



# A Cross-Sectional Study on Relationship Between the Regularity of Menstrual Cycle in Adolescent Girls with Their Mizaj (Temperament)

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## Abstract

A normal menstrual cycle in terms of regularity, length, flow and duration is an indicator of the health status of a woman. If there is any change in these characteristics due to any reason, it may affect the overall health. So, this study aimed to observe the relation between the menstrual cycle regularity in adolescent girls with their temperaments. A cross-sectional study was conducted on 294 unmarried healthy menstruating females aged 18–28 years selected from different faculties of Aligarh Muslim University. Standardized self-reporting questionnaires were used to obtain relevant data. The categorical data were analyzed using the student t-test and z test. The volunteers were divided according to the status of their menstrual regularity into two groups. Group I: Regular, Group II: Irregular. Out of 120 Damvi temperaments, 105 (87.5%) volunteers say they were having regular periods whereas 15 (12.5%) subjects had complaints of menstrual irregularities. In the Balghami group, 47 out of 64 (73.3%) subjects were placed in the regular group and 17 (26.5%) in an irregular category. In the Safrawi group, 97 out of 110 (88.18%) volunteers were satisfied with their menstrual regularities as 13 (11.81%) complained of an irregular menstrual cycle. In this study, it is concluded that girls with Balghami (Cold) temperament have more irregular menstrual cycle in comparison to Damvi and Safrawi (Hot) temperament.

**Keywords:** Unani Tibb; Mizaj; Temperament; Menstrual cycle; Ajnas-e-ashra.

## INTRODUCTION

The menstrual cycle is a unique physiological event in the reproductive system of female mammals which makes pregnancy possible. The first menstrual cycle (menarche) usually occurs between 12 to 15 years of age, these cycles end around the age of 50 years, i.e., at menopause. The menstrual cycle is calculated as the duration from the first day of bleeding to the beginning of the next bleed. Although a menstrual cycle is

28 days on average, it could be a little shorter or longer. In general, a normal menstrual cycle usually lasts between 21 and 35 days. The most regular menstrual cycles in women occur during the reproductive ages (21-35 years). The regularity of the menstrual cycle is considered an indicator of women's reproductive health; changes in the menstrual cycle have different reasons.<sup>1</sup> The variation in cycle length is attributed mainly to the timing of ovulation. Nevertheless, the length of the luteal phase may also deviate significantly from 14 days. For example, the luteal phase length was between 7 and 19 days in a sample of 28-day cycles. With increasing age, cycle length reduces and the timing of ovulation becomes earlier; the variation of a woman's cycle length reduces with age until menopause. Cycle characteristics also may be affected by ethnicity, high body mass index (BMI), stress and lifestyle factors.<sup>2</sup> Menstrual patterns are also influenced by several host and environmental factors. However, few studies in India have described the lifestyle factors associated with various menstrual cycle patterns.<sup>3</sup> Whilst such variations in cycle parameters have previously been observed in controlled studies there is a lack of knowledge about fundamental characteristics of the menstrual cycle in the general population.<sup>2</sup> Some of these menstrual characteristics, such as irregularity in the menstrual cycle, premenstrual pain and discomfort, pain and discomfort at the time of menstrual discharge, and a heavy menstrual discharge, may affect the general and/or reproductive health of a woman.<sup>3</sup> Irregular menstruation can result from hormone imbalances and stress; these factors act as both health indicators in women and as mediators of various health indicators. Irregular menstruation is related to mental health conditions, such as depression, in addition to physiological factors,<sup>4,5,6</sup> an abnormal menstruation cycle is associated with health-related anxiety and dissatisfaction<sup>7</sup>. In addition, irregular menstruation has a negative effect on work productivity<sup>8</sup>.

In Unani Tibb, temperament has very much importance. Temperament is directly related to a healthy or diseased state of the body. Mizaj (temperament) is the sole thing that gives the human body its right shape and structure and allows an individual to perform his functions properly. When a person's mizaj is altered, his functions and structures tend to change as well, resulting in diseases.<sup>23</sup>

So menstrual cycle and its disorders have a deep relation with temperament. The four temperamental personalities (Damvi, Balghami, Safrawi, and Saudawi) have different characteristics according to the 10 parameters of Ajnas-e-ashra.<sup>24</sup>

So, because of this, different temperamental personalities have different menstrual cycle patterns and different menstrual disorders. The normal menstrual cycle indicates the proper functioning of the female reproductive organs. Menstrual blood is the excrementitious humour of the body which includes various substances other than blood. The retention of menstrual blood is harmful to the body and may produce local and general diseases. If menstruation comes every month within normal limits in terms of period, duration and flow, it maintains the health.

It is important to educate young girls and their parents regarding changes during adolescence, the menstrual pattern and associated symptoms initially and in subsequent cycles. It is equally important for clinicians to develop the skill of evaluating young patients and their problems appropriately.<sup>22</sup> The objective of the present work is to study the relation between the regularity of the menstrual cycle in adolescent girls with their mizaj (temperament).

## METHODS

A cross-sectional study was conducted among randomly selected healthy 294 unmarried female volunteers between the age group of 18- 28 years from different faculties of Aligarh Muslim University, Uttar Pradesh. Preference was given to the students residing in hostels because their environmental and nutritional status is almost similar. A pre-designed, peer-validated, survey questionnaire was prepared in the light of criteria described in classical Unani books for the assessment of temperament. The following factors age, weight, complexion, colour of the hair, condition of flesh and fat, hairs of the body, sense of perception, physical functions- sleep, quality of excreta, etc. were taken into consideration for the determination of mizaj. Besides these points for the assessment of temperament, the questionnaire also includes the sociodemographic data, points of the detailed menstrual cycle such as age at menarche, premenstrual symptoms, regularity, period, average duration, flow, an association of pain and other physical problems. They were also asked whether they had consulted a doctor about having any menstrual problems.

The questionnaires were distributed in English, Hindi and Urdu language and properly explained to avoid any form of misunderstanding and to facilitate accurate responses by the subjects. Of 350 questionnaires distributed, 294 students responded. An isolated and stress or fear-free environment was provided to them. Data were analyzed as a percentage of responses. After getting this filled questionnaire the temperament was detected and their menstrual history was obtained.

## RESULTS

The 294 unmarried female volunteers were thoroughly screened for temperamental assessment on the basis of Ajnas-e-alamat. The detail of observation was noted.

Temperament	No. of Volunteers	Percentage (%)
Damvi	120	40.81%
Balghami	64	21.76%
Safrawi	110	37.41%

According to temperament the volunteers were divided into 3 groups.

**Group I:** Damvi Temperament includes 120 volunteers (40.81%).

**Group II:** Balghami Temperament includes 64 volunteers (21.76%).

**Group III:** Safrawi Temperament includes 110 volunteers (37.41%).

### Distribution of Volunteers According to the Age

Age in years	No. of volunteers	Percentage	Damvi	Balghami	Safrawi
18-20	21	7.14%	6	5	10
20-22	76	25.85%	25	14	37
22-24	73	24.82%	30	21	22
24-26	56	19.07%	24	14	18
26-28	68	23.12%	35	10	23
Total	294	100%			

During the study, all 294 volunteers were divided into 5 groups according to age.

In group I (18-20 years): there were 21 volunteers, out of which 6 volunteers included in Damvi temperament, 5 in Balghami temperament and 10 in Safrawi temperament (7.14%).

**In group II** (20-22 years): there were 76 volunteers out of which, 25 were in Damvi temperament, 14 in Balghami, and 37 in Safrawi temperament (25.85%).

**In group III** (22-24 years): there were 73 volunteers out of which, 30 in Damvi temperament, 21 in Balghami and 22 in Safrawi temperament (24.85%).

**In group IV** (24-26 years): there were 56 volunteers out of which, 24 were in Damvi temperament, 14 in Balghami and 18 in Safrawi temperament (19.07%).

In group V (26-28 years): there were 68 volunteers out of which 35 in Damvi temperament, 14 in Balghami temperament, and 23 in Safrawi temperament (23.12%).

### Distribution of volunteers according to age at menarche

Age in years at menarche	No. of volunteers	Percentage	Damvi	Balghami	Safrawi
12	43	14.63%	22	4	17
13	122	41.49%	52	28	42
14	87	29.59%	33	26	28
15	29	9.86%	13	5	11
16	13	4.42%	0	1	12

According to age at menarche the volunteers were divided in 5 groups.

**I group** (12 years): 22 in Damvi temperament, 4 in Balghami and 17 in Safrawi temperament (14.63%).

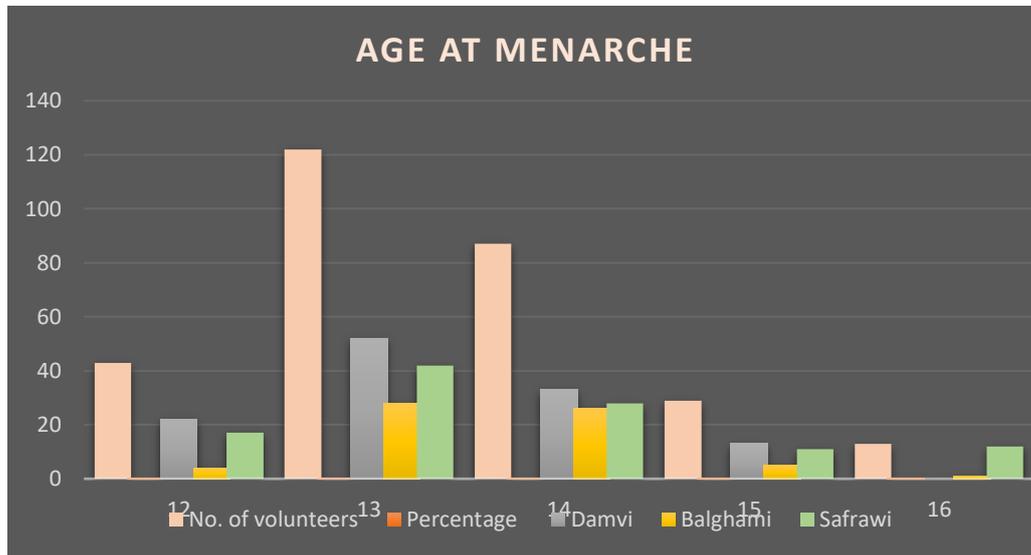
**II group** (13 years): 52 in Damvi temperament, 28 in Balghami and 42 in Safrawi temperament (41.49%).

**III group** (14 years): 33 in Damvi temperament, 26 in Balghami and 28 in Safrawi temperament (29.59%).

**IV group** (15 years): 13 in Damvi temperament, 5 in Balghami and 11 in Safrawi temperament (9.86%).

**V group** (16 years): None in the Damvi temperament, 1 in Balghami and 12 in Safrawi temperament (4.42%).

**DISTRIBUTION OF VOLUNTEERS ACCORDING TO AGE AT MENARCHE**



**Table No. 3: Distribution of Volunteers According to Type of Menstrual Cycle**

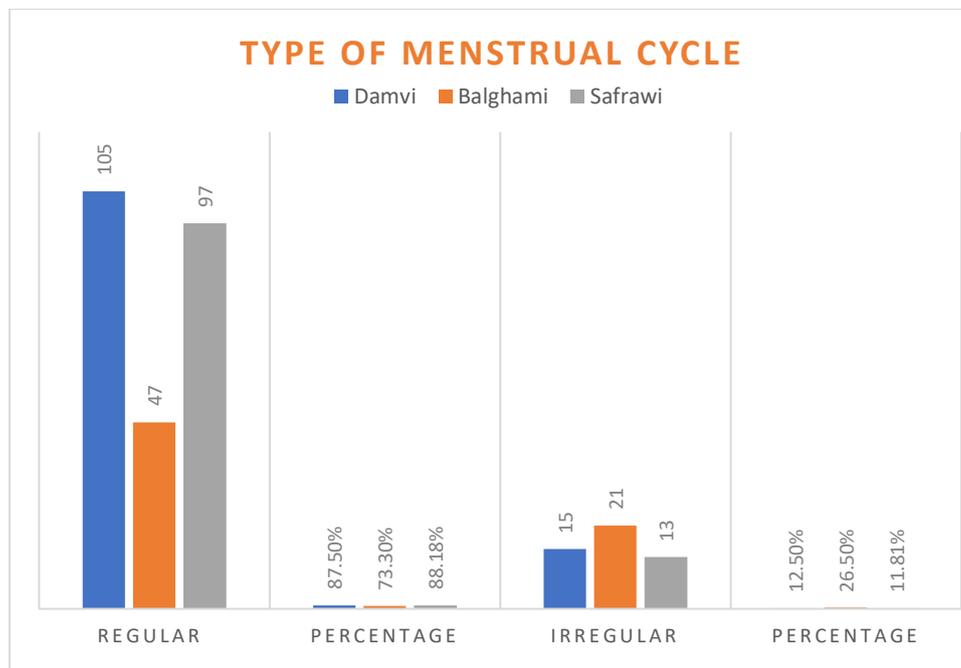
Temperament	Regular	Percentage	Irregular	Percentage
Damvi	105	87.5%	15	12.5%
Balghami	47	73.3%	17	26.5%
Safrawi	97	88.18%	13	11.81%

According to the type of menstrual cycle, out of 120 Damvi temperament volunteers, 105 had regular (87.5%) and 15 had irregular menstrual cycle (12.5%).

Out of 64 Balghami temperament volunteers, 47 had regular (73.3%) and 21 had irregular menstrual cycle (26.5%).

Out of 110 Safrawi temperament volunteers, 97 had regular (88.18%) and 13 had irregular menstrual cycle (11.81%).

## Distribution Of Volunteers According to Type of Menstrual Cycle



## DISCUSSION

Every person has possessed a unique temperament, which includes his physical characteristics, physiological profile and psychological as well as emotional state which attribute to mizaj.<sup>25</sup>

Thus, as no two individuals are the same or alike, so is their temperament. In the Unani system of medicine, each individual, due to his temperament is said to possess certain innate strengths and deficiencies, for which he reacts differently to a given set of environmental conditions. As a consequence, tends more toward diseases of his particular type, requires different types of diet and lifestyle for healthy living and even different types of combination of drugs to get rid off from the disease.<sup>26</sup>

Menstrual cycle disturbances are a result of hormonal imbalances, which occur due to exposure to environmental stress, e.g., changes in energy balance (excessive physical activity, low energy intake), exposure to pollutants (present in polluted air and tobacco smoke), and psychosocial stress<sup>9,10</sup>. Menstrual irregularity, defined as an irregular menstrual cycle, is a form of abnormal menstruation that results from various causes, such as the presence of a disease (i.e., endometriosis, type 2 diabetes mellitus, etc.), medication use (i.e., drug-treated depression, antiandrogens, etc.), underweight or obesity, smoking habit, and reproductive factors (age at menarche, parity, etc.)<sup>11-16</sup>. Early diagnosis and treatment of menstrual irregularities can help reduce the occurrence rates of infertility and the sequelae of serious diseases such as congenital heart disease and osteoporosis.<sup>16-17</sup>

According to Zacharias et al regular menstruation was established much sooner after just over 13 months.<sup>18</sup>

Widholm & Kantero presented extensive data on the study of almost 5500 girls reported irregular periods during the first menstrual year in 43 percent; by the sixth year, this figure had fallen to 20 percent.<sup>19</sup>

Ancient Unani physicians such as Ibn Sina, Razi and Jurjani, etc. in their books have given detailed knowledge about Anatomy, Physiology of female genital organs and gynecological disorders and their treatment. Jurjani has described the duration, quantity and quality of the menstrual cycle. According to him

When the period of menstrual period is long then the menstrual cycle is not normal and it causes disease.<sup>20</sup> According to Hakim Ajmal Khan, the regularity and irregularity of the menstrual cycle are so important that it affects the life of a woman. When the menstrual cycle comes normally at the monthly interval it maintains the health and if any irregularity occurs then many problems occur.<sup>0</sup>

In this study, total numbers of female volunteers were two hundred and ninety-four (294) out of which the highest number of volunteers were found to have Damvi temperament. As Table-1 Shows, the number of volunteers in Damvi group was 120 (40.81%). In Safrawi group we studied one hundred and ten (110) individuals, which comprise (37.41%) of the total strength. Whereas in 64 (21.76%) subjects were inducted to have Balghami temperamental qualities. No volunteer in our study had Saudawi temperament. Thus, only three groups of temperament were found.

After the distribution of volunteers according to age, the youngest volunteers had 18 years of age and the elder ones were of 28 years. Thus, this study projects the date of volunteers within the limit of 10 years in age wise comparison. As shown in Table-2 lowest numbers of subjects were in between 18-20 years of age and the highest numbers belong to the age group of 26-28 years.

The volunteers were divided according to the status of their menstrual regularity into two groups as shown in Table no. 3.

Group I: Regular, Group II: Irregular. Out of 120 Damvi temperaments, 105 (87.5%) volunteers say they were having regular periods whereas 15 (12.5%) subjects had complaints of menstrual irregularities. In Balghami group 47 out of 64 (73.3%) subjects were placed in the regular group and 17 (26.5%) in the irregular category. In Safrawi group 97 out of 110 (88.18%) volunteers were satisfied with their menstrual regularities as 13 (11.81%) complained of an irregular menstrual cycle. The result is almost the same.

## CONCLUSION

Every person has possessed a unique temperament, which includes his physical characteristics, physiological profile and psychological as well as emotional state which attribute to the mizaj. So menstrual cycle is a physiological phenomenon and temperament determines the menstrual cycle pattern of an individual. In this study an attempt has been made to establish a relationship between the temperament of individuals with the regularity of their menstrual cycle. With the limitation of resources and time, the study sample could not become large enough however the results show that there does exist a relationship between the regularity of the menstrual cycle and the temperament of the individuals.

So, in this study it is found that the volunteers had Damvi temperament out of 120 volunteers, 105 had regular menstrual cycle and only 15 volunteers had an irregular menstrual cycle.

In Balghami volunteers 47 out of 64 had regular and 17 out of 64 had an irregular menstrual cycle. In Safrawi volunteers, out of 110 volunteers, 97 had regular and 13 had an irregular menstrual cycle.

The results observed during the research work have been analyzed statistically and explained in terms of tables and graphs clearly. The results obtained, show that the hot temperaments (Damvi & Safrawi) have much more regular menstrual cycle in comparison to the cold temperament (Balghami) as Unani Physicians described in classical literature. But there is a need to be research further on this topic with large sample size,

so results can be clearer. Identification of abnormal menstrual patterns in adolescence may improve early identification of potential health concerns for adulthood. Clinicians need to have an understanding of the menstrual patterns of adolescent girls and their temperaments, the ability to differentiate between normal and abnormal menstruation, by including an evaluation of the menstrual cycle as an additional vital sign with temperament, clinicians reinforce its importance in assessing overall health status for female subjects. The regularity of the menstrual cycle has a very important role in the assessment of ovulation. The subjects who have irregular menstrual cycle may face infertility problems in the future.

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