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RESEARCHARTICLE

ESTIMATION OF PREVALENCE OF ZIGHTUD-DAM QAWI (HYPERTENTION) IN PERSONS OF URBAN ALIGARH WITH RESPECT TO DIFFERENT TEMPERAMENTS OF UNANI MEDICINE

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ABSTRACT

Hypertension is one of the major health challenges of 21st century, which, for most countries, has developed together with rapid cultural and social changes, ageing populations, increasing urbanization, dietary changes, reduced physical activity, and other unhealthy behaviors.

Objectives: (1) It is aimed to determine the temperament of persons suffering from hypertension. (2) To estimate the prevalence of hypertension in different temperaments. (3) To study the relationship, between hypertension and temperament, if any.

Materials and Methods: An OPD based cross sectional study was conducted among individuals aged 21to 80 years in Aligarh National Charitable Hospital, Near Jama Masjid Upper Fort, Aligarh, during March 2014 to April 2015. The assessment of the temperament (*Mizaj*) of the patients was made on the basis of a Performa (questionnaire) prepared in the light of criteria described in classical Unani literature. The categorization of HP was done according to Joint National Committee VII (Indian scenario), 2003-12.

Results: Out of 502 hypertensive persons 311 (61.95%) were suffering from both systolic and diastolic hypertension and 191 hypertensive's (38.05%) had isolated systolic hypertension. It was observed further, that out of 502 hypertensive's, 237 were having sanguineous temperament, 145 phlegmatic temperament, 94 bilious temperament and 26 were having melancholic temperament.

Conclusions: It can be concluded by this study that there is a relation between hypertension and *mizaj* (temperament) of an individual's, and that, prevalence of HP in individuals varies significantly when categorized with respect to different temperament. The need of the hour is to understand the concept and importance of temperament and its application in health care.

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INTRODUCTION

Hypertension is a common disease associated with high morbidity and mortality. The disease is a silent threat to the health of people all over the world. It is a silent, invisible killer because it often has no warning signs or symptoms, and many people do not realize they have it until the organ damages have occurred; that is why it's important to get blood pressure checked regularly (Bartwal, 2014). Thus early detection of hypertension and its precipitating or aggravating factors are important if one is to evolve measures so that complications of hypertension can be prevented.

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Hypertensive persons tend to have other medical problems, such as obesity, high blood lipids and diabetes mellitus (Prashant, 2011). Coronary risk factors such as hypertension, smoking, physical inactivity, obesity and improper diet are fairly widespread. Cardiovascular diseases, particularly hypertension, account for high mortality in the form of cardiovascular strokes in the world.

Why it is dangerous?

In India, cardiovascular diseases (CVDs) are estimated to be responsible for 1.5 million deaths annually (Gaziano *et al*., 2006). Indeed, it is estimated by 2020, CVDs will be the largest cause of mortality and morbidity in India(WHO Report, 2002), (O'Donnell *et al*., 2010). Using a cut-off of 140 mmHg or greater systolic blood pressure (BP), or 90 mmHg or greater diastolic BP.

The age-standardized prevalence of hypertension worldwide in the year 2000 was estimated to be 26.6% in men (95% confidence interval, CI 26.0 to 27.2) and 26.1% in women (95% CI 25.5 to 26.6). This was estimated to rise to 29.0% in men (95% CI 28.6 to 29.4) and 29.5% in women (95% CI 29.1 to 29.9) by 2025.It was estimated that around two-thirds of those people with hypertension worldwide were living in developing countries (639 million) in 2000, and that this would rise to three-quarters living in developing countries (1.15 billion) by 2025.

Unani System of Medicine

Greeko-Arabic medicine states that, the existence of human body is depends on seven basic component known as *'Umoor-e-Tabaiyah'* (factor of health).These are *Arkan* (Elements); *Mizaj* (Temperament), *Akhlaat* (Humors), *Aaza* (Organs), *Arwah* (Vital forces), *Quwa* (Faculties), *Af'al* (Functions).All these are responsible for the maintenance of human health and if any one of these is lost produces diseases and ultimately death (Ahmad, 1980). The concept of *Mizaj*is one of the basic pillar of *Unani System of medicine* (Greeco-Arabic Medicine), on which health or disease condition of human being and the entire Unani therapeutics including diagnosis, treatment and prevention of diseases is based upon. *Mizaj* is an empirical expression describing the humoral composition that regulates the physiological and pathological changes in the human body. Thus, there are no two individuals who are same in their *Mizaj*. The temperament of individual is not an incidental phenomenon, it attains temperament while in the womb by heredity from parent and intrauterine environment and after birth by extra uterine environment. Once a temperament is established during fetal life it will be modified by ancient environmental factor alone.

The *Mizaj* is formed by interaction of primary component having opposite qualities present in the *Arkan* (elements). These qualities are primary four in number, namely hotness, coldness, moistness, and dryness. Thus, Unani physicians broadly classified the people into four types of *Mizaj* either on the basis of humors. These four types or qualities of *Mizaj* (Temperament) are: (1) Hot & Moist: *Damvi Mizaj* (sanguinious) (2) Cold & Moist: *Balghami Mizaj* (Phlegmatic) (3) Hot & Dry: *SafraviMizaj* (Bilious) and (4) Cold & Dry: *Saudavi Mizaj* (Melancholic) (Ahmer, 2014). Most of the Unani scholars were familiar to the manifestation of hypertension as they described most of its symptoms such as headache, palpitation, vertigo and epistaxis due to*Imtilah* (repletion). Although the term "hypertension" for high blood pressure was first used by Harry Gold Ballet in 1934.Some of them even described vascular pressure by increased blood volume in lumen of blood vessels (Ahmad, 1980).When studied thoroughly the clinical feature of *Imtilah* in classical literature of Unani medicine corresponds with clinical features as encountered in the patient of hypertension. Therefore we can co-relate that both these term *Imtilah* and hypertension to the same context. Later on Unani physician started to call hypertension as *"Zightuddam Qawi"* (Arif, 2008). The most common things found in hypertensive people are imbalances in hot and moist qualities, an increase in the volume of blood circulating within the body occur people who have sub-dominant or dominant sanguineous temperament are at greatest risk. This form of hypertension results from the person consuming excessive amount of hot and moist foods. Which leads to increase in the sanguineous humour, as well as incorrect management of the governing factors. This leads to an excess of hot and moist qualities. This form of hypertension (*sanguineous*) is equivalent in most respects to essential hypertension. Hypertension also may be due to an imbalance in the cold and dry qualities, where an increased rigidity in the blood vesselsis found, especially the arteries and arterioles of arising from a person having a melancholic (cold and dry) imbalance in the vascular system. This type of hypertension (*melancholic*) is usually found in those who have a melancholic sub-dominant or dominant temperament (Iqbal, 2010).

Ali Abbas Majoosi (930-994 AD) stated that when there is imbalance in *akhlat* (body fluids) and when they become dominant results in diseases such as hypertension. Due to weakness in the arteries, constriction and relaxation does not perform properly and thus *Imtilah* occurs as there is stagnation of abnormal humour in the arteries .Further he stated that *Imtilah* is caused by excessive intake of food and alcohol and avoidance of exercise and bathing. It can further be the outcome of physical inactivity, rest and repose as the condition lead to accumulation of *fuzool* (metabolic products) (Majoosi, 1989). Ibn Rushd (1126-1198 AD) is of the view that the reason of narrowing and closing of canals and pathway is due to dominance of the *Yabis Mizaj* (dry temperament) of the body. If *Su'e (*abnormal*) Mizaj Yabis* predominates in the body, then it may harden the vessels. Closing of canal is either due to excess of *Quwat Masika*(retentive power*)* or weakness of *Quwat Dafia* (expulsive power) (Rushd, 1987). *Quwat Masika* is balancedby *Burudat* (coldness) and *Yabusat* (dryness) (Kantoori). Because of excess of *Quwat Masika*, the narrowing of canals is produced. Either excess of *Baroodat or Yaboosat* there is constrict the canals, which is originated from astringent things (Tabri, 2010). According to Abu Marwan, *Yaboosat* produces constriction in brain similarly as in vessels (Ibn Zuhar, 1986).

Allama Burhanuddin Nafisi (1438AD) had viewed it as *Nabz-e-Salb* (hard pulse). *Salabat* (Sclerosis) in the *nabz* (pulse) is found in due to dryness, because dryness eliminates moisture which helps in expansion of arteries. This is seen in old age and in atherosclerosis. In this pulse the elasticity of the wall is decreased which eventually raises the peripheral resistance causing hypertension (Kabiruddin, 1954).

Aims and objectives

The study was started with following aims and objectives.

- To determine the temperament of persons suffering from hypertension.
- To estimate the prevalence of hypertension in different temperaments.
- To study whether there is relationship between hypertension and temperament.
- To establish the importance of early detection of hypertension and the need of management of hypertension

Hypotheses of the Study

In accordance to classical Unani literature evaluation, the percentage of persons having hypertension would be highest in persons having sanguinous temperament as there is an increase in the volume of blood circulating within the body, then in phlegmatic, then in choleric and lastly in melancholic temperament.

MATERIALS AND METHODS

An OPD based cross sectional study was conducted among individuals aged 20 years to 100 years in Aligarh National Charitable Hospital near Jama Masjid Upper Fort District Aligarh during March 2014 to April 2015. During this time duration 502 individual were found to be hypertensive. An informed verbal consent was taken from the participants after explaining them the purpose of this study. The assessment of the temperament (*izaj*) of the patients was made on the basis of a self-designed Performa (questionnaire) prepared in the light of criteria, described in classical Unani literature. Inclusion criteria: The individuals aged 21 years to 80 years attending the OPD of Aligarh National Charitable hospital.

Exclusion criteria: The individuals of below 21 years, above 80 years and a pregnant female of any age group were excluded from the study.

Measurement of blood pressure: The study participants were made to sit comfortably for 5 minutes before BP was measured. Blood pressure was measured using the auscultatory method with a standardized calibrated mercury column type sphygmomanometer and an appropriate sized cuff encircling at least 80% of the arm in the seated posture, with feet on the floor and arm supported at heart level. The first blood pressure measurement was recorded after obtaining socio-demographic information from the study subject, while the second was recorded after a brief clinical examination. The reading at which korotkoff sound is first heard considered as systolic blood pressure and at which the korotkoff sound disappears taken as diastolic blood pressure.

We used the average of two readings of SBP and DBP to describe the blood pressure of the participant. In cases where the two readings differed by over 10 mm of Hg, a third reading was taken and average of the three measurements was taken.According to Joint National Committee VII (Indian scenario), 2003-12 the following measurements of blood pressure are considered as normal, pre-hypertension and hypertension.

Table 1. Classification of Hypertension

For - 13 years Classification	Systolic BP mmHg	Diastolic BP mmHg
Normal	<120	<80
Pre Hypertension	120 – 139	80- 89
Stage I Hypertension	140 – 159	90 – 99
Stage II Hypertension	> 160	> 100

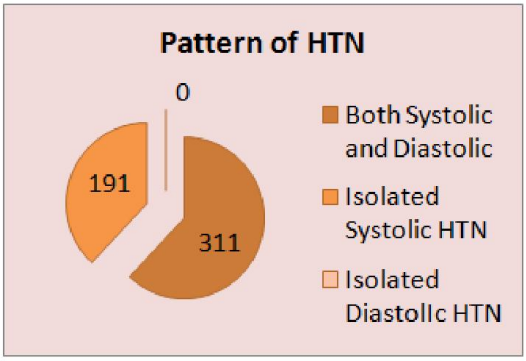
RESULTS

Total 502 people suffering from hypertension (HTN) visiting the OPD within the duration of March 2014 to April 2015 were taken for study.

Data obtained in this study was statistically evaluated and analyzed which are as follows:

Table 2. Distribution of Patients according to the Pattern of HTN

Pattern of HTN	Frequency	Percentage
Both Systolic & Diastolic	311	61.95%
Systolic	191	38.05%
Diastolic	0	0%
Total	502	100%

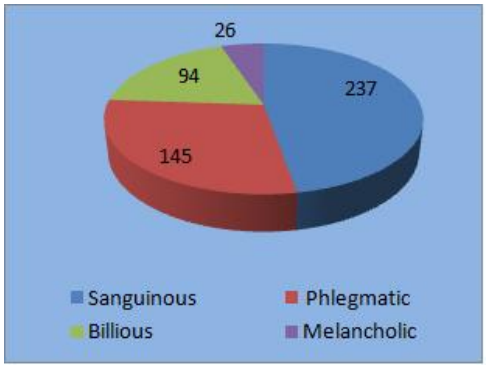


Graph 1. Distribution of Patients according to the Pattern of HTN

The data shows that out of 502 hypertensive persons, 311 (61.95%) was suffering from both the systolic and diastolic BP, 191 (38.05%) had isolated systolic HTN while no case was seen to have isolated diastolic hypertension (as shown in Tale-02& Graph-01).

Table 3. Distribution of Patients according to the Temperament

Temperament	Frequency	Percentage
Sanginous	237	47.21%
Bilious	94	18.72%
Phlegmatic	145	28.88%
Melancholic	26	0.52%
Total	502	100%

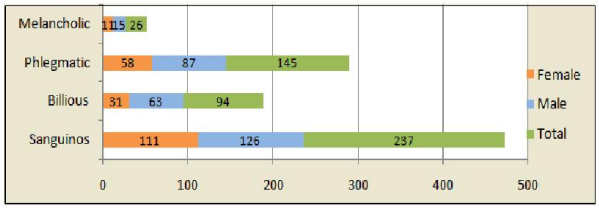


Graph 2. Distribution of Patients according to the Temperament

It was observed that out of 502 hypertensives, 237 were sanguinous temperament, 145 phlegmatic temperament, 94 bilious temperament and 26 melancholic temperament (as shown in Table-03& Graph-02).

Table 4. Distribution of Patients according to the Sex

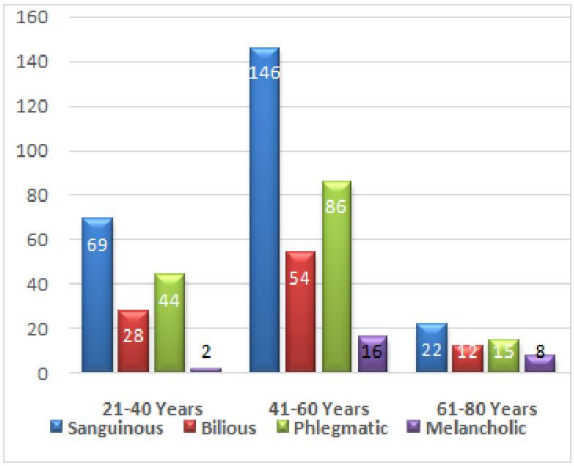
Sex	Sanguinous	Bilious	Phlegmatic	Melancholic	Total
Male	126	63	87	15	291
Female	111	31	58	11	211
Total	237	94	145	26	502



Graph 3. Distribution of Patients according to the Sex

Table 5. Distribution of Patients according to the Age

Age group	Sangu i-nous	Bili-ous	Phleg matic	Melan-cholic	Total
21-40	69	28	44	2	143
41-60	146	54	86	16	302
61-80	22	12	15	8	57
Total	237	94	145	26	502



Graph 4. Distribution of Patients according to the Age

In present study it was observed that, 291 subjects were male while 211 were female out of 502. Gender categorization were also done in each temperament group and it was observed that out of 237 sanguinous hypertensives, 126 were male while 111 were female.

In case of bilious temperament, 63 were male and 31 were female out of 94 hypertensives. Out of 145 hypertensives 87 male and 58 females were belonging from phlegmatic temperament. While 15 males and 11 females were belonging from melancholic temperament out of 26 hypertensives as show in Table 04 &Fig. 03.In the present study hypertensive subjects were categorized in three age groups 21-20 years, 41-60 years and 61-80 years. Further age groups were subdivided according to temperament of subjects. It was observed that 143 subjects were from age group 21-40 years, which is comprises of 69 sanguinous, 28 bilious, 44 phlegmatic and 2 melancholic subjects. 302 hypertensives were found in age 41 -50,in which 146 were sanguinous, 54 bilious, 86 phlegmatic while 16 were melancholic.

Age group 61-80 contains total 57 subjects which comprises of 22 sanguinous, 12 bilious, 15 phlegmatic and 8 melancholic. On comparing systolic and diastolic blood pressure in different group, statically it was found not significant in all comparison groups as shown in Table-07.

DISCUSSION

The concept of temperament is one of the basic pillars of Unani Medicine. Health, diseases, and dynamism of the human body is based on maintenance of equable temperament. Diagnosis, treatment, and prevention from disease is also determined by the temperament assessment. Keeping this in view 502 person with hypertension were assessed and evaluated with respect to their temperaments. Present study revealed that, maximum number of cases were of sanguinous temperamentwhile least from melancholic temperament. In subcategory of age group, 41-60 years group shows maximum no of patient while group 61-80 shows least prevalence. It was interesting finding that the in all age groups, maximum no. of patient of were belonging from sanguinous temperament, while least no. of patient from melancholic temperament.

In case of gender, maximum no. of male and female patients were possessed sanguinous temperament.

Table 6. Above descriptions about the volunteers can be summarized in terms of mean & SD

Temperaments	Sanguinous	Bilious	Phlegmatic	Melancholic
No. of Subjects	237	94	145	26
Age (Mean ± SD)	46.07±10.07	46.21±10.97	46.68±10.36	53.04±11.03
Systolic BP (Mean ± SD)	151.12±10.50	150.85±10.01	152.77±10.02	153.62±11.97
Diastolic BP (Mean ± SD)	95.22±8.28	93.50±8.09	95.38±8.07	97.31±6.83

SD* Standard Deviation

Table 7. Showing level of significance of blood pressure in different temperament

Temperments	Sanguinous Vs Bilious	SanguinousVs Phlegmatic	Sanguinous Vs Melancholic	Bilious Vs Phlegmatic	Bilious Vs Melancholic	Phlegmatic Vs Melancholic
P Value (Systolic BP)	0.8267	0.126	0.316	0.149	0.288	0.734
P Value (Diastolic BP)	0.081	0.86	0.159	0.079	0.196	0.206

Significant at the level of p<.05

Conclusion

The present study revealed that person having sanguinous temperament especially in age group 41-60 is more prevalent to hypertension. However comparison of hypertension in different temperament statically not significant but we are able to conclude that persons having sanguinous temperament is having maximum chance to suffer from hypertension. The present study proves the hypothesis of Unani medicine that the persons of sanguinous temperament have maximum chance to suffer from hypertension.

The need of the hour is to understand the concept and importance of temperament and its application in health care because theory of temperament in Unani medicine is unique, if we correctly diagnosed the temperament of an individual it can help in prevention of many diseases which were prevalent in different temperament and thus an individual can live a better and healthy life.

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