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**RESEARCH PAPER**

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## **Association of Temperament with Age of Menarche**

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### **ABSTRACT**

*The most striking event in the whole process of female puberty is undoubtedly the onset of menstruation. It is an event which now occurs in the majority of girls in developed countries between the ages of 11 and 15. There are many factors influencing the age of menarche such as socio-economic influences, nutrition and weight, Geographical factors, family size and some diseases affect the menarcheal age. The aim of study is to establish a relationship between the age of menarche of a female subject and their temperaments (Mizaj).*

**Key words:** Age of menarche, Temperament, Puberty and Physiological process.

### **INTRODUCTION**

The Arab physician applied the concept of mizaj on universal scale. Mizaj is an important theory of the Unani Medicine, which indicates the properties of an unsur (atom), a molecule, a cell, a tissue, an organ and of the organism as a whole. As the Unani therapy is dependent up on equilibrium so if there is change in mizaj, equilibrium is disturbed in any way be in quantity or quality as the whole body is furnished with mizaj life is threatened. (Ishtiaque, 1980, Ibn-e-Rushd, 1980, Nafees, 1950 and Avicenna, 1995).

Mizaj is the resultant of interaction between the qualities of the constituents of a compound irrespective of the reaction taking place in an animate or inanimate. (Ishtiaque, 1982).

Puberty is the period of rapid growth when the child develops the physical characteristics of the adult. In addition to growth in stature, enlargement and changes in functions of internal organs occurs. (Hart and Norman, 2000). Puberty marks the beginning of adolescence. Adolescence is the span of human growth extending from the immaturity of childhood to the physical and psychological maturity of adulthood. This period extends from 10 to 20 years. (WHO report, 1977). The most important landmark of puberty in females is menarche. Finally menstruation occurs in 95% of girls by the age of 13 years although delay in the remainder up to age of 16 must be considered as normal. (Marshal, 1974). Many factors to influence the onset of menstruation of which the most important are socio-economic ones. In some underdeveloped countries the menarcheal age is still very high of the order of year to 17.5 – 18. (Roche, 1979). Nutrition is likely to be the most important factor influencing the menarche (Dewherst, 1984) examined menarcheal age differences in girls from rural Hyderabad, who were short in stature,

with signs of under nutrition had a late mean menarcheal age. Compared with girls who were tall and had no signs of malnutrition.

There is a late mean menarcheal age in a small group of their ballet dancers. (Warren, 1979). A late menarcheal age was also reported in a sample group of female runners. (Feicht et al., 1978). Athletes attained the menarche significantly later than non-athletes. (Vincent, 1979). The average age at menarche in India is considered to be 13.5 years. (Ranjan, 1977, Bagga and Kulkarni, 2000). In Unani medicine temperament plays an important role. Every physiological process is influenced by temperament. 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 (Razi,1991) Ibn-e-Sina, (1290 A.H.)) had described the duration, quantity and quality of menstrual cycle and age of menarche. According to Hakeem Ajmal Khan when a woman reaches to the menarche her excrements of the body flows from the uterus as a dirty blood (Khoone-fasid) this is known as Tams (Menstruation) (Khan, 1983).

## **MATERIAL AND METHODS**

The aim of study is to establish a relationship between the age of menarche and their temperaments.

## **SELECTION OF VOLUNTEERS**

The aim of study is to establish a relationship between the age of menarche of female subject and their temperaments. For this purpose the volunteers were selected randomly between the age group of 18- 28 years. The study was carried out on 294 unmarried female volunteers selected from Ajmal Khan Tibbiya College and some other faculties of Aligarh Muslim University. Preference was given to the students residing in hostels because their environmental and nutritional status is almost similar.

## **DETERMINATION OF TEMPERAMENT**

The Unani system of medicine is mainly based on the concept of temperament. Every individual, in the state of either health or illness, is categorized on the basis of temperament. It is because of the temperament that every person has a unique personality of his own on the basis of which he is identified. Body built, facial features, voices activities etc. of each person are different because of the particular temperament. As diverse geographical conditions such as regions, countries, cities and habitats etc. exert their effects on the human temperament. The basis of temperament which includes habitat, stature, built, weight, age, complexion, state of hair of the body, mental state etc. have been described in detail by Unani physicians.

An assessment of temperament was made on the basis of a questionnaire prepared in the light of criteria described in classical Unani books. Age, weight, complexion, color 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 points of detailed menstrual cycle such as age at menarche, premenstrual symptoms, period, duration, association of pain etc.

This questionnaire was distributed among the female volunteers. An isolated and stress or fear free environment was provided to them.

After getting this filled questionnaire the temperament was detected and their menstrual history was obtained. Statistical evaluation of obtained values was done by using student t test and z test.

## RESULTS

The 294 unmarried female volunteers were thoroughly screened for temperamental assessment on the basis of ajnas-e-alamat. The details of observations were noted (Table 1, Fig.1).

**Table 1. Distribution of volunteers according to temperament.**

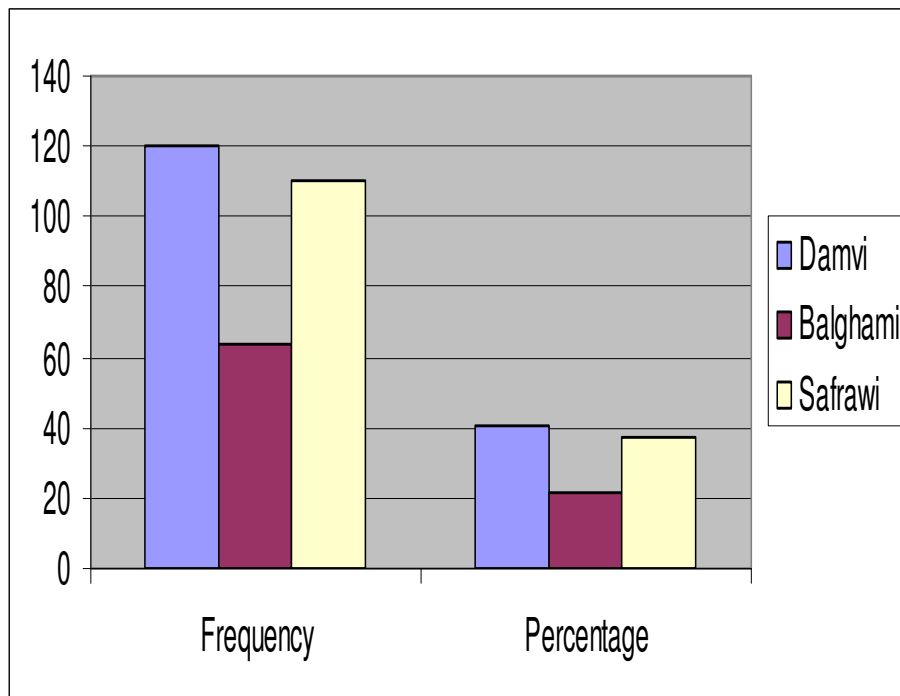
Temperament	Frequency	Percentage
Damvi	120	40.81
Balghami	64	21.76
Safrawi	110	37.41

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).

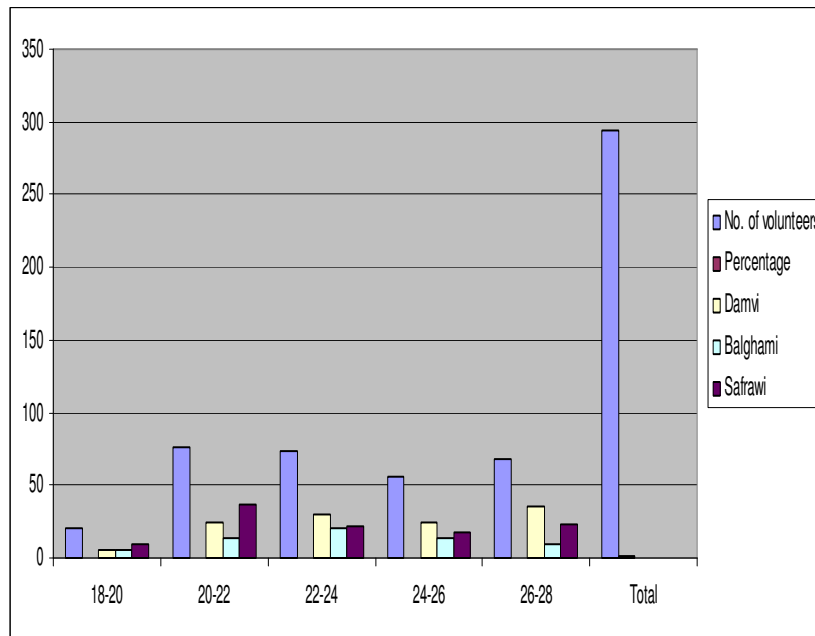
Group III: Safrawi Temperament includes 110 volunteers (37.41).



**Fig.1. Distribution of volunteers according to temperament.**

**Table 2. Distribution of volunteers according to age.**

Age in years	No. 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%			

**Fig. 2. Distribution of volunteers according to age.**

During 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 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 in Damvi temperament, 14 in Balghami and 18 in Safrawi temperament (19.07%). In group 5(26-28 years): there were 68 volunteers out of which 35 in damvi temperament, 14 in balghami temperament, 23 in safrawi temperament (23.12%). (Table 2, Fig.2).

**Table 3. Distribution of volunteers according to age at menarche.**

Age in years menarche	No. 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.

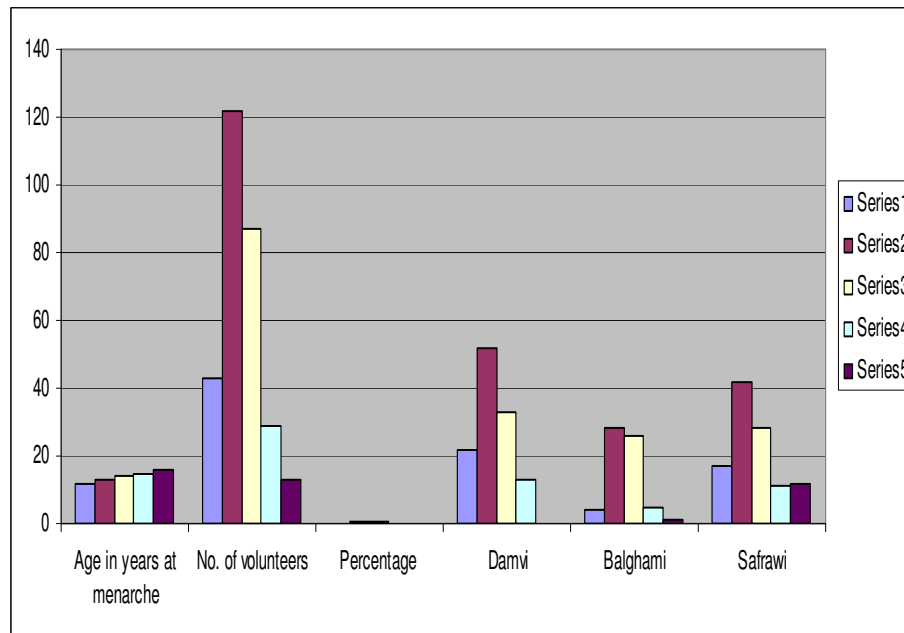
I group (12 years): 22 in Damvi temperament, 4 in Balghami and 17 in Safrawi temperament (14.63%).

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%).(Table3,.Fig.3).



**Fig.3.Distribution of volunteers according to age at menarche.**

## DISCUSSION

The concept of temperament (mizaj) is one of the major pillars of Unani medicine on which the diagnosis, treatment and the prevention from the disease is based upon. 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.

Thus Unani physicians broadly classified the definite number of temperaments possible on the earth, into four temperaments either on the basis of primary qualities or on the basis of humours. These four types of temperament are:

1. Hot and Moist or Damvi (sanguineous)
2. Hot and Dry or Safrawi (Bilious).....
3. Cold and Moist or Balghami (Phlegmatic).....
4. Cold and Dry or Saudawi (Melancholic).....

Therefore each group among these four categories of temperament would show different types of sign and symptoms in which menarche is one of the important constituent to be used as parameter of diagnosis. Therefore, in this study a comparison was made between various temperamental group vise Damvi, Balghami and Safrawi in terms of their age of menarche. To my knowledge this work is first of its kind.

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 comprises (37.41%) of total strength. Where as 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 elder ones were of 28 years.

When distribution of female volunteers as per age of menarche observed, as shown in Table-2 highest number of volunteers blessed with menarche in between the age of 13-15 years i.e. 209 volunteers (71.08%). Whereas other two groups of 11-13 and 15-17 had 43 and 42 volunteers respectively shown similar count. In the same table we can make out easily that maximum numbers (85) of Damvi-ul-mizaj volunteers got their menarche in between 13-15 years of age where as lesser numbers belong to Safrawi-ul mizaj (70) and Balghami-ul mizaj (54) respectively. In the same vain we also point out that lesser numbers of Balghami-ul mizaj subjects menarche occurred in between 11-13 years (40.06%) and 17-15 years (60.09%) of age. In our sample study it is clearly evident that the age of menarche is influenced by temperament of an individual. The results observed during the research work have been analysed statistically and explained in terms of tables and graphs clearly. The results obtained, show that the temperament exerts influence on age of menarche pattern in different females.

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