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The Relationship between Menstrual Pattern and Menstrual Attitude Dimensions in Reproductive-age Women

A cross-sectional survey Mona Larki,¹ Azadeh Salavati, *Elham Azmoude

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Abstract

Objective: Women's attitudes towards menstruation play a critical role in shaping their body and psychosocial integrity. Menstruation is affected by some bio-psychosocial factors; therefore, more in-depth understanding is needed to cope better with the consequent difficulties. This study aimed to investigate the relationship between menstrual patterns and menstrual attitude dimensions in reproductive-age women. **Methods:** An observational cross-sectional study was conducted on 170 women referred to the urban health centers of Torbat Heydariyeh, Iran, from January 2019 to December 2019. The Menstrual Attitudes Questionnaire (MAQ) and Verbal Multidimensional Scoring (VMS) systems were used to collect the required data. The features of the menstrual cycle were also recorded. **Results**: The overall response rate was 96.74%. Women with dysmenorrhea perceived menstrual effect (p=0.001). The results also revealed that the subjective menstrual blood loss was associated with higher levels of perceiving menstruation as a natural (p=0.008), bothersome (p=0.026), and anticipatory event (p=0.021) and reporting less denial of any menstrual effect (p=0.001). Moreover, women rated

menstruation as a more bothersome event by increasing the menstrual bleeding length (p=0.014). There was no significant relationship between the other features of the menstrual cycle with menstrual dimensions (p>0.05). **Conclusion:** The findings of this study suggest that women's attitudes towards menstruation was associated with menstrual pain, length, and subjective volume of menstrual flow. These factors could be used to modify women's attitudes towards the natural phenomenon of menstruation.

Keywords: Attitude; Menstruation; Dysmenorrhea; Menarche; Menorrhagia.

Advances in Knowledge

- It is necessary to understand how women perceive the notion of menstruation and, what biological and sociocultural factors influence their attitude to identify the populations at risk.
- This study identified the biomedical factors, including the features of the menstrual cycle that related to women's attitudes towards menstruation.
- In this regard, women who experienced menstrual pain and longer and heavier menstrual flow perceived menstruation as a more negative event.

Application to Patient Care

- Health policymakers should be aware of the potential factors that influence menstrual attitudes to induce more favorable attitudes towards this phenomenon in different populations.
- Given that negative attitudes toward menstruation and beliefs can affect women's health, it is necessary for specialists to design and implement biomedical and behavioral effective interventions for the girls and women at risk.
- The women suffering from dysmenorrhea and women with longer and heavier menstruation should be given more attention to promote positive attitudes toward menstruation with intervention strategies such as menstrual education.

Introduction

Menstruation, as an inevitable biological event, is a significant sign of puberty and the onset of reproductive capability.¹⁻³ This phenomenon is one of the unique experiences that women face during their reproduction period, especially its first occurrence.⁴

Challenges encountered during menstruation affect the women and their role in the community³. In addition, several studies have indicated that women's attitudes towards

menstruation are critical in how women perceive their bodies.⁵ Attitude Towards Menstruation (ATM) is a complex concept formed in a cultural environment. This psychosocial event has large effects on women's physical and psychological health and well-being⁶. The many factors may be involved in the formation of ATM including the menstrual characteristic, personal awareness and experiences, cultural values, religious beliefs, and community environment ⁷⁻⁸. While some women exhibit positive behaviors and feelings about menstruation, others perceive menstruation as a negative, shameful, debilitating, and destructive event in different cultures^{1,9}.

Awareness of menstrual beliefs and its cultural origins are essential in understanding how women respond to this phenomenon¹⁰. This is, while, few studies reported the relationship between ATM and the emergence of menstrual symptoms. A survey in girl students documented a negative correlation between ATM and the severity of premenstrual symptoms¹¹. In contrast, another study on adolescent girls revealed no significant correlation between the severity of menstrual symptoms and ATM¹². Accordingly, given that the women's ATM implicitly reflects their life experiences and since few studies have been conducted in Iran to address the same issue, more studies in this field seem to be necessary¹³. Thus, the study aimed to detect the relationship between menstrual pattern and menstrual attitude dimensions in reproductive-age women.

Materials and Methods

In this cross-sectional study, 170 reproductive-age women referred to the urban health centers in Torbat Heydariyeh, Khorasan Razavi, Iran, from January 2019 to December 2019 were selected using the convenience sampling method.

Given that the ideal sample size of 5-10 persons per studied variable in correlational studies, the minimum expected sample size was set to be 130. Finally, by considering a 30% non-response rate, the final sample size was 170 persons.

The healthy reproductive women aged 18-35 years old were included in this study. The exclusion criteria were pregnant or breastfeeding women and those with a history of some diseases such as gynecological cancers, definitive psychiatric disorders such as bipolar disorder or depression, and hormonal therapy.

The data collection tools were as follows: The socio-demographic and menstrual questionnaires were used to collect the required data, including age, level of education, employment status, monthly household income, age at menarche, the length and volume of bleeding, dysmenorrhea, type of dysmenorrhea, the regularity of the current menstrual cycle, and pain management.

The Menstrual Attitudes Questionnaire (MAQ) contains 33 items addressing five distinct attitudinal dimensions: Menstruation as a debilitating (the most negative item), bothersome (less harmful), natural (the most positive item) event, the denial of any menstrual effect, and the prediction of the onset of menstruation. The items were scored based on a seven-point Likert scale (strongly disagree=1 to strongly agree=7), with a higher score indicating the higher level of the concerned dimension. This scale was developed and validated by Brooks- Gunn, and Ruble (1980)¹⁴ as they reported Cronbach's alpha coefficient of 0.95-0.97 for the subscales. The reliability and validity of the Farsi version of the MAQ have been confirmed in several previous studies^{8,13}. The internal consistency of the questionnaire was also confirmed in the present study using Cronbach's alpha coefficient (ranging from 0.75-0.94 for the five subscales).

The Verbal Multidimensional Scoring (VMS) system, previously developed and validated by Andersch and Milsom, was also used to assess women's perception of menstrual pain severity and its effect on their daily activities¹⁵. The items were scored using a four-point Likert scale ranging from no symptoms to severe symptoms (i.e., none, mild, moderate, and severe). In this study, the content validity of this questionnaire was confirmed by the expert panel, while the internal consistency was supported by the test-retest procedure. The findings were in agreement with other studies in Iran^{16,17}.

In this study, a pictorial blood loss assessment chart was used to assess the menstrual volume over the last three months. This chart is considered one of the most useful and reliable measures to assess menstrual bleeding. It was developed and validated by Higham et al. ¹⁸. In this chart, the volume of menstrual bleeding was measured by the number of pads or tampons and how much they were wet. The loss of blood exceeding 80cc was considered as Heavy Menstrual Bleeding (HMB). The validity and reliability of the Farsi version of the chart are already confirmed in Iran. ¹⁹.

Ethical approval

The research was approved by the ethics committee of Torbat Heydariyeh University of Medical Science (code: IR.THUMS.REC.1396.16). All the participants were informed about the research objectives and procedures and participated in this study voluntarily. They were also ensured about the confidentiality of their personal information. All the participants gave verbal and written consent before completing the questionnaires.

Data Collection

Two researchers collected the required data. All women referred to the concerned health care centers were invited to participate in the study. The self-administered questionnaires were distributed when the women were waiting for their health care visit. It took 20 minutes to complete the questionnaires.

Data analysis

The data analysis was run by the Statistical Package for Social Sciences (SPSS) software version 16.0. Kolmogorov-Smirnov verified the normality of quantitative variables. The dependent variables were all menstrual attitude dimensions. The Mann-Whitney U and Wilcoxon Rank tests were used to compare menstruation attitudes in women with different characteristics. Moreover, correlations were calculated using the Spearman rank coefficient. In all the analyses, p < 0.05 was set as the level of significance.

Results

After removing six distorted questionnaires, 164 women were included (Response Rate: 96.47%). The mean age of the participants was 27.78 ± 6.59 years, almost half of whom (N=85, %51.8) had a high school education, and 35.4% (N=58) had an academic education. Furthermore, most participants (N=125,72.6%) were housewives, and their families' monthly income was within average range (N=136, 82.9%) (Table 1).

The women reported that they started menstruating at 12.71 ± 1.63 (range: 10-17 years). Furthermore, the mean length of bleeding and mean length of the menstrual cycle were 6.41 ± 1.75 days (range: 2-10) and 28.10 ± 4.05 days (range: 20-40 days), respectively. In general, 62.8% of the women (N=103) reported a regular menstrual pattern.

Moreover, 31.7% of the participants (N=52) had dysmenorrhea, of whom 76.92% (N=40) suffered from primary dysmenorrhea, and 23.07% had secondary dysmenorrhea (N=12). However, most of the participants (N=134, 81.7%) reported taking no medicine for menstrual pain.

The proportional mean scores of all MAQ subscales were as follows: predictive= 3.77 ± 0.89 , debilitating= 4.07 ± 1.25 , bothersome= 3.68 ± 1.42 , natural= 5.24 ± 1.01 , and the denial of menstrual effect= 4.30 ± 1.33 .

Table. 2 presents the difference in menstrual attitude dimensions between individuals with different menstrual patterns. As noted, the women with menstrual pain mostly perceived menstruation as a bothersome and debilitating event, compared to women without dysmenorrhea. These women described menstruation as significantly more predictable and were also significantly less likely to deny the menstrual effects (p>0.05). Similar relationships were also observed between menstrual attitudes dimensions and the severity of menstrual pain based on VMS.

Furthermore, women with primary dysmenorrhea received menstruation as a more natural event, compared to women with secondary dysmenorrhea. Moreover, menstruation was considered as a more natural, bothersome, and anticipatory event with increased subjective menstrual volume. In this regard, the women with small volume of menstrual blood were more likely to deny any effect of menstruation. In contrast, there was no significant difference between the menstrual attitudes in women with and without HMB, according to the Higham chart as a more objective measurement criterion (Table 2).

According to Spearman's test result, the mean score of menstruation as a bothersome event was related to the number of bleeding days per cycle (Table 3).

Discussion

The present study aimed to investigate the relationship between the patterns of the menstrual cycle and menstrual attitude dimensions. According to the findings, the women with cyclic menstrual pain perceived menstruation as debilitating and bothersome event, compared to women without such pain. The consistent results were reported using the VMS scale. In this regard, the attitude became more negative with increased pain intensity.

The results were consistent with the findings of previous studies²⁰⁻²¹. In India, Omidvar et al. reported that women in a dysmenorrhea group experienced menstruation as a debilitating and disturbing phenomenon more frequently than women in the non-dysmenorrhea group²¹. Dysmenorrhea, as the most common menstrual complaint, tends to inspire negative menstrual attitudes among girls²².

The present study indicated that women with primary dysmenorrhea perceived menstruation as a natural event, compared to women with secondary dysmenorrhea. Unlike primary dysmenorrhea, secondary dysmenorrhea is caused by underlying pelvic diseases²³; therefore, pathological factors in women may lead to the belief that menstruation is not a natural phenomenon.

When menstrual blood volume was measured using Higham's objective criteria, there was no difference in between the attitude dimensions among participants with and without HMB. Nevertheless, when the menstrual volume was measured subjectively, the results showed that women with higher blood volumes considered menstruation more bothersome, natural, and predictable. Moreover, the effects of menstruation on their lives were also less denied.

This may be due to differences in women's opinions about menstrual bleeding volume. In this regard, Morrison concluded that women with severe menstrual bleeding were also more likely to consider menstruation as a curse, and those with shorter bleeding more regarded menstruation as a natural phenomena⁷. Many women have little or no information about normal and abnormal menstruation²⁴. The differences in self-rated bleeding may be caused by individual variability in perceiving bleeding and the lack of a universally-accepted method to describe HMB. Future researchers can examine population-specific patterns of menstruation to determine what is expected and acceptable and what is abnormal.²⁵

In the present study, there was a non-significant correlation between menstruation's regularity, the length of the menstrual cycle, and the number of bleeding days with attitude dimensions. The perception of menstruation as a bothersome event was also correlated with the number of bleeding days per cycle. In contrast, a study reported that the irregular cycle was a factor increasing the mental stress level.²⁶ Factors related to the difference in results may be aroused by the methodological differences and study population variations.

The current research revealed no significant association between menarche age and the menstrual attitude dimensions. Contrary to the findings of the present research, one survey in China concluded that those who experienced menstruation at a younger age reported more discomfort. Tiwari (2006)menstrual pain and et al. noticed а correlation between the level of preparedness and menarche age. They reported of а sense guilt, shame, apprehension, and anxiety if a girl is unprepared to start menstruating because o f her early-onset.²⁷ Such inconsistency might be because most of the females in our study experienced an normal menarche age.

The present study has several limitations. First, the cross-sectional method limits conclusions; however, a longitudinal study may provide a clear understanding of the correlation between variables. Second, the participants were selected from one city in Khorasan Razavi. More comprehensive studies are required to include women from the other regions in Iran. The data in this study were collected from self-report questionnaires, which may pose some potential errors. Another limitation is the retrospective nature of the study.

Further qualitative studies should address the beliefs about menstruation among women with different menstrual patterns. This type of research leads to the better identification of factors contributing to ATM. The detection of factors leading to negative and positive attitudes is necessary to design effective interventions to modify negative attitudes and foster positive attitudes towards menstruation, and thereby make women enjoy from womanhood more frequently.

Conclusion

Generally, the present findings provide a preliminary exploratory ground to examine the factors contributing to ATM in Iran. It is concluded that menstrual pain, menstrual bleeding volume, and length are associated with women's attitude towards menstruation. As negative beliefs about menstruation may lead to restrictions in women and girls, these factors could be used to modify their attitudes towards this natural phenomenon. This study indicates that it should concentrate on creating strategies to help women and girls eradicate negative ATMs and also explore ways of improving attitudes when exposed to dysmenorrhea and long and heavy menstruation.

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l l	/ariables	Mean±SD				
А	ge (Year)	27.78±6.59				
	Parity	$1.13{\pm}1.16$				
Menar	che age (Year)	12.71±1.63				
		N(%)				
Education	primary	21(12.8%)				
	high school	85(51.8%)				
	academic	58(35.4%)				
Employment	housewives	125(76.2%)				
	employed	39(23.7%)				
Monthly	Less than average	14(8.5%)				
household	Average (3000000-	136(82.9%)				
income	4000000 Rial)					
	More than average	14(8.5%)				

Table 1: Socio-demographic Information of the participants

Table 2: Menstrual attitude dimensions in individuals with different menstrual pattern characteristics.

Menstrual Variables		Menstruation as a debilitating event		Menstruation as a bothersome event		Menstruation as a natural event		Anticipation and prediction of the onset of menstruation		Denial of any effect of menstruation	
T.		Mean	Р-	Mean	Р-	Mean	Р-	Mean	Р-	Mean	Р-
		Rank	value	Rank	value	Rank	value	Rank	value	Rank	value
Dysmenorrhea	Yes	115.18	0.001	114.32	0.001	79.06	0.176	114.01	0.001	42.51	0.001
	No	67.33		67.73		89.84		67.87		101.07	
Dysmenorrhea.	Primary	27.00	0.664	26.49	0.991	29.04	0.027	23.83	0.018	26.00	0.664
type	Secondary	24.83		26.54		18.04		35.42		28.17	
Menstrual pain	Absent	67.63		67.23		78.63		69.13		100.59	
severity base	Mild	106.83	0.001	104.33	0.001	88.27	0.260	108.42	0.001	50.15	0.001
on VMS	moderate	125.23	1	129.29	1	94.15	1	117.21	1	33.04	

Heavy	Yes	83.57	0.607	81.73	0.954	89.11	0.057	77.76	0.266	81.76	0.948
Menstrual	No	79.76		81.31		75.10		85.95		81.28	
Bleeding											
(Higam)											
Perceived	Scant	67.10		61.87		69.82		72.43		113.95	
Severity of	Normal	82.52	0.082	85.21	0.026	76.90	0.008	76.87	0.021	81.82	0.001
menstrual	Heavy	91.52		90.23		99.07		97.58		65.11	
bleeding											
amount											
Pain	Yes	29.31	0.164	27.83	0.507	28.26	0.383	25.57	0.641	23.37	0.121
medication	No	23.46		25.06		24.60		27.50		29.88	
during											
menstruation											
Menstrual	Yes	78.26	0.379	80.93	0.744	83.59	0.820	81.89	0.899	89.14	0.168
cycle regularity	No	85.01	1	83.43		81.85	1	82.86		78.57	

VMS: Verbal Multidimensional Scoring

Table 2: The relationship between menstrual	l attitude dimensions and menstrual	pattern
characteristics		

Menstrual Variables	Menstruation as a debilitating	Menstruation as a bothersome	Menstruation as a natural event	Anticipation and prediction of the	Denial of any effect of
	event	event		onset of menstruation	menstruation
Menarche age	r=-0.054	r=0.047	r=0.067	r=-0.084	r=-0.025
(years)	p=0.494	p=0.552	p=0.396	p=0.286	p=0.752
The number of	r=0.234	r=0.187	r=0.241	r=-0.078	r=-0.190
days associated pain	p=0.095	p=0.184	p=0.086	p=0.583	p=0.176
Days of blood	r=-0.122	r=0.192	r=-0.104	r=-0.083	r=0.036
loss per cycle	p=0.120	p=0.014	p=0.185	p=0.291	p=0.648
Duration of	r=-0.012	r=-0.062	r=0.048	r=-0.118	r=0.037
menstrual cycle (days)	p=0.876	p=0.428	p=0.541	p=0.132	p=0.640

(days) p=0.876 p=0.4