

# ATTITUDES, EXPERIENCES, AND FOOD MYTHS RELATED TO MENSTRUATION



by  
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BSP191039

A Research Thesis submitted to the  
DEPARTMENT OF PSYCHOLOGY  
in partial fulfilment of the requirements for the degree of  
BACHELOR OF SCIENCE IN PSYCHOLOGY

Faculty of Management and Social Sciences  
Capital University of Science & Technology,  
Islamabad  
January, 2023

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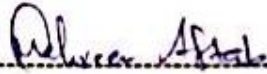
**Islamabad**

**January, 2023**

**CERTIFICATE OF APPROVAL**

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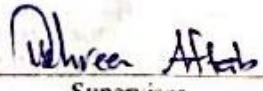
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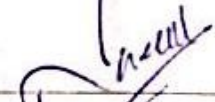
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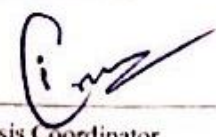
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**DECLARATION**

Certified that the research work embodied in this thesis, titled "*Attitudes, Experiences, and Food Myths related to menstruation*" was entirely carried out by **Ayedah Malik** BSP191039 under direct supervision and guidance of Ms. Mehreen Aftab from Oct, 2022 to this date and has not been used in the process of submission in a partial/complete fulfillment of the award of any other degree from any other institution.

Signature:

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February, 2023

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## Abstract

Menstruation is an important and significant phase in female's development. Aim of the study is to explore the relationship between attitudes, experiences, and food myths related to menstruation among adolescents and young adults in order to promote better reproductive health among women in Pakistan. Attitude towards Menstruation Scale, Checklist on Experiences related to Menstruation, and Food Myths Checklist was used in this study. The sample of this study are ( $N=300$ ) females. Convenience sampling technique was used and the data was collected from Islamabad-based college and university students, ranging from 16-30 years. The findings supported significant positive correlation between attitude and experiences related to menstruation. Correlation analysis showed significant negative relationship between experiences and food myths related to menstruation thus confirming the hypothesis. Significant negative correlation between food myths and attitude towards menstruation was also observed which also confirmed the hypothesis. Among demographics, the results showed that having families as a source of information regarding menstruation developed more positive attitudes in females. Furthermore, females/girls who used ready-made sanitary pads showed significantly more positive attitudes as compared to those who used home-made sanitary pads. Implications of the study and suggestions for the future research have also been discussed in detail.

**Key words:** menstruation, menarche, attitudes, myths, experiences



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**List of Abbreviations**

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AMS Attitudes towards Menstruation Scale

CEM Checklist of Experiences related to Menstruation

FMC Food Myths Checklist

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## Chapter 1. Introduction

As long as a woman is actively reproducing, menstruation may be described as "the periodical ejection of bleeding from the cervix happening somewhat at recurring monthly durations" (Critchley, 1986). The menstrual cycle is an essential part of a woman's growth and development. Every 28 days, the uterine lining releases blood and cells into the bloodstream of a female's body. In girls, menstruation begins with the first period of adolescence (usually between age 10 and 17). A woman's first menstrual cycle, or menstrual irregularity, signifies her body's preparation to conceive (Rice, 1991).

Menstruating women are considered normal and most of them perceive it positively regardless of the sickness they experience during menstruation (Chrisler, 2008; Marvan, Cortes-fuiestra, & Gonzalez, 2005) as an early sign of the transition from girlhood to womanhood (Martin, 1987) as an indication of fertility, it is therefore strongly associated with the link between self and identity (Lee, 2002). Most girls start menstruating between the ages of 10.5 to 15.5 (Agarwala, Goyal, & Sharmma, 1991; Custos, Ackerman, & Paradis, 2002; Polat et al., 2009; Tanner, 1990). In developed countries, average age decreases as living standard rise (Bromberg, 1997; McKibben, 2003) and is associated with economic status (National Institute of Population Studies [NIPS, Pakistan] & Macro International Inc., 2008). This is not a simple process and involves many complex biological and psychological changes (Berk, 1999; McCary & McCary, 1982; Tanner, 1990) such as anxiety, disruption of daily activities, lack of interest in work, etc. Women either want to avoid menstruation (Loudon, 1977) or they want to have less frequent menstruation yet do not prefer amenorrhea (Snowden & Christian, 1983) and do not prefer its discontinuation at any cost (NIPS, Pakistan & Macro International Inc., 2008).

For most women, menstruation is a regular occurrence. Nevertheless, it is a subject shrouded in mystery, taboo, and negativity. The subject of menstruation has long been considered sacred. Despite the fact that menstruation is valuable and important for womanhood (Lee, 2002). Stigmatization about menstruation is frequent, but their roots and consequences should be given more attention (Fredrick, 2004).

## **Attitudes towards menstruation**

“Attitudes are learned predispositions towards aspects of our environment. They may be positively or negatively directed towards certain people, service, or institution (Norman L. Munn, 1946)”. According to Myers (1996), our attitudes are based on our direct experience of problems and events often coincide with our behavior. Menstrual discomfort, cycle length, and women's perceptions of menstrual discharge coefficient are all linked to views around menstruation among women (M. Larki, Azadeh Salavati, E. Azmoude, 2022).

For the most part, young girls pick up their moms' views on this topic through mimicking and watching them (Gray, 1990; Bandura, 1965). Educating daughters about periods may be a difficult task for moms who lack confidence in their abilities (Bromberg, 1997). Menstrual discomfort affects over 90% of Pakistani women, and a lack of knowledge about it and how to cope with it is a key source of unfavorable attitudes (The Dawn Media Group, 2009). Menstruation bears a negative connotation in patriarchal societies but a good one in matriarchal societies. Attitudes regarding this occurrence are shaped by rituals as well (Red Spot, 1999; Weideger, 1976). In spite of the fact that many girls and young women gripe about their periods, they generally have a more optimistic view of the period. However, despite the fact that young girls experience a plethora of symptoms throughout their menstrual cycle, there was no significant correlation between menstruation sensations and sentiments. This may be due to the fact that young girls believe that menstruation is an inevitable part of life (Ruşen et al, 2021).

According to Eastern coast of north, most women do not open up about their own menstrual cycle to their daughter (US et al, 2002). Menstrual cycle is a controversial subject for many parents (58 percent), and many just provided information on the sanitary product to be used (23 percent), while several did not explicitly say that it was a religious forbidden (Rice, 1991). There is a general attitude of "grin-and-bear-it" among the women who participated in the study. A research by Katharine and Hoerster (2003) found that American women had a better understanding of the monthly period than their Indian counterparts. They were also more prepped for menstruation than the Indian ladies. The attitude scale items including menstruating as a natural process and dismissal of the consequences of menstrual, showed that Indian women outperformed American women by a

wide margin.

A study conducted in India, however, found that women who had no previous knowledge of period had a more positive attitude about it than those who did. These beliefs and taboos are passed down from generation to generation in Indian culture and have a significant influence in the establishment of attitudes around menstruation, according to academics. As an example, most Nair and Thiyya households in Kerala prohibit women from entering the kitchen until their menstrual cycle is over. It is because of these variables that the information is of poor quality and quantity. Women's attitudes regarding menstruation were shown to be more positive than expected, contrary to the hypothesis that they would be negative (Agarwala et al., 1991)

### **Experiences related to menstruation**

Something that occurs to you and has an impact on you as a result so you can do, witnessing, or sensing stuff (Cambridge Dictionary). Itching, migraines, mood swings and mental anguish are all common symptoms of the menstrual cycle in girls (Agarwala et al. 1991) (Adewuyal, Loto, & Adewumi, 2008; Rice, 1991). According to Lee (2002), most women consider it an illness and unsanitary (Costas et al., 2002; Martin, 1987).

In Pakistan, the belief that menstruation may be negatively affected by water temperature is widespread. Showering or to at least cleaning one's head is often avoided by women during their period for fear of their period slowing or stopping entirely. Rashes and unpleasant smells might occur as a result of poor hygiene (Memon, 2014). In the area of Pakistan, Kailashi menstruating women as they are not permitted to touch anything in their own homes, even their kids, until they recapture 'paaki, when their menstruation stops, then they come back to their homes (Guyatt et al., 2006). Research findings have also observed limitations in everyday activities such as, not always being permitted to attend shower, alter garments, brush hairs and access sacred locations (Dighnra & Kumar, 2009).

It was shown in a Dickson and Wood (1995) research that females who had a bad menstruating episode (such excruciating anguish) were more depressed than girls who had a good period. Ovulation may have a detrimental influence on the academic performance of female university students (Alana K. Munro, Erin C. Hunter, Syeda Z. Hossain, Melanie Keep, 2021).

Water Relief performed a study in Nepal in March 2009 to assess the knowledge and experiences of preschool girls around menstruating. A study of 204 girls revealed that stomach discomfort was the most prevalent symptom, and that girls are always stressed out by the concern that others may discover they are having their period. Due to various their menstrual cycle, they had a lot of unavailability (see also Sanyal & Ray, 2008) and a hard time staying focused and engaged in their academics.

### **Myths**

Some people's worldview is unfairly distorted by myths that give a clear picture of a behavior, belief, or distinctive occurrence because of people's mistaken views and misrepresentations of such events (Harper, 2010).

### ***Food Myths related to menstruation***

Family members, friends in the industry, and notable figures all lend their credibility to food myths. Like other elements of diversity, such are adopted by teenagers and need evaluation (Bronner, 2010). Menstruation myths discourage women and girls from participating in many community activities. Some of these are beneficial, while others might have negative consequences. There is a lack of information on menstrual discomforts, dietary myths, and restrictions in Pakistan.

A major limitation placed on women throughout their menstrual cycle is their ability to eat certain foods. Menstrual-related food stigmas have become worse. Restrictions on the intake of food during the menstrual cycle, such as prohibitions on the eating of grains, yogurt, dairy, evaporated milk, potatoes, vegetable, sucrose, etc., are thought to halt ovulation (Dighnra & Kumar, 2009). When it comes to consuming foods that are either too hot (like cashews, meat, and chickens) or too cold (like ice - cream, dairy, and Brussels sprouts), teenagers and their mothers agree, according to Khan (2000)'s assessment of the research on youth. They avoid a lot of iron-rich meals. The prevalence of malnutrition in female adolescents has been well documented.

According to research on menstrual-related dietary stigmas (Roshna V, 2019), many cultures prohibit menstruation women from preparing food, since it is deemed unacceptable. Menstruating women are prohibited from entering the cooking, preparing food, or even touching



kitchen equipment. This is despite the fact that they are expected to put in long hours in the kitchen on their non-menstruating days. Even in the twenty-first century, many Indian villages continue to conduct this practice. Women who are menstruating in the Beng tribe of the Ivory Coast are not allowed to cook or consume food cooked by menstrual women, according to Alma Gottlieb and Thomas Buckley in their work 'The Black Spell' (qtd. in Newton 40). However, Kumar and Srivatsava's research in 2011 revealed that menstruating women's bodies generate a fragrance or radiation that makes preserved items like pickles taste awful. Food deterioration while cooking has never been scientifically proven.

### **Relationship between Attitude and Experiences Related to Menstruation**

Having a good attitude towards menstruation is essential for women. Preparation before puberty increases the likelihood of a favorable first experience and an optimistic attitude about the phenomena (Marvan et al., 2005).

Menstruation-related experiences are associated with attitudes towards menstruation (Scamber, 1985 & Chawla, 1992). Girls who have had poor experiences with menstruating are more likely to develop a hostile perception about periods, (Aflaq & Jami, 2005). A negative attitude about menstruation is common among girls who have a tough time managing it on a constant schedule, so they prefer to just go through it once every couple of months (Koff et al., 1982).

### **Relationship between Attitude and Food Myths Related to Menstruation**

A woman's perspective regarding menstruating was strongly adversely connected with her disturbed appetite. During periods, it is normal to see females either eat a lot or refrain from eating (Aflaq & Jami, 2005). According to studies, 95% of anorexics are female and typically range in age from 12 to 18 years old. For one, the advent of menstruation, a great distaste for the excess weight, and so forth, all occur at this period (Seligman, 1983) and they confront too many challenges and unfavorable emotions.

Women with a strong inclination about menstruation were shown to have better ratings on a checklist of attitudes toward menstruation, whereas women with a poor score on a checklist of attitudes toward menstrual cycle were found to have poorer performance (Shaw & Wright, 1967).

### **Relationship between Experiences and Food Myths Related to Menstruation**

A study reported that, in Pakistani culture, many vague practices and beliefs about menstruation exist, which later leads to negative experiences related to menstruation and cause food myths as a result (Khan & Rauf, 2018).

Good ratings on the inventory of encounters connected to periods indicate happy experiences, whereas low scores on the inventory of experience related to menstruation reflect bad experiences (Aflaq & Jami, 2005).

In the study high score Food Myths Checklist shows practicing food myths and low score shows myths are not practiced (Khan & Rauf, 2018).

### **Operational Definitions**

#### ***Attitudes***

In the study high score on checklist of attitude towards menstruation indicated positive attitudes related to menstruation whereas low score on checklist of attitude towards menstruation indicated negative experiences related to menstruation (McHugh & Wasser, 1959).

#### ***Experiences***

In the study high score on checklist of experiences related to menstruation indicated positive menstruation-related experiences whereas low score on menstrual-related experiences checklist indicated negative menstrual-related experiences (Aflaq & Jami, 2005).

#### ***Food Myths***

In the study high score Food Myths Checklist shows practicing food myths and low score shows myths are not practiced (Khan & Rauf, 2017).

### **Theoretical framework**

This research use Albert Bandura's sociocultural theory. According to this theory, a person's ability to learn from others is based on their ability to observe, mimic, or imitate their peers' behavior patterns, dispositions, or emotion responses. According to sociocultural theory, human behavior and learning are influenced by a complex interplay of affective and genetic variables. Observing behaviors of their moms, siblings, and guardians, girls learn about menstruation through these role models, according to this theory.

This theory suggests that our attitudes are developed through observation and modelling. Girls acquire information regarding menstruation through modeling and behavior of appropriate gender and in this way they develop their attitudes. For instance, during early days of periods mother usually make their girls feel that menstruation is something to hide. This factor might influence person's behavior.

According to this theory, learning is the result of direct experience with the environment. The most examples of sociocultural situations are television commercials in which commercial suggests that using ready-made pads will make them comfortable during their periods than home-made pads. In this way, environment changes their behavior and menstrual experiences as well.

### **Rationale**

Menstruation is issue, which is linked to girls/women only, from the beginning they are not only taught to refrain from discussing any aspect of their menstrual experience, but also instructed to hide this phenomenon altogether. This in turn affects their attitude towards and experiences of this phenomenon adversely (Brumberg, 1997). There is lack of awareness and vague information and practices about the phenomenon which leads to pre-menstruation syndrome.

Menstruation is biological process that females experience globally. In developing countries like Pakistan, there are few studies on this process. The purpose of this study was to explore menstruation-related attitudes, experiences and food myths among adolescent women and young adults in order to promote better reproductive health among women in Pakistan.

In Pakistan there is lack of published work on food myths related to menstruation. Because of lack of awareness girls/women don't consider myths as myths; they consider it a remedy for healing pain and to cater other physiological problems during menstruation. For example, it's a myth in our culture that if you will have citrus fruits like oranges or lemons during periods, it can affect your blood flow during menstruation. But it's scientifically proven that citrus fruits have vitamin C which helps in reducing cramps and other PMS symptoms. So, there is no or little significance behind them, and it is very important to be studied with reference to the phenomena of menarche.

Nevertheless, the ovulatory cycle is also connected to emotional stability, and checking up

on your mental wellbeing may explain fluctuations in your period. Prior to their menstrual cycle, many women have premenstrual syndrome (PMS). You may get agitated, disturbed, worried, and apprehensive as a result of this. Disruptive mood dysregulation disorder affects around 3% to 8% of the population (PMDD). Anxiety and despair are all possible side effects of this. To cater the physical and psychological symptoms most women practice myths to get relief from pain and irritation they are facing. For example, females use hot water bottles during periods to relief from lower abdominal pain and some females do not prefer to take pain killers because they have myth in their minds that this will slow down blood flow or can disturb the discharge cycle. So, the present study will contribute to more practical and realistic view of healthy experience of menstruation and related problems and will also provide awareness about unhealthy practices women practicing during menstrual cycle.

### **Objectives**

The main objectives of the present study were to:

1. To explore the relationship between experiences and attitude towards menstruation among girls.
2. To explore the relationship between experiences and food myths during menstruation among girls.
3. To explore attitudes and food myths related to menstruation among girls.
4. To study the role of demographic variables such as source of information, family system, and use of sanitary napkins.

### **Hypotheses**

Following hypothesis were formulated on the basis of literature:

**H1:** There will be a positive relationship between experiences related to menstruation and attitude towards menstruation.

**H2:** There will be a negative relationship between experiences related to menstruation and menstrual food myths.

**H3:** There will be a negative relationship between attitude towards menstruation and

menstrualfood myths.

**H4:** Those girls who receive information regarding menstruation from their families have more positive attitudes than those who receive from others (internet, school, friends, and relatives).

**H5:** Girls who use ready-made sanitary napkins have more positive attitude than those who use home-made sanitary napkins.

## Chapter 2. Methodology

### Research design

Present research was a correlational in design. Quantitative survey method was used for the data collection.

### Sample

Sample consisted of (N=300) female adolescents and young adults studying from different colleges and universities of Rawalpindi and Islamabad with the age range of 16-30 years (M=1.7, SD=0.65). Convenience sampling technique was used for data collection.

### Inclusion criteria

Females who had menarche regularly since its onset were included.

### Exclusion criteria

Females below the age of 16 years and above 30 were excluded.

### Instruments

Following instruments were used in the study:

#### *Demographic sheet*

Demographic sheet was made in order to obtain the required basic information about the participant. Data sheet is attached on page no. 33.

#### *Attitudes towards Menstruation Scale*

An adaptive version of Attitudes towards Menstruation Scale (Aflaq, F. 2005) originally developed by McHugh & Wasser in 1959 (as cited in Shaw & Wright 1967). There are 35 items in total in the adapted version which measure attitude towards menstruation. It is a 5-point Likert scale ranging from *Strongly Agree* (5) to *Strongly Disagree* (1). Reverse scoring is used for 22 of the 35 items. The reliability of this scale is 0.86. Women with a strong inclination about menstruation had a higher score on the scale than those with a bad opinion. AMS has a highest score of 135 and a lowest of 35.

#### *Checklist of Experiences Related to Menstruation (CEM)*

Use of Aflaq and Jami's 2005 menstrual experience inventory is employed in this research as a means of measuring menstrual discomfort. There are total of 20 items on the list. *Yes/No*

questions were used to obtain a score. The reliability of this scale is 0.95. A high CEM score signified happy menstrual experiences, while a low CEM score reflected bad menstrual perspectives. CEM has a highest score of 20 and a lowest value of 0.

### ***Food Myths Checklist (FMC)***

Khan and Rauf compiled a list of food misconceptions in 2018. This measure consists of five different items, each of which is a three-point Likert scale ranging from 0-2 (0 as *no*, 1 as *yes*, and 2 as *sometimes*). The total of each item's score was used to get the overall score. The reliability of this scale is 0.5.

### **Procedure**

First of all, permission from the head of departments and institutions was taken from where the data were collected. Females were approached individually and, were asked to fill protocol. A booklet consisting of informational sheet, informed consent, demographic sheet and above mentioned scales were given to the participants. Clear set of instructions were given to the participants about the purpose of research and they were asked to give genuine responses. Informed consent and voluntary participation of the participants was taken before the administration of instruments. Participants were being assured of anonymity and it was told that their given information will be used only for research purpose. It took 20 minutes to complete the questionnaire.

### **Ethical Considerations**

This research study has been approved by the Psychology Department of Capital University of Science and Technology. Informed consent of the participants was obtained and it was ensured that there is no physical and emotional harm to the participants. Participants were debriefed about the purpose of the study and confidentiality about their identity and data was ensured.

### **Analysis**

Statistical Package for Social Sciences (IBM-SPSS-21) was used for the statistical analysis of the present study. After the data collection, data was entered; cleaned and descriptive statistics were analyzed.

In descriptive statistics, the distribution and variance of the data were calculated. Mean,

standard deviation, skewness and kurtosis were calculated through descriptive analysis.

Demographics among the targeted sample were computed. Independent sample t-test was also computed to check the source of information, family system, and use of napkins regarding menstruation.

The reliability of the AMS, CEM and FMC items was examined through Cronbach's Alpha in inferential statistics. The relationship between attitudes, experiences and food myths was investigated by using Pearson's correlation because the data was normally distributed.



### **Chapter 3. Results**

The study explored the relationship between attitudes, experiences, and food myths related to menstruation. In order to achieve the objectives of the present study, appropriate statistical analyses were used to analyze the data. Descriptive statistics were computed for all the measures in the study in order to examine the overall trend of the data. The frequencies and percentages for demographic variable were also computed. Pearson Correlation was used to determine the relationships between variables of the study. Independent sample *t*-test was computed to determine group differences along demographic variables. The results are presented in tabulated form.

**Table 1***Descriptive Analyses of demographic variables of the study participants (N=300)*

<i>Demographic characteristics</i>	<i>Categories</i>	<i>f</i>	<i>%</i>
<b>Age in years</b>	16-18	106	35.3
	19-25	155	51.7
	26-30	39	13.0
<b>AOM</b>	Pre-adolescence	14	4.7
	Early adolescence	267	89.0
	Middle adolescence	19	6.3
<b>Education</b>	Intermediate	144	48.0
	Undergraduate	119	39.7
	Postgraduate	37	12.3
<b>Source of Information</b>	Family	206	68.7
	Others	94	31.3
<b>Socioeconomic status</b>	20-30K	51	17.0
	30-60K	65	21.7
	60-90K	79	26.3
	>90K	105	35.0
<b>Family system</b>	Joint family	91	30.3
	Nuclear Family	209	69.7
<b>Use of sanitary napkins</b>	Homemade	40	13.3
	Readymade	260	86.7

*Note.* f=frequency, %=percentage, AOM= Age of Onset of Menstruation

Table 1 demonstrates the frequencies and the percentages of the demographic variables. The table shows that females of 19-25 years were high for (N=300). Majority of the sample had onset of menstruation at age 12-15 years. Matric and BS students were high in number. Participants with high

socioeconomic status were high in number. Females who received information regarding menstruation from their families were higher in number. Participants living in nuclear family were more. Females who use readymade sanitary napkins were more in number as well.

## Reliabilities and Descriptive Statistics

Reliability of the scale and the subscales used in the data was calculated through Cronbach's alpha reliability. To consider the suitability of data for inferential statistics descriptive statistics were calculated. Mean, Standard Deviation, Range, Skewness and Kurtosis were calculated for Attitudes, Experiences, and Food myths related to menstruation Scale.

**Table 2**

Scales	Items	M(SD)	$\alpha$	Range		Skewness	Kurtosis
				Potential	Actual		
AMS	35	115.7(267.28)	0.9	35-175	64-157	-0.44	0.358
CEM	20	9.1(3.8)	0.7	0-20	1-18	0.16	-0.74
FMC	5	2.9(4.22)	0.5	0-10	0-10	0.94	1.220

*Note.* AMS=Attitudes towards menstruation, CEM=Checklist of experiences related to menstruation, and FMC= Food myths related to menstruation,  $\alpha$ = Cronbach's Alpha reliability, SD= Standard deviation, and M=Mean

Table 2 shows the descriptive of the questionnaires used in the research. Table 2 also demonstrates the reliability of all measure. Reliability of FMC is 0.50 which is comparatively low but acceptable. The values for skewness and kurtosis lie between -2 and +2 that are considered acceptable in order to prove normal distribution of the data (George & Mallery, 2020).

The mean score indicates that the participants comparatively score high on Attitude towards Menstruation. The *SD* of attitude scale is also high as compared to rest of the measures indicating variability among responses.

### Correlation between Study Variables

To study the relationship between attitudes experiences, and food myths related to menstruation for the present sample. Pearson Correlation was computed as the data was normally distributed (Table 3).

**Table 3**

*Correlation between Attitudes, Experiences, and Food Myths (N=300)*

Sr.#	Variables	1	2	3
1.	AMS	–	0.245**	-0.130*
2.	CEM		–	-0.106*
3.	FMC			–

*Note.* AMS=Attitudes towards menstruation, CEM=Checklist of experiences related to menstruation, and FMC= Food myths related to menstruation, \*\* $p < 0.01$ , \* $p < 0.05$ , (1-tailed)

Table 3 shows that attitudes are significantly positively correlated with experiences related to menstruation which means that if experiences are positive, the attitudes of females are also positive. Thus, Hypothesis no.1 has been accepted.

Experiences are significantly negatively correlated with food myths which indicate that if menstrual food myths are positive experiences are negative. Hence, Hypothesis no. 2 has been confirmed. Further, attitudes towards menstruation are negatively correlated with food myths which mean that if menstrual food myths are positive attitudes are negative, hence Hypothesis no. 3 has also been accepted.

## Independent Sample T-test

**Table 4**

*Mean, Standard deviation and Independent sample t-test values for source of information (N=300)*

Variables	Family (n=206)		Others (n=94)		<i>t</i> ( <i>df</i> )	<i>P</i>	95%CL		<i>Cohen's d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>LL</i>	<i>UL</i>	
AMS	113.3	16.8	120.9	13.7	-4.0 (217.6)	0.04	-11.20	-3.92	0.50
CEM	8.85	3.95	9.78	3.46	-1.9 (298)	0.19	-1.82	-0.04	0.25
FMC	3.13	2.15	2.67	1.79	1.8 (298)	0.08	-0.009	0.93	0.23

*Note.* AMS= Attitudes towards menstruation, CEM=Checklist of experiences related to menstruation, and FMC= Food myths related to menstruation, M= Mean, SD=Standard deviation, P= Significant value, CI= Class Interval, LL=Lower limit, UL=Upper limit \*\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

To study the difference on source of information regarding menstruation across attitudes, experiences, and food myths. One group was of those who responded to family (mothers, elder sisters, and grandmothers) as source of information (n=206) and other was of those who responded to others (friends, relatives, internet, school) as source of information (n=94).

Table 4 shows that there is significant difference on attitudes towards menstruation. Result also show that there are non-significant differences on both experiences and food myths related to menstruation with low effect size ( $d = 0.2$ ).

**Table 5**

*Mean, Standard deviation and Independent sample t-test values for the use of napkins (N=300)*

Variables	Homemade	Readymade	<i>t</i> ( <i>df</i> )	<i>P</i>	95% CL		<i>Cohen's d</i>
	( <i>n</i> =40)	( <i>n</i> =260)			<i>LL</i>	<i>UL</i>	
	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )					
AMS	112.6(19.1)	116.1(15.8)	-1.1 (47.5)	0.04	-9.92	2.89	0.20
CEM	9.9(3.6)	9.0(3.8)	1.3 (298)	0.71	-0.4	2.15	0.24
FMC	3.2(2.6)	2.9(1.9)	0.6 (45.6)	0.02	-0.57	1.18	0.13

*Note.* AMS= Attitudes towards menstruation, CEM=Checklist of experiences related to menstruation, and FMC= Food myths related to menstruation, M= Mean, SD=Standard deviation, P= Significant value, CI= Class Interval, LL=Lower limit, UL=Upper limit \*\**p*<0.5, \*\*\**p*<0.1, \*\*\*\**p*<.001

Results demonstrate that there is significant difference on attitudes. Females who use ready-made napkins have a much more positive attitude with Cohen's effect size value ( $d = 0.20$ ). There is non-significant difference on experiences and the use of sanitary napkins in present sample. Furthermore, results show that there is also significant difference on menstrual food myths with low effect size.

## Chapter 4. Discussion

The purpose of the present research was to study the relationship between attitudes, experiences, and food myths related to menstruation. The research also aimed to explore differences in attitudes, and experiences, and food myths related to menstruation along various demographic variables.

For this purpose, an adaptive version of AMS (Aflaq, F. 2005) originally developed by McHugh & Wasser in 1959 (as cited in Shaw & Wright 1967) was used and CEM was also developed by same researcher (Aflaq, F. 2005). FMC related to menstruation (Khan, M. 2018) was used to measure food myths for current sample. The reliability of the scales was checked by calculating Cronbach's Alpha reliability (see Table 2). The standard is that a scale with alpha coefficient of 0.70 and above is considered to have high reliability whereas the coefficient of 0.60 and low shows that the scale has low reliability (Nunnally, 1967; Hair, Black, Babin, Anderson & Tatham, 2006; Sekaran and Bougie, 2010). AMS had coefficient of 0.9, and CEM had alpha coefficient of 0.7. Reliability analyses (Table 2) indicates that both AMS and CEM are reliable measures to use for current samples. Reliability of FMC is 0.50 which is comparatively low but acceptable. FMC has been employed in a Pakistani sample, and the alpha reliability was 0.5 for this sample which fell into the average range and almost similar as reported on previous scale. Hence, ensuring one aspect of psychometric properties.

The purpose of this study was to examine the relationship between attitude and experiences regarding menstruation. Interpretation of our results showed a significant positive relationship between attitude and experiences related to menstruation. Thus, Hypotheses one has been accepted. As previous literature also assist that menstrual experiences are related to attitude towards menstruation (Scamber, 1985) and those women who have negative attitudes towards menstruation because of their negative experiences (Water Aid, March 2009). This means that girls who have had negative experiences with menstruation also have negative attitudes towards menstruation in current context.

Another study found that those girls who do not see menstruation as something to hide had positive thoughts and feelings regarding this phenomena, and those girls who do not share their



periods with others see it as a burden and not worthy discussing (Aflaq & Jami 2005). The reason may be that they are not feeling well, they do not feel comfortable and change in moods during periods. Researches supports the fact that girls exhibit negative attitudes because adolescent mood swings and depression are due to physical changes associated with depression, (Adewuyal et al., 2008; Lee, 2002).

Hypothesis two proposed that there is a significant negative correlation between menstrual-related experiences and food myths. Correlation analysis (Table 3) of the data revealed a significant negative relationship between these two variables ( $r = -0.13$ ,  $N = 300$ ,  $p < 0.01$ ) which indicated that females who practice food myths leads to negative experiences related to menstruation. For example, it is observed that females believe that having citrus fruits like oranges or lemons during periods, it can affect your blood flow during menstruation. But it's scientifically proven that citrus fruits have vitamin C which helps in reducing cramps and other PMS symptoms and there's no direct connection between sour food and period pain. Therefore, this reveals the fact that females who has menstrual food myths has negative experience related to menstruation.

According to research on food related myths in Pakistani culture (Khan & Rauf 2018), most of the women avoid taking food that have cold properties e.g. ice-cream, yogurt, rice, and watermelon etc. During periods, most of the women avoid taking food items that have hot properties such as meat, beef, and fish etc. The may be because that mothers, aunts, and storytellers pass menstrual myths from generation to generation (Merskin, 1999)

Hypothesis three proposed that there is significant negative correlation between attitude and food myths related to menstruation. Correlation analysis of the data revealed a significant negative relationship between attitude and food myths ( $r = -0.13$ ,  $N = 300$ ,  $p < 0.01$ ) which indicated that females who practice food myths leads to negative attitudes related to menstruation.

In this research, significant negative correlation was measured between menstrual myths attitudes and during menstruation which generates tension and anxiety among females. For instance, girls eat a lot or do not eat at all during menstruation. Researches supported this fact that ninety-five percent of anorexia sufferers are female, ranges between twelve to eighteen years.

Correlational analysis in this sample inferred that female attitude and experiences related to

menstruation is negative. Pakistani females also practice menstrual food myths. It is because of the fact that there is lack of awareness regarding sex related topics being a taboo (Costas et al., 2002; Myers, 1996) and patriarchal society (Weideger, 1976; Red Spot, 1999).

Interestingly, girls hate these experiences associated with menstruation, but recognize the essential purpose of this phenomenon, therefore, this disturbance in cycle affects their self-esteem negatively (Beecher, 1980). The irregular cycle induces negative attitudes as well (Aflaq & Jami, 2005). Another study conducted by Katherine & Hoerster (2003) has shown that Indians believe that menstruation is a natural phenomenon and according to the study conducted in Pakistan by Ali & Rizvi (2009), female adolescent has similar values. Women consider it essential for their survival, so this could be one of the reasons.

One of the objective was to study the demographic variables in attitude, experiences and food myths. The results (table 5) proposed that girls responded to their families as a source of information about menstruation showed positive attitudes and experiences, and practiced fewer food myths related to menstruation. Early research suggests that female who receive information about menstruation primarily from their mothers and from female relatives including female parent and elder sisters and they are considered to have a positive attitude towards menstruation (Ali & Rizvi, 2009; Poureslami & Osati-Ashtiani, 1998). Puberty brings many challenges to the lives of adolescents, so they need more support than ever before (Brumberg, 1997).

This research measured the differences of sanitary pads usage in different types in terms of attitudes and menstrual-related experiences. Findings in table 6 was that those using ready-made sanitary pads were shown to have more positive attitudes and experiences with menstruation than those using use home-made pads. A study by showed that thirty-two percent of the population used sanitary products (such as sterile pads) and tended to have positive attitude towards menstruation (Poureslami and Osati-Ashtiani, 1998). Individuals who use rags, wash used napkins and do not dry in the sun are more likely to hide from others and when reused produce diseases (Mahboob-e-Alam et al., 2007 & Mathews, 1995). There is also the implication that the messages in educational pamphlets distributed by sanitary ware manufacturers are helping to change the attitudes of girls in a positive way (Costos et al., 2002; Merskin, 1999).

In current study, 87% of the population was using ready-made pads. Aflaq & Jami found that 50% of girls was using ready-made napkins as well. According to Ali and Rizvi, very high percentage of girls in Karachi schools was using rags. It is because of the current sample was taken from Capital city Islamabad and research sample was mostly college and university going girls belonging to upper class. Aflaq & Jami's sample was only college girls. This difference in geographical location and education may be because of the difference in the current results. This is similar to the study by Sanyal and Ray (2008) where 67.9% used ready-made napkins instead of rags (32.1%).

### **Conclusion**

Findings of the present research revealed that the hypothesized relationships between attitudes, experiences, and food myths related to menstruation were accepted that strengthens the previous literature. It is also inferred that menstruation starts at period of early adolescence for Pakistani girls (Aflaq, & Jami, 2005). Family being the source of information regarding menstruation explains positive attitudes.

### **Implications**

This research will have significant value, as it will provide information regarding the different aspects of experiences, attitudes and food myths related to menstruation in Pakistani cultural context. This investigation will also take us a step ahead in understanding a significant phase in women's lives. The issues like menstruation are at least discussed by the researchers and layperson in our society that may cause them to be insensitive in understanding and dealing with the women facing the problems related to this aspect. This study may prove to be an initiative towards raising awareness among the women of different ages at institutional level that may affect their self-concept, self-esteem and self –confidence as their part of their personality development.

### **Limitations**

In the present study, selective demographics were explored in relation to study variables. In future; relationship and differences can be thoroughly explored with study variables. English version of scales were used in present study, further Urdu version of scales can be used for better understanding, and to cover larger population in Pakistan. Age range of participants was also limited. For future studies, age range can be increased to preadolescents and late adults. Study was conducted

in limited time; in future qualitative studies can also be conducted in order to in-depth study of variables. Relationship of variables can also be further explored with each other. Comparative analysis can be done in future on demographic variables to find the significant difference with equal distribution of research sample.

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**APPENDICES****APPROVAL LETTER FOR DATA COLLECTION****TO WHOM IT MAY CONCERN**

Capital University of Science and Technology (CUST) is a federally chartered university. The university is authorized by the Federal Government to award degrees at Bachelor's, Master's and Doctorate level for a wide variety of programs.

Ms. **Ayenah Malik**, registration number BSP191039 is a bona fide student in BS Psychology program at this University from 2019 till date. In partial fulfillment of the degree, he/she is conducting research on "Topic of research". He/she is required to collect data from (e.g., students, managers, supervisors etc.) of your organization. In collecting this data, your cooperation and help is required.

I hope that you will allow him/her to collect data/information from your organization/ institute. Your cooperation in this regard is highly appreciated. Please feel free to contact undersigned, if you have any query in this regard.

Best Wishes,

Dr. Sabahat Haqqani

Head, Department of Psychology

Ph no. 111-555-666 Ext: 260

sabahat.haqqani@cust.edu.pk

**Appendix A**  
**Consent Form**

I, Ayenah Malik, a student of BS Psychology studying at Capital University of Science and Technology, Islamabad (CUST). I am conducting research on “Attitudes, Experiences, and Food Myths Related to Menstruations” and you are invited to participate in this research. The purpose of this study is to help us determine the differences in attitudes, experiences, and food myths related to menstruation. There are no direct benefits provided to you during participation, however the results of this study will increase your knowledge about menstruation. All records are kept confidential and will be only available to researcher. Your participation is voluntary. If you feel hesitant during participation, you’re requested to inform the researcher.

By signing this form, I am stating that I understand the above information, and that I consent to participate in this study being conducted at Capital University of Science and Technology.

**Signature of the participant**

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**Appendix B**  
**Demographic Sheet**

**Age in years:**

(16-18 years).

(19-25 years).

(26-30 years).

**Age of onset of menstruation:**

(pre-adolescence).

(early adolescence).

(middle adolescence).

**Education:**

(Intermediate).

(Undergraduate).

(Postgraduate).

**Source of information regarding menstruation:**

**Socio-economic status:**

(20,000-30,000).

(30,000-60,000).

(60,000-90,000).

(>90,000)

**Family system:**

Joint family \_\_\_\_\_

or

Nuclear family \_\_\_\_\_

**Do you either use:**

Homemade sanitary napkins \_\_\_\_\_

or

Readymade sanitary napkins \_\_\_\_\_

## **Appendix C**

### **Data Collection Tools**

- 1.** Adaptive version of Attitudes towards Menstruation Scale (Aflaq & Jami 2005) originally developed by McHugh and Wasser in 1959 (as cited in Shaw & Wright, 1967).
- 2.** Checklist of Experiences Related to Menstruation (CEM) developed by Aflaq and Jami in 2005.
- 3.** Food Myths Checklist (FMC) developed by Khan and Rauf in 2018.

## Adaptive version of Attitudes towards Menstruation Scale

### Attitudes towards Menstruation Scale (AMS)

Please tell us about your thoughts and feelings about menstruation. Kindly do not leave any item unanswered.

Sr. No	Statements	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	Menstruation is a normal biological function to me.					
2	I feel that menstruation has an essential purpose.					
3	I feel that menstruation is simply part of being a woman.					
4	When I menstruate, I am happy that I am normal and healthy.					
5	I am not ashamed to talk about menstruation.					
6	Menstruation makes me feel closer to other women					
7	Menstruation is important for having children.					
8	Menstruation makes me feel grown up.					
9	Menstruation makes me feel important.					
10	I object to the interruption of my activities by menstruation.					
11	Menstruation seems a wonderful process.					

12	I hate the pain during menstruation.					
13	Use of materials (pads, cotton, undergarments etc) bothers me.					
14	I am annoyed because menstruation is something I cannot control.					
15	When I menstruate, I feel that it is noticeable.					
16	I am horrified to think of all the years of menstruation ahead.					
17	I want sympathy when I menstruate.					
18	I get self-conscious each time I menstruate.					
19	I feel burdened during menstruation.					
20	I get upset and nervous every time I menstruate.					
21	I hate menstruation.					
22	I feel ashamed in front of boys during menstruation.					
23	I feel that menstruation is something to hide.					
24	I feel ashamed if someone discovers that I am menstruating.					
25	Menstruation gives me a feeling of pride.					
26	Pampering and special care during menstruation makes me feel like a child.					
27	I am embarrassed about menstruation.					



28	Menstruation makes me feel angry being a girl.					
29	Menstruation represents to me the unpleasant responsibility of adult sex life.					
30	I am frightened by stories I have heard about menstruation.					
31	Menstruation disgusts me.					
32	I feel abnormal and peculiar when I menstruate.					
33	I am very afraid of menstruating.					
34	I am indifferent to menstruation it doesn't bother me.					
35	I have no feeling of shame at all in connection with menstruation.					

## Checklist of Experiences Related to Menstruation (CEM)

### Final Form of Checklist on Experiences Related to Menstruation (CEM)

For each statement put mark on only one option. Kindly do not leave any item unanswered.

#### I. When I experienced my first periods/menses,

I .....

- |   |     |    |
|---|-----|----|
| 1. was well informed beforehand.                | Yes | No |
| 2. could easily share with others.              | Yes | No |
| 3. felt annoyance at the part of my mother.     | Yes | No |
| 4. was conscious of going to social gatherings. | Yes | No |
| 5. felt as if every body is looking at me.      | Yes | No |

#### II. During periods/menses,

I feel....

- |                        |     |    |
|------------------------|-----|----|
| 6. depressed mood.     | Yes | No |
| 7. lethargy.           | Yes | No |
| 8. irregular sleep.    | Yes | No |
| 9. disturbed appetite. | Yes | No |
| 10. tension/anxiety.   | Yes | No |
| 11. unhygienic.        | Yes | No |

#### III. During periods/menses,

I....

- |   |     |    |
|---|-----|----|
| 12. am well prepared (remember the dates, self-sufficient etc) to deal with it. | Yes | No |
| 13. feel pain in head/back/legs/stomach etc.                                    | Yes | No |
| 14. take pain killers.  | Yes | No |
| 15. avoid any physical activity.  | Yes | No |
| 16. feel interference in daily routine activities.                              | Yes | No |
| 17. hesitate in wearing light colored dresses.                                  | Yes | No |
| 18. can move freely in home/school setting.                                     | Yes | No |
| 19. avoid taking bath.  | Yes | No |
| 20. experience irregular cycle.   | Yes | No |

**Food Myths Checklist (FMC)**

**Food Myths Checklist**

1. During periods/menses I avoid taking food items that have cold properties (taseer) e.g. ice-cream, yogurt, orange, cold drinks/juices, rice, banana, watermelon.

Yes \_\_\_\_\_ No \_\_\_\_\_ Sometimes \_\_\_\_\_

2. During periods/menses I avoid taking food items that have sour properties (taseer) e.g. tamarind (imli), pickle (achar).

Yes \_\_\_\_\_ No \_\_\_\_\_ Sometimes \_\_\_\_\_

3. During periods/menses I avoid taking food items that have badi properties (taseer) e.g. cabbage, cauliflower, potato, rice, gram and mash pulses (chane and mash ki dal).

Yes \_\_\_\_\_ No \_\_\_\_\_ Sometimes \_\_\_\_\_

4. During periods/menses I avoid pain killers e.g. panadol, paracetamol.

Yes \_\_\_\_\_ No \_\_\_\_\_ Sometimes \_\_\_\_\_

5. During periods/menses I avoid take food items that have hot properties (taseer) e.g. meat, beef or mutton, fish, egg, chicken, milk with turmeric (haldiwaladoodh), milk with egg (andewaladoodh), qehwa.

Yes \_\_\_\_\_ No \_\_\_\_\_ Sometimes \_\_\_\_\_

**Permission to use Attitude towards Menstruation Scale (AMS)  
& Checklist of Experiences related to Menstruation (CEM)**



**Humaira Jami**

10/04/2022

To: Annie Malik Cc: Saira >

## **Re: A request for permission grant**

Thanks very much Annie for showing your interest. I don't have Fouzia's email, however as a co-author I permit you to use measure in your research.

You can have the official permission letter for your thesis from testing resource center of National Institute of Psychology, Quaid-i-Azam University.

I am copying your email to Dr Saira who will facilitate you to get the measure.

Best of luck

Dr Humaira Jami

## Permission to use Food Myths Checklist (FMC) related to menstruation

On Wed, Apr 13, 2022 at 9:12 PM Annie Malik <[rubinafayyazb@gmail.com](mailto:rubinafayyazb@gmail.com)> wrote:

Dear Nelofar ma'am,  
I hope this email finds you well! I am a student of Capital University of Science and Technology Islamabad Pakistan, majoring in Psychology as bachelor's degree. As a part of my studies, I am working on my thesis project in which I have to conduct a quantitative study on "Attitudes, Experiences and Food Myths Related to Menstruation among Females".

Ms Misbah developed a "food myths" scale for her research study. I need that scale for my research topic She asked me to email you (her supervisor) for the official permission letter and so you can help me to get the measure. I have to visit Quaid-e-Azam to get some other scales too, please confirm me so I'll come on an appointment time. I am looking forward for your vulnerable response.

Thank you!

Sincerely,  
Ayenah Malik

NK

Nelofar Nisari  
To: Annie Malik >

14/04/2022

### Re: A request for permission grant

Dear Ayenah,

Please contact TRC at NIP for the questionnaire. You can also visit our website at [https://www.nip.edu.pk/testing\\_lab.html](https://www.nip.edu.pk/testing_lab.html) to get the information for the procedure to get the questionnaire.

Good luck!!

Regards

# Plagiarism Report

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