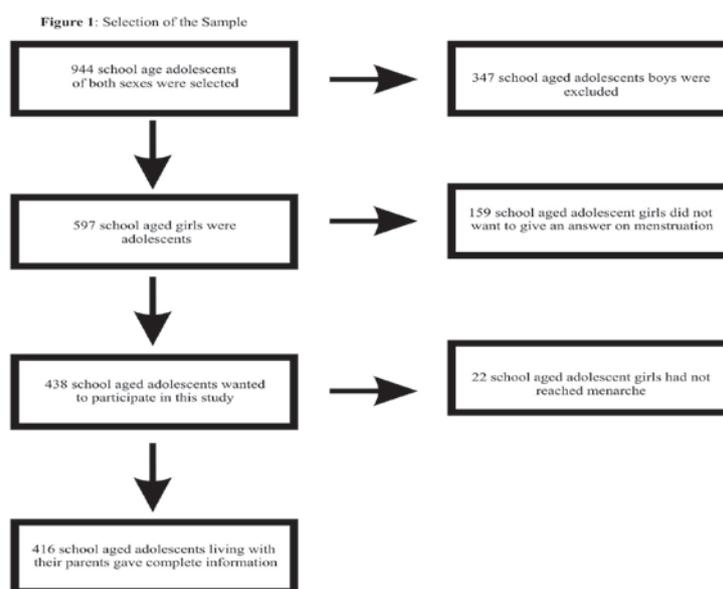
There was a growing concern worldwide and specifically in Pakistan, regarding the reproductive health needs of adolescents. The subject was highly sensitive and was considered as a taboo.<sup>5</sup>A report of a survey on the issue of reproductive health awareness of the adolescent girls was published in JCPSP (journal of college of physician and surgeon Pakistan) in details.<sup>6</sup>The family was the responsible foundation to give access and cater the needs of this age group. This was also time specific and need based; only when one passes through the first menstrual cycle, she can have access to limited knowledge about the changes occurring and how she needs to cope with them. The sensitivity of talking about sexuality was also a matter of concern.<sup>7</sup>In various public sector of BharaKahu, adolescents tend to underutilize health services.<sup>8</sup>By contrast there was little knowledge and inappropriate health care behaviour concerning menstruation. Therefore this study was design to assess the psychology of beliefs and practices relating to menstrual hygiene among rural area of Islamabad adolescent girls aged 11-16 years old in regard to various aspects of menstruation.

**Introduction:** Adolescence was a period of transition from childhood to adulthood. The WHO

**Method:** STUDY DESIGN AND PARTICIPANTS: Of 22 high schools (grade 6–10) in the study area, 2 were full government schools and 20 were non-government schools. We selected one of the government schools and two of the 20 non-government schools using a simple random sampling method (we drew numbers). We only selected three schools due to limited time and resources. These schools were well-established, older schools and conveniently located. One was a girls-only school and the other two were co-educational. The socio-economic, cultural, religious and geographical characteristics of the

schools were very similar. The schools were more than 2 km apart. A total of 597 adolescent girls attended the three schools, 438 of whom were willing to join the study. Participants were selected using the following criteria: (1) they were in grades 6–10, (2) were not critically ill, and (3) had achieved menarche. As 22 girls had not yet reached menarche, 416 participants were recruited (**figure 1**). Participants were between 11 and 16 years of age and were living with their parents. Age of the participants was verified through school records or birth certificate.

**Figure: Selection of the sample**



**DATA COLLECTION PROCEDURE:** This was an anonymous, questionnaire based survey. A Self developed, pre-validated questionnaire<sup>9, 10</sup> was used. Data was expressed as counts and percentages. This descriptive study was carried out in BharaKahu Islamabad and the study period lasted from October 2014 to November 2014. The permission from school was taken prior to the study. The informed written consent was taken from each participant. The study was coordinated with the help of female faculties, particularly for data collection. To increase the confidence of students, the participants were asked not to write any identification mark, including their name or school enrolment no. etc. They were also assured of their right to withdraw from the study at any time without consequences, and that participation was entirely voluntary. All of the questionnaires were distributed and collected on the same day trying to maintain the confidentiality of the collected data. The selected students were explained about the

protocol and purpose of the study and were requested to complete the questionnaires to elicit information relating to demographic features, menarche age and menstrual hygiene beliefs and practices.

**MEASURES: Psychology of beliefs about menstruation:** This section of the questionnaire consisted of 10 multiple choice questions to determine pupils' knowledge regarding: (1) normal monthly duration of menstruation, (2) poor menstrual hygiene predisposing to infection, (3) hygienic practices preventing menstrual pain, (4) menstrual blood being considered impure, (5) proper sanitary products, (6) cause of menstruation, (7) origin of menstrual blood, (8) age of normal cessation of menstruation, (9) hot or cold food affecting the menstrual cycle, and (10) menstruation as indicating fertility. The students' knowledge and beliefs were scored using a system adopted from previous studies.<sup>10</sup> Each correct response was awarded 1 point, while incorrect or

'don't know' answers received no marks. This gave a total possible score of 10 points. Respondents who scored 0–3 points were adjudged to have poor knowledge, those with 4–7 points to have medium knowledge, and those with 8–10 points to have high knowledge.

**Psychology of Practices related to menstrual hygiene:** This section of the questionnaire consisted of seven items assessing girls' psychology for menstrual hygiene practices. (1) the absorbent used during menstruation, (2) frequency of changing the absorbent each day, (3) drying of the used absorbent, (4) storing of washed clothes, (5) methods of disposal of the used absorbent, (6) cleaning of external genitalia, and (7) material used for cleaning of external genitalia. A score of 2 was given for good hygienic practices, a score of 1 was given for fair practices, and a score of 0 was given for poor practices. The maximum score was 14 points. Students who scored 0–4 points, 5–8 points and 9+ points were judged to have poor, fair and good practices, respectively.

**Psychology of perception based on menstrual disorders experienced and restrictions during menstruation:** Regarding menstrual disorders experienced by the adolescent, the following items were evaluated: (1) regularity of menstrual cycle, (2) types of complications experienced during menstruation, and (3) consultation with someone for menstrual-related complications. This section also contained items to assess girls' restrictions during menstruation: (1) visits to holy places, (2) visits to relatives, friends and neighbours, (3) participation in household activities, and (4) school attendance during menses. We also assessed adolescent depression using the Children's Depression Inventory (CDI).<sup>14</sup> The CDI evaluates feelings and ideas grouped into 27 items. Scores range from 0 to 54. We considered a cut-off score on the CDI of  $\geq 20$  to indicate depressed mood.<sup>12</sup> Cronbach's  $\alpha$  for CDI was 0.96. Stress was

measured using the validated Perceived Stress Scale-10 (PSS).<sup>13</sup> PSS scores range from 0 to 40, with a high score representing high social stress. A score  $\geq 20$  was considered to indicate high stress.<sup>14</sup> Cronbach's  $\alpha$  for PSS was 0.88. All these questions were inspired by previous studies that revealed a significant relationship between socio-demographic factors, practices, and sociocultural beliefs regarding menstrual hygiene.

**STATISTICAL ANALYSIS:** Descriptive analyses were conducted to determine the socio-demographic characteristics of the respondents. The household wealth index was used as a proxy indicator for household wealth status. The wealth index was constructed from existing data on a household's ownership of 15 assets and house construction materials as reported by the participants. Each asset was assigned a weight (factor score) generated through principle components analysis, and the resulting asset scores were standardised to a standard normal distribution with a mean of 0 and an SD of 1. Each household was then assigned a score for each asset, and the scores were summed by household. The sample was then divided into population tertiles: poor, middle and rich.<sup>15</sup> All analyses were performed using the Statistical Package for the Social Sciences V.18 (SPSS, Chicago, Illinois, USA). The research protocol was approved by the Research Ethical Committee, Islamabad Medical and Dental College.

**Results:** More than half of the respondents (63.0%) were 11–14 years old, 42.3% reported that their father had no education, and 41.6% reported that their mother had no education

(table-1). Approximately 95.0% were Muslim and 41.8% reported there were six or more members in their household. Of 416 participants, 37.5% were defined as being poor, concerning house type; 68.5% reported they lived in a kacha house (no bricks were used to build the house) (**table- I**).

<b>Variables</b>	<b>Number (N)</b>	<b>Per cent (%)</b>
<b>Age (years)</b>		
11–12	54	15.4
13–14	198	47.6
15–16	154	37.0
<b>Religion</b>		
Muslim	394	94.7
Non-Muslim	22	5.3
<b>Father's education</b>		
No education	176	42.3
Incomplete primary	94	22.6
Complete primary	89	21.4
Secondary or higher	57	13.7
<b>Mother's education</b>		

No education	173	41.6
Incomplete primary	119	28.6
Complete primary	75	18.0
Secondary or higher	49	11.8
<b>Household size</b>		
2-4	116	27.9
5	126	30.3
6+	174	41.8
<b>House type</b>		
Pakka	71	17.1
Half-pakka	60	14.4
Kacha	285	68.5
<b>Wealth index*</b>		
Rich	116	27.9
Middle	144	34.6
Poor	156	37.5
*Constructed from data on household assets, including ownership of durable goods (such as televisions and bicycles) and dwelling characteristics, such as source of drinking water, sanitation facilities, and type of construction. We used principal components analyses to assign individual household wealth scores. Pakka means brick-built, half-pakka means only the floor is made of brick, and kacha means no brick was used to construct the house.		

In the Psychology of beliefs about menstruation, 77.4% of the girls said that they knew how long a normal menstrual cycle lasted (between 21 and 35 days) and 68.3% adolescents were ignorant of poor menstrual hygiene. Likewise 67.1% adolescent girls reported unfamiliar to hygienic practices relation with menstrual pain and also mentioned that they don't know the menstrual blood was

impure. However 57.9% recognised sanitary products should be used. Though, 9.9% and 65.6% adolescents were oblivious about the origin of menstrual blood and the fact that hot and cold foods do not influence the menstrual cycle respectively. Overall, significant percentage (51.0%) was observed poor adolescents' self-reported beliefs psychology (see table-II).

**Table II : Psychology of beliefs about menstruation (n=416)**

Variables	Response N (Per cent)
Know the duration of normal menstruation cycle	322 (77.4)
Unaware to poor menstruation hygiene predisposes to infection	284 (68.3)
Can't distinguish good hygiene prevent menstrual pain	279 (67.1)
Naive about menstruation blood is impure	279 (67.1)
Recognise proper sanitary products should be used for menstruation	241 (57.9)
Unaware of the cause of menstruation	334 (80.3)
Naive about origin of menstrual blood	41 (9.9)
Unaware about the age of normal cessation of menstruation	245 (58.9)
Unaware on the Influence of hot or cold food on menses	273 (65.6)
Naive that the menses is an indication of fertility	179 (43.0)
<b>Beliefs grading</b>	
Poor (0-3)	212 (51.0)
Medium (4-7)	120 (28.8)
High (8-10)	84 (20.2)

Regarding the absorbent used during menstruation, only 16.8% of participants mentioned that they used sanitary pads whereas 49.8% used old cloths during menstruation. The frequency of changing pads/cloths 4 times per day was 8.4% comparing 1 times per day (77.4%). Also drying the absorbent inside/outside without sunlight was 70.1%. No considerable differences were observed in the storing of washed clothes (see table-III). Disposal of the absorbent by burial/burning or putting in a dustbin was significantly lower (15.6%). To cleaning the genitalia every time the toilet was used

or during bathing was also significantly low (see table-III). However, significant differences were observed in the material used to clean external genitalia (see table-III). Overall hygienic practices grading was very poor (56.8%). As regards physiological symptoms, 10.6% adolescents reported excessive bleeding (see table-IV). Concerning dysmenorrhoea/PMDD 61.5% adolescents reported abdominal pain and nausea and/or vomiting. Compared to psychological symptoms (PMDD) where significant amount of discomfort (8.4%), stress (5.3%) and depression

(6.0%) reported. Respondents also stated that they were not likely to consult someone for menstrual-related complications (90.8%; table-IV). Overall behavioural and physical restriction during menstruation was 75.0% (see table-IV). In this study, belief and practice was found strongly correlated ( $p=0.001$ ).

**Discussion and Limitation:** To the best of our knowledge, this was the first study to measure the psychology of a school-based, beliefs and practices of adolescent girls' menstrual hygiene in rural Islamabad. The present study demonstrates that belief and perception psychology play a strong role achieving good menstrual hygiene practice. Which was worse (51.0%) in our study. This finding agrees with the results of a study in Saudi Arabia.<sup>16</sup> In this study, only 16.8% of girls used pads. The remainder used poor quality cloths, which might make them susceptible to uterine pain (PMDD). Complication during menstruation was a

rare problem among adolescent girls and can affect their quality of life. 78.6% of adolescents experienced menstrual disorders; these findings were similar to the results of a study in Egypt.<sup>17</sup> In this study, premenstrual dysphoric disorder (PMDD)/ dysmenorrhea (pain during menses) was reported by most students (61.5%) agreeing to the findings of a study carried out in rural Pakistan in 2012.<sup>18</sup> Psychological symptoms; discomfort, stress and depression were also significantly high (6.56%) possibly because they had limited knowledge, and false beliefs about menstrual hygiene practices.<sup>19</sup> About 92.3% of girls reported that they did not attend school during menstruation. Similarly, 77.4% girls were observed restrictions to participate in religious activities or doing housework. All these findings prove that socio-cultural beliefs and taboos regarding menstruation were still widespread.

**Table III : Psychology of Practices related to menstrual hygiene (n=416)**

Variables	Response N (Per cent)
<b>Absorbent used during menstruation</b>	
Sanitary pad	70 (16.8)
New cloths	139 (33.4)
Old cloths/other	207 (49.8)
<b>Frequency of changing pad/cloths per day</b>	
4+ times	35 (8.4)
2-3 times	59 (14.2)
1 time	322 (77.4)
<b>Drying of used absorbent</b>	
Outside room in sunlight	78 (18.8)
Inside room with sunlight	46 (11.1)
Inside/outside room without sunlight	292 (70.1)
<b>Storing of washed cloths</b>	
Clean and covered place*	104 (25.0)
Clean and open space†	153 (36.8)
Unclean and open/covered place‡	159 (38.2)
<b>Method of disposal</b>	
Buried/burned/dustbin	65 (15.6)
Latrine	116 (27.9)
Throw on road	235 (56.5)
<b>Cleaning of genitalia</b>	
Every time use toilet	65 (15.6)
During bathing	149 (35.8)
Do not clean	202 (48.6)
<b>Material used for cleaning of external genitalia</b>	
Water , Soap and antiseptic	30 (7.2)
Soap and water	187 (45.0)
Only water/not cleaning	199 (47.8)
<b>Practice grading</b>	
Poor (0-4)	236 (56.8)
Fair (5-8)	120 (28.8)
Good (9+)	60 (14.4)
*Suitcase, box, and cupboard.	
†Store room, anywhere in the room, under a cushion, under the bed, behind the door, in the washroom.	
‡Gallery, under the kitchen roof, anywhere in the room, under a cushion, under the bed, behind the door, in the washroom.	

Table IV : Psychology of perception based on menstrual disorders experienced and restrictions during menstruation (n=416)	
Variables	Response N ( Per cent)
<b>PMDD--Menstrual disorders experienced-I.</b>	
Regularity of menstruation	393 (94.5)
Complications during menstruation	327 (78.6)
<b>PMDD --Types of complications during menstruation-II.</b>	
<b>Physiological symptoms</b>	
Excessive bleeding	44 (10.6)
Headache	32 (7.7)
Increase appetite	26 (6.2)
Greasy skin	28 ( 6.7)
<b>PMDD --Types of complications during menstruation-II.</b>	
Premenstrual Dysphoric Disorder (PMDD)/Pain in abdominal / groin / lumbar region (Dysmenorrhoea)	256 ( 61.5)
<b>PMDD--Types of complications during menstruation-III.</b>	
<b>Psychological symptoms</b>	
Discomfort*	35 (8.4)
High Stress*	22 (5.3)
Irritability	16 (3.8)
Depression†	25 (6.0)
Unaware to consult with someone (mother/sister/aunts/ friends/teachers/TV/ others) for menstruation-related complications.	378 (90.8)
<b>Behaviours and restrictions (Visit relatives, friends and neighbours during menses)</b>	
No	227 (54.6)
Yes	189 (45.4)
<b>Behaviours and restrictions (to participate in religious activities or doing housework during menses)</b>	
No	322 (77.4)
Yes	94 (22.6)
<b>Behaviours and restrictions (Attend school during menses)</b>	
No	384 ( 92.3)
Yes	32( 7.7)
*A cut-off score of $\geq 20$ was considered to indicate high stress.	
†A cut-off score of $\geq 20$ was considered to indicate depressed mood.	

A similar situation has been reported from the village Tariya, Rawalpindi which may have a substantial impression on the physical and psychological health of that affected.<sup>7</sup> Despite these findings that would surely contribute to an increased understanding of psychological beliefs and practices surrounding menstrual hygiene in BharaKahu, some limitations to our study must be addressed. First, the findings in this study were based on self-reported outcomes and may therefore differ from actual behaviour. Second, information about complications was obtained from participants and not from medical records due to time and budget constraints, and so bias may have affected the reliability of the data. Third, even though adolescents, who experienced pain in the abdominal, groin and lumbar regions before or at the first day of menstruation, were considered to have PMDD/dysmenorrhoea, we did not assess the degree of pain using a pain scale. In future, we would certainly consider doing this. It

was important to realize that customs and beliefs may vary between regions and peoples, although certain beliefs based on ancient principles was shared.<sup>20</sup> Also, this study established that mothers' education on menstruation and pre-menarche knowledge play important role in the development of psychological characteristics of adolescents. Because the average age of onset of menstruation in BharaKahu, Islamabad is early adolescence i.e., 11-14 years. This was consistent with the age of onset in west. According to Berk<sup>21</sup> age of onset of menstruation was early adolescence. This was also consistent with the age of onset in Karachi, Pakistan, 12-14 years.<sup>22</sup> Even though such limitations, the outcomes of the study highlight key findings that if adolescent girls are not given enough information about menstruation, they will believe in myths that would continue reducing mobility and restricting many activities during that period.

**Conclusion:** From the findings of the present research, we can conclude that there was a positive correlation between psychology of beliefs and

practices related to menstruation that was an indicator of confirmation of these scales and also supports the previous literature. Menstrual hygiene practices & social taboos followed during menstruation were issues needs to be addressed at all levels. A variety of factors were known to affect menstrual behaviours, the most influential ones were sociocultural principles and both parents' education level.

**Keywords:** Practices of menstrual hygiene, sociocultural beliefs, adolescent girl, taboo, premenstrual dysphoric disorder.

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**Contributors:**

**Schools:**

Islamabad F.G girls' high school kothathyal, Bharakahu  
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