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Experiences and Attitudes Related to Menstruation among Female Students

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Experiencing menstruation is an important indicator of reproductive health that holds great significance in the life of young girls. Aim of the study was to explore the relationship between attitudes and experiences related to menstruation among female adolescents. For this purpose, Attitude towards Menstruation Scale originally developed by McHugh and Wasser in 1959 (as cited in Shaw & Wright, 1967) was adapted and Checklist on Experiences related to Menstruation was developed in the present study. These were administered on the sample of 245 college girls with age range between 16-21 years from Islamabad. Of the total sample, 96% had onset of menstrual cycle in early adolescence. The findings supported significant positive correlation between attitude and experiences related to menstruation. Overall negative attitudes and experiences prevailed among students. The study confirms the hypothesis that those having mothers as a major source of information regarding menstruation had significantly more positive attitudes and experiences. Further, those who used ready-made sanitary napkins showed significantly more positive attitudes and experiences than those who used home-made sanitary napkins.

Keywords: menstruation, menarche, attitudes, scale development, female adolescence

The onset of menstruation at puberty (usually between age 10 and 17), called menarche signals the body's coming readiness for childbearing. It continues, unless interrupted by pregnancy or menopause (around age 50) (Rice, 1991). Menstruating woman is seen as a normal woman and many women despite experiencing sickness during menstruation take it positively (Chrisler, 2008; Lee, 2002; Marvan, Cortes-Iniestra, & Gonzalez, 2005) as an early marker

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of transition from girlhood to womanhood (Martin, 1987) as an indication of fertility, hence, is strongly linked with association between self and identity (Lee, 2002).

Most girls get their periods between 10.5 to 15.5 years of age (Agarwala, Goyal, & Sharmma, 1991; Costos, Ackerman, & Paradis, 2002; Polat et al., 2009; Tanner, 1990). The average age is reducing with rising standard of living in developed countries (Brumberg, 1997; McKibben, 2003) and is linked with economic status (National Institute of Population Studies [NIPS, Pakistan] & Macro International Inc., 2008). This is not a simple process but involves lot of complicated biological and psychological changes (Berk, 1999; McCary & McCary, 1982; Tanner, 1990) like anxiety, disturbance of daily routine activities, lack of interest in job, etc. Women want to avoid (Loudon, 1977) or reduce its frequency yet do not prefer amenorrhea to menstruation (Snowden & Christian, 1983) and do not prefer its cessation at any cost (NIPS, Pakistan & Macro International Inc., 2008). Menstruation is important for their lives and survival (Gold & Coupey, 1998; Loudon, 1977), maintaining appearance and women feel themselves to be inadequate and incomplete without this (Piya-Anant et al., 1998).

Although menstruation is highly valued and significant for womanhood still, very few studies have found positive attitudes towards menstruation (see Lee, 2002). There are certain issues that society does not allow people to talk about openly because society considers it a taboo. According to Costos et al. (2002), "menstruation is experienced by all healthy women yet it is a topic cloaked in secrecy, taboo, and negativity" (p. 49). If a young girl is not informed before its onset, she feels that something is very wrong with her that generates negativity and fear towards her gender (Katheryn, 2004) and lowers self-esteem (Mathews, 1995). Negative views of menstruation like considering it as a misery and pain are common, therefore, their sources and implications deserve increased consideration (Fredrick, 2004; Mathews, 1995; Water Aid, March 2009).

Some girls go through this period with no serious problems, while for others menstruation may bring in long series of troubles (Abel & Joffe, 1950; Duzgun, Ates, & Tuna, 2006; Koff, Rierdan, & Sheingold, 1982; Lee, 2002; Moschiano, Grazzi, D'Amico, Schieroni, & Bussone, 2001; Polat et al., 2009). A study of menarche-experience of 95 women revealed that negative reactions to first menstruation were very common (Logan, 1980). Early maturing girls have more negative reactions than late maturing girls have (Brooks-Gunn & Ruble, 1982). Girls experience irritation,

headache (Agarwala et al., 1991), depression, hostility, anxiety, and emotional upset before and during the menstrual period (Adewuyal, Loto, & Adewumi, 2008; Rice, 1991). Most women declare it a sickness (Lee, 2002) and unhygienic (Costos et al., 2002; Martin, 1987).

It is estimated that 60-80% women experience discomfort and pain, related to Premenstrual Syndrome (Lee, 2002; Sharma, Malhotra, Taneja, & Saha, 2008). Women who have positive attitude towards menstruation mostly perceive these changes as desirable (Lee, 2002). Around 90% of women in Pakistan experience pain during menstruation and major cause for negative attitude are lack of information regarding menstruation and about dealing with the pain (The Dawn Media Group, Dec 17, 2009). Fifty percent girls do not know about the origin of blood and most with information prior to menstruation extracted it from maternal conversations (Ali & Rizvi, 2009). A report by Marie Stopes International (February 2006) about sexual and reproductive health in Pakistan, showed that girls experience high anxiety, feel ashamed, and shy on experiencing menstruation. Therefore, so many environmental factors (e.g., relationship with parents, teachers, or the opposite sex) can influence mood fluctuations than female hormones only (Rice, 1991). Girls are often ashamed of this experience being a taboo and for high expectation for sanitary protection (Mathews, 1995).

Attitudes based on direct experience of issues and events (Myers, 1996) are often more consistent with behavior. Girls who experience too many difficulties related to menstruation prefer to have this experience once after two or three months instead of experiencing it regularly and exhibit overall negative attitude towards this phenomenon (Koff et al., 1982). Guidance and prior information effect better physical and psychological experience of menstruation. Those who wanted not to bleed at all were not prepared beforehand i.e., nobody guided them to deal the changes they went through (Rutter, Knight, Vizzard, Mira, & Abraham, 1988). Generally, very little instruction about or preparation for the emotional aspects or sensations related to menstruation are provided (Brumberg, 1997). For this, mothers are the primary source of information (Weideger, 1976), followed by sisters and friends (Water Aid, March 2009).

Girls usually acquire the attitudes exhibited by their mothers towards this phenomenon (Gray, 1990) through observing and imitating (Bandura, 1965). Sometimes mothers do not feel comfortable or competent enough to educate their daughters on menstruation (Brumberg, 1997). Very few girls get information before menstruation rather get it after getting menarche (Marie Stopes

International, February 2006), and that too mostly limited to use of different material and rituals to handle menstruation, hence promote the assertion that its something unhygienic (Water Aid, March 2009).

Costos et al. (2002) found that most mothers do not share their personal experiences of menstruation with their daughters (see also Water Aid, March 2009). Many (58%) did not even discuss menstruation with their daughters (see also Rice, 1991) or simply give information about the sanitary product to be used (23%); a few did not explain it being a religious taboo. Most of the girls reported that their mothers often communicate information related to menstruation negatively and much of the attitude is "grin-and-bear-it". Not finding proper help, girls turn to the sanitary products manufacturers who provide films, speakers, and pamphlets as marketing strategy (see Brumberg, 1997; Merskin, 1999; Rice, 1991). They also promote hygienic crisis as an issue to encourage use of sanitary napkins (Brumberg, 1997; Martin, 1987; Merskin, 1999).

Such negative messages about menstruation predominate in every medium (Houppert, 1995) propagating fear and secrecy (Merskin, 1999) that portrays restraining view of menstruation (Cortes-lniestra, Marvan, & Lama, 2004). This combination of inevitability and negative messages provide no avenue for expressing positive attitudes toward menstruation (Katheryn, 2004). Many girls use used clothes for handling this phase because of high cost of sanitary napkins. Disposal of used material is a challenge (Water Aid, March 2009). Ads related to sanitary products propagate the theme of comfort the most followed by lack of bulk and easy to use (Merskin, 1999). Research concluded by Dickson and Wood (1995) shows that girls preferred thin stream lined pads and those who were using such types of pads were assumed to have positive experiences and attitude related to menstruation.

It is important, therefore, that women be prepared in a positive way for menstruation. The more knowledgeable they are prior to menarche, the more likely they will report a positive initial experience and consequently will have more positive attitude towards this phenomenon (Marvan et al., 2005; Ruble & Brooks-Gunn, 1982). A study conducted by Katherine and Hoerster (2003) showed that American women scored significantly higher on attitudes and knowledge about the menstrual cycle as compared to Indian women. They were also better prepared for menarche than Indian women did. Nevertheless, Indian women scored significantly higher than American women on the attitude subscales, i.e. menstruation as a natural event and denial of the effects of menstruation.

Nevertheless, an Indian research concludes that females who did not have prior information showed more favorable attitude towards menstruation as compared to those who had information regarding menstruation. The reason for the findings given by the researchers were that the cultural myths and taboos in Indian society that pass from one generation to another and plays important role in the attitude formation regarding menstruation. All these factors lead to inferior quality and quantity of the information. Findings were in contradiction with the anticipated assumption, that is, females would have unfavorable attitude towards menstruation due to number of physical and psychological causes (Agarwala et al., 1991).

In patriarchal cultures, menstruation carries negativity, and in matriarchies it is positive. Rituals also play role in the formation of attitudes towards this phenomenon (Red Spot, 1999; Weideger, 1976). Menstruating women experience stigma in many religions and cultures (Merskin, 1999). Many relate woman to be unclean and impure in menarche are restrictive especially in offering prayers e.g., in Zoroastrianism (Culpepper, 1974), Hinduism (Chawla, 1992), Jewish (Lev as cited in Azim, 1997), Islam (*AlQuran*, 2:222; Mathews, 1995), etc. She has to undergo a thorough cleansing ritual of all body parts, hair, nails and clothing before she can be considered *Pak* [clean and to be able to say her prayers again] (Hassan, n.d.). Such social experiences affect the feelings, behaviors, and cognitions of the woman relating to this issue. Over the years, though attitudes and beliefs in menstruation related taboos have changed, still it is considered to be source of annoyance that women have to deal (Chrisler, 2008; Marvan et al., 2005; Merskin, 1999).

Anxieties of society at large can come to surface as the anxieties among the adolescent girls themselves that makes this biological phenomenon more depressing and troublesome affecting attitude towards this phenomenon negatively (Martin, 1989). Unfortunately, many girls are negatively conditioned even before menses (Clark & Ruble, 1978; Stubbs & Costos, 2004). One perception is that women over state their premenstrual symptoms, even when these are mild (Marvan & Cortes-Iniestra, 2001).

Experiences of menstrual symptoms, distress, and attitude towards menstruation were found to be related (Adewuyal et al., 2008; Scamber & Scamber, 1985). A study conducted by Dickson and Wood (1995) concluded that those girls who had difficult menstrual experiences (e.g. severe pain) had more negative attitude as compared to those who had positive menstrual experiences. In Nepal, Water Aid (March 2009) conducted a project to check the school going girls' knowledge and experiences related to menstruation. For this, they

collected data from 204 girls and found that abdominal pain was the most common, and girls are under constant stress for the fear of others become aware of their periods. They also experienced much absenteeism (see also Sanyal & Ray, 2008), and problems in concentration and attention in their studies because of menstruation. Problems in washing and cleanliness are major reasons for absenteeism. Concealment factor generate annoyance and restrictive feelings even in middle aged women (see Houppert, 1995). And they are more likely to believe in type of behaviour the woman should exhibit (taking hot bath, eating hot food, tea, etc.) or should not exhibit (swimming, exercising, drinking cold beverages, etc.) during this time (Marvan et al., 2005). In Pakistan too 50% of female adolescents reported that they don't take bath during menstruation (Ali & Rizvi, 2009). There are many misconceptions and unhygienic conditions that prevail (Ali, Sami, & Khuwaja, 2007), while it has been observed that many complication during menstruation could have been reduced by observing cleanliness by using water (Sanyal & Ray, 2008).

Menstruation is a biological phenomenon experienced universally. In developing countries like Pakistan there is little research on the said phenomenon and those available are done in medical sciences. The aim of present research is to study attitudes and experiences related to menstruation among female adolescence to promote better reproductive health of Pakistani women. Adolescence is the age when many changes (physical, psychological, and cognitive) take place (Berk, 1999) and female adolescence consider menstruation as a problematic issue in reproductive health (Kumar, Raizada, Aggarwal, & Kaur, 2000) that needs counseling (Sharma et al., 2008). These changes have significant impact on their attitudes (Rice, 1991). Therefore, this age is important to obtain meaningful information regarding the experiences and attitude related to menstruation. Previous researches have focused female adolescence to explore knowledge and experiences related to menstruation considering age ranges from 13-19 years (Ali & Rizvi, 2009) and 14-20 years (Sanyal & Ray, 2008).

Present study also aims at exploring the differences in attitude and experiences related to menstruation along source of information regarding menstruation i.e., mothers and others (friends, electronic media, print media, etc.), use of sanitary napkins (i.e., ready-made and home-made), age of participants, and age of onset of menstruation. Following are a couple of assumptions based on literature review:

Hypotheses

1. Girls having their mother as source of information regarding menstruation have more positive attitude and experiences related to menstruation as compared to those having others (sisters, friends, relatives, and media) as source of information.
2. Those who use ready-made sanitary napkins have more positive attitudes and experiences than those who use home-made napkins.

Method

Sample

Sample consisted of 245 female adolescents studying at intermediate to postgraduate levels in postgraduate colleges for women in Islamabad. Convenience sampling was utilized for the sample selection. Effort was done to maintain the number of students in each level of education equal. Age range was from 16 to 21 years (M = 18, SD = 1.54). Half of the sample belonged to middle adolescence (n = 122) with age range 16-18 years and remaining half was lying in the range of late adolescence (n = 123) with age range 18-21 years (see Berk, 1999). Only those girls were included in the sample who were experiencing menarche regularly since its onset. Out of the total sample 70.61% of girls had mothers as source of information regarding menstruation and 29.38% had others (sisters, friends, media, etc.) as source of information. Half of the sample (n = 123) was using ready-made sanitary napkins and remaining half (n = 122) was using home-made napkins to manage menstruation.

Instruments

Attitude towards Menstruation Scale (AMS). It was originally developed by McHugh and Wasser in 1959 (as cited in Shaw & Wright, 1967) was adapted in the present research (for details see Aflaq, 2005). Adapted version consisted of total 35 items. Out of 35 items, 22 (10, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, and 33) items were based on reverse scoring. The items were rated on a 5-point scale, 5 was assigned to *strongly agree* and 1 was assigned to *strongly disagree*. Range of item-total

correlation ($N = 175$) was .16 - .68 at $p < .05$ and .01 levels. Cronbach alpha achieved on present sample was .86. High score on the scale showed positive attitude towards menstruation whereas low score on the scale showed negative attitude towards menstruation. Maximum score for AMS was 135 whereas minimum score was 35. Total time required for the administration of this scale was 10-15 minutes.

Checklist on Experiences Related To Menstruation (CEM). This was developed in the present study to explore experiences related to menstruation (for details see Aflaq, 2005). It consisted of 20 items in total. Scoring procedure was determined through Yes/No responses. *Yes* was assigned a score of 1 and *No* was assigned score of 0. Reverse scoring was done on item no. 3,4,5,6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 19, and 20. Item-total correlation ($N = 175$) range for CEM was .12 to .48 at $p < .05$ and .01 levels. Cronbach alpha achieved on present sample was .95. High score on CEM showed positive experiences related to menstruation whereas low score showed negative experiences related to menstruation. Maximum score for CEM was 20 whereas minimum score was 0. Total time required for the administration of CEM was 7-8 minutes.

Demographic Data Sheet. The respondents were also asked to fill in the demographical data sheet that was attached with the measures to furnish the information regarding age, age of onset of menstruation, education, source of information regarding menstruation, and either respondents use home-made napkins or ready-made napkins during menstruation.

Procedure

The data was collected from female students of intermediate to post-graduate level from different colleges of Islamabad. Prior permission was sought from respective departments' administration for data collection. Measures were shown to the authorities to address if they had any reservation regarding material to be used for data collection. After taking their consent, scales were administered in classroom setting. Participants were told about the nature of the study and they were also assured that information provided by them would be kept confidential and would be used only for the research purpose.

First the instructions related to CEM and AMS were given and they were requested that only those would be required to participate who had experienced their menstrual cycle regularly since onset of menarche. None of the student declined the participation. Then every participant was handed over both the measures. They were asked to

mark each and every item without leaving any item unanswered. They were informed that the unrestricted time was allowed to respond to the items. Participants did not experience any difficulty in responding to the items. For each group, the order of administration of the scales was changed to control order effect. After collecting the data, results were compiled and analyses were run on the data through SPSS 16.

Results

To determine the descriptive of the sample (N = 245) the mean, standard deviation, range, minimum and maximum scores, cut off point, and percentages were calculated.

Table 1

Descriptives of the Total Sample on Attitude and Experiences Related to Menstruation (N = 245)

Scales	High Score	*M(SD)*	Range	Min	Max	Cut-off	Above Cut-off	Below Cut-off
CEM	20	11(3.65)	19	1	20	11	23%	77%
AMS	175	100.9(15.58)	83	60	143	105	47%	53%

Table 1 shows that overall negative attitudes as well as experiences related to menstruation are exhibited by most of the girls when comparing with respective cut off points. Sample is more inclined towards negative attitudes (53% below cut off point) as well as negative experiences (77% below cut off point) related to menstruation as compared to positive attitudes (47% above cut off point) and positive experiences (23% above cut off point) related to menstruation.

The main objective of the study was to find out the relationship between attitude and experiences related to menstruation. For this purpose, Pearson Product Correlation was computed. Item-wise correlations were computed between experiences and attitudes to study the relationship in detail. For the present analysis (see Table 2) reverse scoring of CEM items was not done.

Table 2 shows that item no. 2, 4, 5, 6, 9, 10, 15, 16, 18 ($p < .01$), and item no. 7, 14, 20 ($p < .05$) in CEM have significant correlation with total score on AMS. Of total significant correlations two are positive (item no. 2 and 18) and remaining are negative.

Table 2

Item-wise Correlation of CEM with Total Score on AMS (N = 245)

Item no.	Items	*r*
	When I experienced my first periods/menses, I	
1	Was well informed beforehand.	.12
2	Could easily share with others.	.29**
3	Felt annoyance at the part of mother.	-.11*
4	Was conscious of going to social gatherings.	-.24**
5	Felt as if everybody is looking at me.	-.19**
	During periods, I feel...	
6	Depressed mood.	-.32**
7	Lethargy.	-.12*
8	Irregular sleep.	.12
9	Disturbed appetite.	-.23**
10	Tension/anxiety.	-.26**
11	Unhygienic.	.11
	During periods/menses, I	
12	Am well prepared (remember the dates, self-sufficient etc.) to deal with it.	.10
13	Feel pain in head/back/legs/stomach etc.	.10
14	Take pain killers.	-.13*
15	Avoid any physical activity.	-.18**
16	Feel interference in daily routine activities.	-.23**
17	Hesitate in wearing light colored clothes.	.11
18	Can move freely in home/school setting.	.23**
19	Avoid taking bath.	.04
20	Experience irregular cycle.	-.14*

*$p < .05$. **$p < .01$.

To explore differences along source of information regarding menstruation on attitude as well as experiences related to menstruation, sample was divided into two groups, one group was of those who responded to mother as a source of information (n = 173) and other was of those who responded to others (elder sisters, friends, relatives, media) as source of information (n = 72). Independent sample t-test was administered to compute the analysis (see Table 3).

Table 3

Differences along Sources of Information regarding Menstruation on Attitude as well as Experiences Related to Menstruation (N = 245)

	Mother (n = 173)	Others (n = 72)		
Scales	*M(SD)*	*M(SD)*	*t*(244)	*p*
CEM	11.36(3.50)	10.54(3.98)	2.48	.01
AMS	101.69(15.20)	99.22(16.44)	5.41	.00

The mean values in Table 3 show that those who get information from mother have more positive attitude with Cohen's d = .16 and effect size r = .08 as well as experiences related to menstruation with Cohen's d = .22 and effect size r = .11. Therefore, hypothesis 1 of the study got accepted i.e., the girls having mother as a source of information regarding menstruation have positive attitude as well as experiences related to menstruation as compared to those having others (sisters, friends, relatives, and media) as a source of information regarding menstruation.

To explore differences along use of home-made sanitary napkins or ready-made sanitary napkins on attitude as well as experiences related to menstruation independent sample *t*-test was administered (see Table 4).

Table 4

Differences along Use of Home-made and Ready-made Sanitary Napkins on Attitude as well as Experiences to Menstruation (N = 245)

	Ready-made (n = 123)	Home-made (n = 122)		
Scales	*M*(*SD*)	*M*(*SD*)	*t*(244)	*p*
CEM	11.93(3.36)	10.76(3.48)	2.59	.01
AMS	106.56(12.91)	96.17(16.19)	5.37	.00

Results in Table 4 show that there is significant difference along the use of ready-made and home-made sanitary napkins. Results show that those girls who use ready-made pads show significantly more positive attitude with Cohen's d = .71 and effect size r = .33 as well as experiences related to menstruation with Cohen's d = .34 and effect size r = .17 as compared to those who use home-made pads. This proves the second hypothesis of the study that the girls who use

ready-made sanitary napkins have positive attitude as well as experiences related to menstruation as compared to those who use home-made sanitary napkins.

To explore differences in age of onset of menstruation on attitude as well as experiences related to menstruation, sample was divided into three groups, one was having onset in preadolescence i.e., below 12 years of age (n = 5), second was having onset in early adolescence (n = 237), third was having onset in middle adolescence (n = 3). Percentages were calculated for all the three groups that were 2%, 96% and 2%, respectively for three ages of onset. As there is too much difference in the sample size of all the three groups, therefore, one way ANOVA in this case was not applied to explore the differences in attitudes and experiences. Therefore, only percentages were calculated to report usual age of onset of menstruation for the present sample. We can cautiously posit that average age for onset of menstruation is early adolescence for Pakistani middle class female population.

To explore age differences in attitude as well as experiences related to menstruation, sample (N = 245) was divided into two groups, one group was of middle adolescents (n = 122) and other was of late adolescents (n = 123). Independent sample t-test was administered to compute the results.

Table 5

Age Differences on CEM and AMS (N = 245)

	Middle Adolescents (n = 122)	Late Adolescents (n = 123)		
Scales	*M(SD)*	*M(SD)*	*t*(244)	*p*
CEM	11.03(3.61)	11.22(3.73)	0.39	.69
AMS	102.50(16.13)	99.41(14.98)	1.55	.12

Results of Table 5 show that there is nonsignificant difference in middle adolescent girls and late adolescent girls on attitude as well as experiences related to menstruation.

Discussion

The present study aimed at exploring the experiences and attitude of female adolescences about menstruation with the main objective to study relationship between these two variables. Study also intended to

explore the differences in attitude and experiences related to menstruation along various demographic variables e.g., age, age of onset, source of information regarding menstruation, and use of sanitary napkins.

For this purpose the AMS (McHugh & Wasser as cited in Shaw & Wright, 1967) was adapted and a reliable and valid CEM was developed to be applicable for the present sample (for details see Aflaq, 2005). Results of reliability analyses show that both AMS and CEM were highly reliable measures to be used for the present sample, hence, ensuring one aspect of psychometric properties. Many researchers have used quantitative measures to study attitudes related to menstruation (see for example Brooks-Gunn & Ruble, 1980; Katherine & Hoerster, 2003; Lee, 2002; Marvan et al., 2005; Rempel & Baumgartner, 2003; Water Aid, March 2009) that gives an edge to get information from a large number of participants reliably by using valid measures. Therefore, present authors also took up quantitative exploratory research.

Main aim of the study was to explore the relationship between attitude and experiences related to menstruation that indicates that there is significant positive correlation between two variables. Since reverse scoring was not done for CEM, therefore, values have appeared in negative, but as per interpretation our findings demonstrate a significant positive relationship between attitude and experiences related to menstruation depicted by items. This also ensures the construct validities of both measures as literature review shows that experiences related to menstruation are related to attitude towards menstruation (Loudon, 1977; Scamber & Scamber, 1985) and that women exhibit negative attitudes towards menstruation because of the negative experiences (restriction of women's social, religious, and domestic activities) while they are menstruating (*AlQuran*, 2:222; Chawla, 1992; Culpepper, 1974; Koff, Rierdan, & Stubbs, 1990; Mahboob-e-Alam, Bradley, & Shabnam, Nov 2007; Marie Stopes International, February 2006; Merskin, 1999; Polat et al., 2009; Sharma et al., 2008; Snowden & Christian, 1983; Water Aid, March 2009). It means that in present context too, girls who have negative experiences related to menstruation exhibit negative attitude towards menstruation and vice versa.

Such a relationship was revealed by item-wise correlation of CEM (see Table 2) with total score on AMS suggests the significant positive correlation between the attitude and experiences of the sample. Item no. 2 shows significant positive correlation and item no. 4, 5, 6, and 7 in Table 2 show significant negative correlation with attitude towards menstruation. This refers to the fact that the girls who

have positive thinking and feelings regarding this phenomenon and do not consider it a thing to hide, have positive attitude towards menstruation whereas those who do not share it with others, take it as a burden not worthy enough to be discussed. This implies the fact that the girls who have negative feelings or negative attitude towards menstruation are conscious while attending the social gatherings. The reason might be that, physically and psychologically they do not feel comfortable. Further, change in moods and feelings during this time also play affective role in developing negative attitude towards this phenomenon. Researches also support the fact that because of the bodily changes accompanied with mood swings and depressed state in puberty; girls develop negative attitudes (Adewuyal et al., 2008; Dreyfus, 1976; Lee, 2002; Loudon, 1977; Rice, 1991).

Disturbed appetite (Item no. 9) significantly negatively correlated with positive attitude towards menstruation. It is commonly observed that girls either start eating a lot or avoid eating during menstruation. The researches also support this fact i.e., 95% of the anorectics are women, usually between ages 12-18. This is because they face too many difficulties and negative reactions in this time of development such as onset of menstruation, intense dislike of the body fat, etc. (Seligman, March 7, 1983) or they feel weak and anemic or feeling like having 'bloodless body'(Mahboob-e-Alam et al., Nov 2007). Ali and Rizvi (2009) found that 46-55% of female adolescence experience fear and worry during their periods. As girls feel a lot of changes in their activities e.g., they have to take care of their clothing, avoid going outside, etc., therefore, they feel tense and do not appreciate the arrival of this phenomenon. The reason might be that many girls feel embarrassed and concerned for being other noticing this condition in them (Water Aid, March, 2009). In the present research, significant negative correlation is observed between attitudes and feeling tension and anxiety during menstruation.

It is observed in daily life and also proved from researches that girls experience pain or heavy discharge during menstruation (Sanyal & Ray, 2008) and take pain killers to avoid the pain during menstruation without the prescription of doctor (Poureslami & Osati-Ashtiani, 1998). Many do not seek medical advice on such issues (Sanyal & Ray, 2008). This also reveals the fact that the problems faced during this time period are not paid attention and are taken for granted which is not a healthy attitude. That may be the reason for weak but significant negative correlation is observed between taking pain killers and positive attitude.

Girls usually learn to avoid physical activity (Item no. 15) (Marvan et al., 2005) which can further aggravate the problems, but as

per research evidences it is considered healthy and beneficial to do exercises during menstruation (Poureslami & Osati-Ashtiani, 1998). The reason might be that mothers, aunts, and storyteller transmit myths related to menstruation from one generation to next (Merskin, 1999). Item no. 16 is negatively and 18 is positively correlated with attitude towards menstruation. Both items pertain to personal mobility during this time period and interestingly have opposite relationship based on the content of the items. As discussed before due to uneasy feelings and hassle girls try to avoid moving in any type of setting and their daily routine activities are also disturbed (Koff et al., 1990; Polat et al., 2009; Sharma et al., 2008). Absenteeism is commonly observed among college and school going girls during this time period (Sanyal & Ray, 2008; Water Aid, March 2009). Many women feel guilty for not giving a helping hand in household chores during this time period either they are feeling weak or in certain cultures they are not allowed to touch things. Some feel guilty for not offering prayers (Mahboob-e-Alam et al., Nov 2007).

Interestingly, despite disliking for these experiences, girls are aware of the essential purpose of this phenomenon, therefore, they get upset when they do not experience it regularly. Hence irregular cycle induce negative attitudes. This disturbance affects their self-esteem negatively (Beecher, 1980). Research evidence shows that Indians as compared to American participants believe in menstruation being natural phenomenon (Katherine & Hoerster, 2003), Pakistani female adolescent has similar beliefs considering it to be important for being females that removes dirt from stomach (Ali & Rizvi, 2009). Since Pakistan is South Asian country, and culturally it shares many commonalities with other South Asian countries that might be a reason that women get depressed once they experience irregular cycle. Women consider it to be important for their survival (Gold & Coupey, 1998; Loudon, 1977), and maintaining appearance (Piya-Anant et al., 1998).

Overall, it can be inferred on the basis of descriptive analysis that in Pakistan overall attitude of girls/women is negative towards menstruation. It is because of the fact that there is lack of awareness regarding sex related topics being a taboo (Costos et al., 2002; Myers, 1996) and patriarchal society (Weideger, 1976; Red Spot, 1999). Girls face a lot of social, psychological, and physical problems as discussed in introduction of the present study. These perceptions of problems are transferred to next generation as majority of the mothers are untrained and do not know how to educate their daughters in this regard (Agarwala et al., 1991; Brumberg, 1997; Costos et al., 2002).

One of the objectives was to explore the differences in attitude

and experience on the basis of their source of information regarding menstruation on attitude and experiences related to menstruation. Results showed that those who responded to mother as a source of information regarding menstruation exhibited positive attitude as well as positive experiences related to menstruation as compared to those who responded to others as a source of information regarding menstruation, hence, confirming first hypothesis of the research. Early research evidences show that girls received information regarding menstruation from mothers mostly (Ali & Rizvi, 2009) and from their female relatives (Marie Stopes International, February 2006) including mothers and sisters and they are assumed to have positive attitude towards menstruation (Poureslami & Osati-Ashtiani, 1998). The results of the study are in very much relevance to the fact that mother-child positive relationship is very important to exhibit positive attitudes towards any phenomenon in life. Puberty in the life of adolescents in general and girls in particular comes with many challenges, therefore, she needs more support than before and better strategies to cope with the life events (Brumberg, 1997).

Study also explored the differences along use of different type of sanitary napkins on attitude as well as experiences related to menstruation. Results showed that positive attitudes as well as positive experiences related to menstruation were exhibited by those who use ready-made sanitary napkins as compared to those who use home-made napkins. This shows that hypothesis 2 of this study got accepted. Study conducted by Poureslami and Osati-Ashtiani (1998) showed that 32% of their sample used hygienic materials (i.e., sterile pads) and tend to show positive attitude towards menstruation. Those who use home-made napkins or pieces of cloth, wash used napkins and do not dry in sunlight rather hide from others (Mathews, 1995) that cause many infections on reusing (Mahboob-e-Alam et al., Nov 2007). The results of the present study are in accordance with sanitary products manufacturers' messages i.e., their products are the source of comfort and better source to deal with bleeding than home-made pads. It also has another implication i.e., the messages presented in the educational pamphlets distributed by sanitary products manufacturers are useful for girls in modifying their attitude in positive direction (Brumberg, 1997; Costos et al., 2002; Houppert, 1995; Merskin, 1999).

In the present research, 50% of the sample was using ready-made napkins which are higher than as reported by Ali and Rizvi (2009). Ali and Rizvi found that 16.4-33.5% of girls from government and private schools in Karachi used ready-made napkins, respectively. Reason might be that present sample was taken from Capital city

Islamabad and all were college going girls mostly belonging to middle class. Ali and Rizvi's research sample included school-going girls, those who were not going to school, and living in community setting. This variation of geographical locations and education might be the reason for difference in findings. While it is closer to Sanyal and Ray's (2008) study, in which 67.9% were using ready-made napkins than pieces of cloth (32.1%). Socioeconomic status plays an important role in the use of ready-made napkins in developing countries (Ali & Rizvi, 2009; Mathews, 1995).

This study aimed at exploring the differences in experiences as well as attitude related to menstruation along age of onset of menstruation. It was observed that there was too much difference in the sample size of three groups. Therefore, inferential statistics was not applied in this case. However, results of percentages showed that over 2% of the sample has age of onset of menstruation before adolescence; over 96% of the sample had age of onset in early adolescence; and over 2% of the sample had age of onset in middle adolescence. It shows that most of the girls had their first periods in early adolescence. Therefore, it can be concluded that in Pakistani middle class female population, the average age of onset of menstruation is early adolescence i.e., 13-15 years. This is consistent with the age of onset in west. According to Berk (1999), age of onset of menstruation is early adolescence. This is also consistent with the age of onset in Karachi, Pakistan, 12-14 years (Ali & Rizvi, 2009), in Agra (India), which is 14.2 years (Agarwala et al., 1991) in South Africa between 13-14 years (Ml Menana-Netshikweta, 2007). According to Tanner (1990), most girls get their periods between 10.5 to 15.5 years of age.

There is nonsignificant difference between middle adolescents (16-18 years) and late adolescents (19-21 years) in experiences as well as attitude related to menstruation. The reason could be that by this age the menstrual cycle becomes more regular than early adolescence (Sanyal & Ray, 2008) and the girls do not feel irregularity to be an issue any more. As the differences in age ranges was not very much, therefore, results cannot be generalized to conclude that almost female adolescents from all age ranges exhibit similar attitudes and experiences related to menstruation.

Results of this study show that these experiences and attitudes are in most of the cases negative. Unless women and 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 (Mahboob-e-Alam et al., Nov 2007). In Pakistan, at this time, perhaps sanitary napkin manufacturers are the

only source after mothers, relatives, and friends that are providing knowledge regarding menstruation. No proper institutional education regarding menstruation is imparted at school or college level that is much needed (Water Aid, March 2009).

Conclusion

From the findings of the present research, we can conclude that there is positive correlation between experiences and attitudes related to menstruation that is indicator of validation of these scales as well as it strengthens the previous literature. Onset of menstruation for Pakistani girls is early adolescence (13-15 years). Greater percentage of adolescence have negative experiences and attitudes related to menstruation that suggest providing proper reproductive health related education to be imparted to girls in the stage of experiencing menstruation. Mother being source of information inculcates positive experiences and attitudes. Better facilities to handle the crisis like using ready-made sanitary napkins also facilitate positive experiences and attitudes.

Suggestions

Due to the earlier age at which girls are experiencing menarche combined with the devastating effects caused by a lack of preparation for and understanding of menstruation, education is extremely important for young girls. Along with the focus on the hygienic crisis established by menstruation, educational programs should also become more focused on the maturational crisis. Because mothers are the primary source of information about menstruation, it is vitally important to make sure that they have the correct information and guidance in how to discuss this topic with their daughters. In schools and in the home, concrete presentations of anatomy in order to help the young girl conceptualize the relationship between the inside and outside reproductive organs, as well as the relationship between those organs and herself is very much required. If the negative attitude toward menstruation continues to be passed down to new generations of girls, it will perpetuate a sense of shame for the body, and therefore the self, among girls and women (Williams as cited in Fredrick, 2004).

For future research, attitudes of both genders can be explored as opposite gender is equally important to communicate favourable or

unfavourable messages to female gender regarding menstruation. Presently, only female adolescents who already had experienced menarche were focused; in future age range can be extended to preadolescent and adult women in the sample. More qualitative research can be carried out to have phenomenological exploration of phenomenon. Mothers along daughters can be included in the sample to study the compatibility in their attitudes and experiences. To study the effect of onset of menstruation on attitudes and experiences, equal number of women who had onset in early, middle, late adolescents or experiencing amenorrhea and menopause can be included. Presently, sample is too small, nationwide study or large sample can be taken up to improve external validity of the findings. Scales can be put to factor analysis to check for structure in the scales and further insure construct validity.

Presently scales used were in English language. Only those participants were included who could read and write in English language. Those who were not well acquainted with English language could not participate in the present study. Therefore, to ensure much consistency in responses and validity of measures, scales can be translated in Urdu in future studies. This will help in collecting data from much larger population in Pakistan of those who have less understanding of English language.

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