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Determination of *Mizaj* (Temperament) in women with mixed urinary incontinence: A preliminary study

A. Sultana^{1*}, A. G. F. Najeeya², K. Rahman¹, M. U. Z. N. Farzana³

Abstract

Mixed urinary incontinence (MUI) has been defined symptomatically by the International Continence Society as “the complaint of involuntary leakage associated with urgency and also with exertion, effort, sneezing or coughing.” One of the fundamental concepts of Unani system of medicine is *Mizaj*. *Mizaj* of the organ/body may be affected by internal and external factors leading to *Su'-i-Mizaj*, causes disease. Some of the causes of *Salas al-Bawl* are *Su'-i-Mizaj Barid*, *Zo'fe Mathana*, *Mudirr-i-Bawl*, *Khala Faqra*, alcohol, excessive fluid intake, or injury to *Adala al-Mathana*. Therefore, evaluation of *Mizaj* of an individual or organ is important for treatment of the disease. Thus, this study was conducted to determine the *Mizaj* in women with MUI. A prospective, single centre preliminary study was conducted in 60 women diagnosed with MUI from February 2015 to June 2015 at the National Institute of Unani medicine, India. Questionnaire for assessment of Women's general *Mizaj* (based on *Alamat AjnaseAshra*) was used. Further, *Alamat Su'-i-Mizaj* (clinical features of abnormal temperament) of body as described in the traditional Unani literature were used to assess the *Su'-i-Mizaj*. The data was analyzed by descriptive analysis using Graph pad. Of 60 patients, 43(71.66%), 2(3.33%) and 15(25%) patients had *Barid*, *Harr* and *Motadil* general *Mizaj* respectively. Of 60 patients, 13(21.66%), 25(41.66%) and 22(36.66%) patients had *Yabis*, *Rath* and *Motadil* general *Mizaj* respectively. Of 60 patients, 56(93.33%), and 4(6.66%) patients had *Barid*, and *Harr Su'-i-Mizaj* respectively. This preliminary study validated the claim of Unani scholars that this disease is more common in *Barid Mizaj* and the *Su'-i-Mizaj* towards *Burudat* in women with MUI.

Key words: *Akhlat*, *Mizaj*, Mixed urinary incontinence, *Salas al - Bawl*, *Su' - i - Mizaj*

Introduction

World Health Organization (WHO) defines health as the “condition of total physical, emotional and social health and prosperity”¹. Urinary incontinence (UI) is defined by the International Continence Society as the “complaint of any involuntary leakage of urine”. Urinary incontinence is not life threatening however; it is associated with significant reduction in health related quality of life (HRQoL)² and at the same time has additional financial burden. Urinary incontinence is increasingly seen because of its high prevalence (20% to 30% of middle-aged and 30% to 50% of elderly women) and the growing expectations for relief by women affected by it³. The most common types of female UI are stress, urge and mixed incontinence. Mixed urinary incontinence (MUI) has been defined symptomatically by the International Continence Society as “the complaint of involuntary leakage associated with urgency and also with exertion, effort, sneezing or coughing.”⁴ Mixed urinary incontinence (MUI) is the presence of both SUI and UI symptoms⁵. It is linked to concomitant disturbances, which may be due to childbirth, aging, or other medical conditions, in the complex bladder-urethra coordinated system of urine storage and emptying⁶. MUI accounts for approximately 33% of all cases of incontinence in women⁷.

One of the fundamental concepts of Unani system of medicine is *Mizaj*. *Mizaj* of the organ/body may be affected by internal and external factors leading to *Su'-i-Mizaj*, causes disease⁸. The principle of management of disease is to correct the altered temperament.

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Therefore, before commencing any treatment, *Mizaj* of a patient or organ has to be evaluated. Unani classical literature defines *Salas al-Bawl* or urinary incontinence as involuntary loss of urine^{9, 10}. The causes of *Salas al-Bawl* as per Unani classical texts are *Istirkha Adala al-Mathana* (laxity of muscular layer of bladder), which surrounds the neck of the bladder or duct causes *Salas al-Bawl*. *Salas al-Bawl* is also caused due to *Khala Faqra* (dislocation of vertebrae), *Khal'al-Mathana* (dislocation of bladder) *Istirkha Ribat al-Mathana* (laxity of ligaments of bladder)¹¹. *Su'-i-mizaj Barid*, *Du'fe Mathana*, *Mudirr-i-Bawl*, *Khala Faqra*, alcohol, excessive fluid intake, or injury to *Adalaal-Mathana*, diseases of surrounding structures such as *Waram al-Rahim* (endometritis/PID), *Waram al-Sura* (omphalitis), constipation, and *Haml* (pregnancy)¹². *Du'fe* and *Istirkha Mathana* is caused because of excessive intake of cold and moist things.¹³ *Rutubat* in the *Mathana* leads to *Du'fe Quwwat-i-Masika*, henceforth, *Salas al-Bawl* is frequently seen in children. *Taqtir al-bawl* (dribbling of urine) occurs because of *Istirkha Adala al-Mathana* and *Du'fe Mathana* (weakness in bladder) or *Hiddat al-Mathana*.¹⁴ One of the causes for *Salas al-Bawl* is *Su'-i-Mizaj*. Hence, *Mizaj* of the patient in this disease should be assessed so that appropriate treatment can be given. Thus, this study was planned to determine the *Mizaj* in women with MUI.

Material and Methods

A prospective, single centre preliminary study was conducted in 60 women diagnosed with MUI at the National Institute of Unani medicine, India from February 2015 to June 2015. Both written and oral information about the reasons for this study were given to women and requested to participate. The ethical number of the study is IEC No: NIUM/IEC/2013-14/015/ANQ. Parous women aged ≥ 21 years with symptoms of MUI as evidenced by stress and urge symptoms reported on MESA (Medical, Epidemiologic and Social Aspects of Aging) questionnaire were included. Women with known systemic and endocrine diseases such as uncontrolled hypertension, diabetes mellitus, bronchial asthma, known malignancies, pregnant and lactating women were excluded.¹⁵ Patients were diagnosed with MUI based on stress and urge symptoms reported on MESA questionnaire. Researcher collected relevant socio-demographic data, clinical information and conducted general physical and gynecological examination with cough stress test. General, physical and systemic examination was conducted to exclude general and systemic diseases

respectively. Mental status assessment included patient's orientation, level of consciousness and comprehension. Pelvic examination included observation for any vaginal or cervical discharge, full bladder and supine empty bladder cough stress test, pelvic floor muscular strength (PFMS),¹⁶ vaginal wall, cervix, uterine size and genital prolapse assessment.

Validated Mizaj Questionnaire

Validated *Mizaj* Questionnaire for assessment of Women's general *Mizaj* (based on *Alamat Ajnase Ashra* discussed by Ibn Sina¹⁰) was used summarized in table 1. The questionnaire included 10 questions from 39 questions presented in *Alamat Ajnase Ashra*. Question 2 and Question 3 give the score of wet and dry scale 2 to 6, the dry score is ≥ 5 and wet is ≤ 3 . Other questions include the score of warm-cold scale could be 8 to 24, warm ≥ 19 , and cold ≤ 14 . The weighted kappa coefficient of 20 questions were between 0.40-0.59, 18 questions were between 0.6-0.79 and one question was 0.83 for 39 questions of *Alamat Ajnase Ashra*. The Cronbach's α coefficient of this questionnaire was 0.71¹⁷.

Alamat Su'-i-Mizaj

Alamat Su'-i-Mizaj (clinical features of abnormal temperament) of body as described in the traditional Unani literature were used to assess the *Su'-i-Mizaj* (Table 2).¹⁰ Signs and symptoms were scored on rating scale 4 through 1 for *Alamat Su'-i-Mizaj*. Total score of each patient was added up and the inferences for type of *su' mizaj* was deducted based on equal interval scale developed from total score for the questionnaire. The reliability of the questionnaire was found to be 0.87 for split half reliability.¹⁸

MESA Questionnaire

MESA Questionnaire is useful to record urinary incontinence severity and incontinence subtype (stress or urge or MUI). The MESA is a self-reported questionnaire with nine questions on stress incontinence and six questions on urge incontinence. The four response categories ranged from "never" (0 points), "rarely" (1 point), "sometimes" (2 points) and "often" (3 points). The subscale scores are the sum of responses to the individual items with higher scores indicating more frequent symptoms of incontinence.

Table 1: Selected items for self-reported Mizaj Questionnaire

Selected items for Wetness or Dryness (Wet-Dry scale) ^a			
Question	1	2	3
Q1 When others touch your skin, what do they say about its warmness or coldness?	cold	not cold, not warm	very warm
Q2 ^b How is the condition of your skin's Softness or dryness?	very soft	not soft, not dry	very dry
Q3 ^b Are you fat or thin compared to others?	very fat	not fat, not thin	very thin
Q11 How big is the palm of your hand?	small	not small, not big	big
Q16 How fast are you influenced by Warmness or coldness?	I feel cold, fast	I feel the same in both cases	I feel warm, fast
Q17 How fast are you influenced by Warm nature foods as honey, spices, Paper or cold nature foods as buttermilk, yogurt and cucumber?	I feel cold, fast by cold nature foods	I feel the same in both cases	I feel warm, fast by warm nature foods.
Q20 How is your voice power compared to others?	weak	not weak, not strong	strong
Q24 How do you pronounce several consequent sentences?	articulate	not articulate, not continuous	continuous
Q25 How is your rage and anger?	I get angry late	I get angry no late no fast	I get angry fast
Q26 How is your physical movements compared to others?	very slow	not slow, not fast	fast

^aThe score of warm-cold scale could be 8 to 24. Warm \geq 19, cold \leq 14.
^bThe score of wet-dry scale could be 2 to 6. Dry \geq 5, wet \leq 3.

At pre-study screening the patient was placed in to 1 of any incontinence items as “never” or “rarely”. With the the 4 categories on the basis of her response to the stress MESA instrument scored on 4 levels (continent, stress, and urge incontinence items on the MESA measure: urge or MUD), there was fair test-retest reliability (kappa, (1)pure stress incontinence, if the patient endorsed 0.39). Validity- a strong association was seen between (answered affirmatively) only stress items; (2) pure urge incontinence characterization with the MESA and incontinence, if the patient endorsed only urge items; (3) Hunskaar questionnaires.¹⁹ mixed urinary incontinence, if she endorsed both stress and urge items; and (4) continent, if the patient endorsed

Table 2: Clinical features of *Alamate Su'-i- Mizaj*

<i>Alamate Su'-i- Mizaj</i> (Clinical features of Abnormal Temperament)	
<p><i>su'-i-Mizaj Harr</i> (Warm)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Feeling of uncomfortable heat <input type="checkbox"/> Undue discomfort in fever <input type="checkbox"/> Quick exhaustion of energy as activity flares up the heat <input type="checkbox"/> Excessive thirst <input type="checkbox"/> Weak quick and rapid pulse <input type="checkbox"/> Burning and irritation in the pit of stomach <input type="checkbox"/> Bitter taste in mouth <input type="checkbox"/> Intolerance of hot foods <input type="checkbox"/> Comfort from cold things <input type="checkbox"/> Distress in hot weather 	<p><i>Su'-i -Mizaj Barid</i> (Cold)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Weak digestion <input type="checkbox"/> Less desire for drinks <input type="checkbox"/> Laxity of joints <input type="checkbox"/> Tendency for catarrhal conditions and phlegmatic fevers <input type="checkbox"/> Fondness for hot dishes and aversion of cold ones <input type="checkbox"/> Greater discomfort in winters
<p><i>Su'-i-Mizaj Ratb</i> (Moisture)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Laxity <input type="checkbox"/> Excess of salivation and nasal secretions <input type="checkbox"/> Tendency towards diarrhea and dyspepsia <input type="checkbox"/> Intolerance towards moist foods <input type="checkbox"/> Excess of sleep <input type="checkbox"/> Puffiness of eyelids 	<p><i>Su'-i-Mizaj Yabis</i> (Dryness)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Dry skin <input type="checkbox"/> Insomnia <input type="checkbox"/> Wasting <input type="checkbox"/> Intolerance of dry foods but affinity for moist things <input type="checkbox"/> Discomfort in autumn <input type="checkbox"/> Ready absorption by the body of hot water and light oils

Data analysis

Statistical software

The Statistical software Graph Pad InStat version 3.00 for window (Graph Pad Software, San Diego, Calif,

USA) was used for the analysis of the data and Microsoft word and Excel have been used to generate graphs, tables etc.

Statistical analysis

Descriptive analysis was performed by means of the frequencies of the category variables and measurements of the position and dispersion of the continuous variables. Results on continuous measurements were presented on Mean ±SD (Min-Max) and results on categorical measurements were presented in number (%).

Sample Size

Based on the range scores of the scales, the sample size was calculated as 60 by the Statistician.

$$Sample\ size = \left[\frac{\partial}{\mu_1 - \mu_2} \right]^2 = \left[\frac{6.0}{10 - 7.2} \right]^2 \times 15 = 60$$

P =0.01

Informed Consent

Patients fulfilling the inclusion criteria mentioned above were given information sheet having details regarding the nature of study and written informed consent was obtained, if they agree to participate in the study.

Results

The age of 60 patients with MUI ranged from 21 to 60 years. The mean age was 40.91±7.92 years. Five (8.33%), 27(45%), 21(35%) and 7(11.66%) patients were in the age group of 21-30, 31-40, 41-50 and 51-60 years respectively. Out of 60 patients, 50(83.33%) were Muslims and 10(16.66%) were Hindus. All patients (n=60) were from urban area. Of 60 patients, the maximum no. of patients, 38(63.33%) were from the upper lower class followed by 21(35%), and 1(1.67%) in the lower middle and lower class respectively.

The mean BMI of patients was $26.85 \pm 3.1 \text{ kg/m}^2$. The mean duration of incontinence was 18 ± 17.8 months. Of 60 patients, duration of incontinence was <12, 12-24 and > 24 months in 18(30%), 35(58.33%) and 7(11.66%) patients respectively. The mean score for urge urinary incontinence (UUI) and stress urinary incontinence (SUI) on MESA score was 15.24 ± 2.14 and 25.9 ± 1.65 respectively.

Of 60 patients, 43(71.66%), 5(3.33%) and 15(25%) patients had general *Mizaj* respectively (Figure 1). Of 60 patients, 13(21.66%), 25(41.66%) and 22(36.66%) patients had *Yabis*, *Ratb* and *Motadil* general *Mizaj* respectively (Figure 2). Of 60 patients, 56(93.33%), and 4(6.66%) patients had *Barid*, and *Harr Su'-i-Mizaj* respectively (Figure 3).

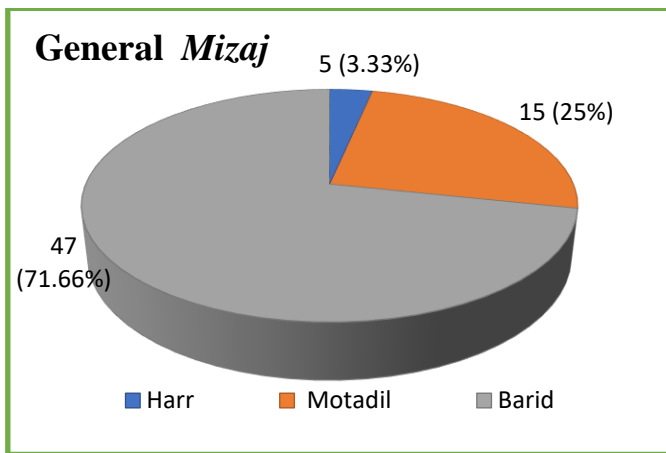


Figure 1: General Mizaj of Barid, Harr and Motadil

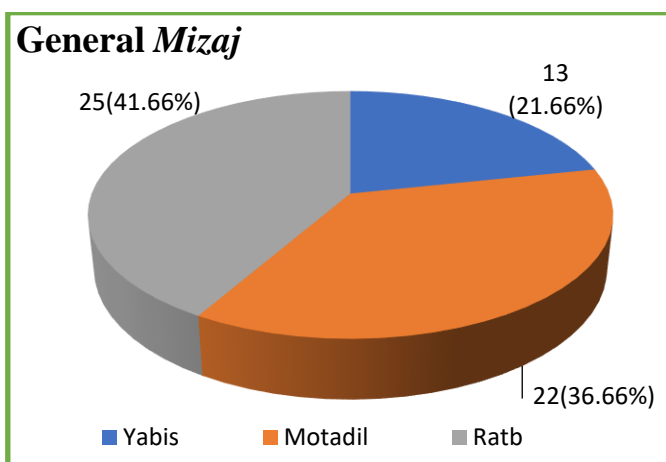


Figure 2: General Mizaj of Yabis, Ratb and Motadil

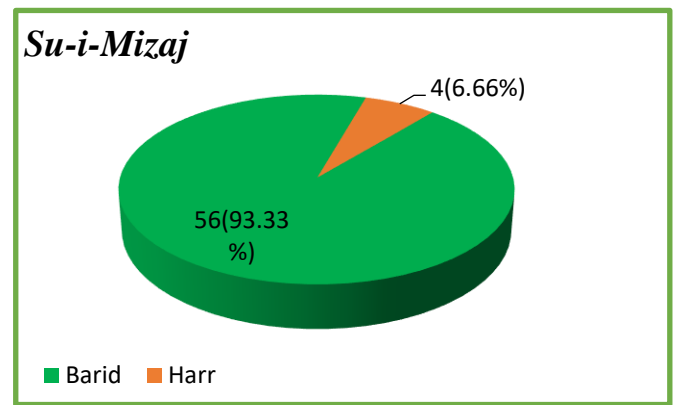


Figure 3: Barid and Harr Su'-i-Mizaj

Discussion

Age

It has been reported that that middle aged or older women with mixed incontinence were 2-3 times more likely to experience a greater quality of life impact than SUI.²⁰ The prevalence of incontinence appears to increase gradually during young adult life. A broad peak is noted at middle age and then steadily increases after age 65.²¹

Body Mass Index (BMI)

Weight loss has been shown to decrease UI in morbidly obese women.²² BMI was associated with urge and mixed incontinence but not with stress incontinence. There may be a stronger association of increasing weight with prevalent and incident of stress incontinence, including mixed incontinence, than with urge incontinence and overactive bladder syndrome.²³ The women with MUI had slightly higher body mass index than the women with USI.⁷ In a randomized controlled trial, 338 overweight and obese women with MUI were randomized to an intensive weight-loss program and behavior modification or to a structured education program. After 6 months women in the weight-loss program lost significantly more weight and had significantly fewer incontinence episodes weekly than those in the education group.⁶

Mizaj

Most of the patients had *Balghami Mizaj*. This finding confirms the writings of ancient Unani scholars that *Salas al-Bawl* is commonly seen in *Balghami Mizaj*. Ali bin Abbas Majusi opined that laxity of muscular layer of bladder which surrounds the neck of the bladder or duct causes involuntary loss of urine.⁸ *Rutubat* in the *Mathana* leads *Du'fe Quwwat Masika*, henceforth lead to *Salas al-Bawl*.¹⁰ Kabir al-Din²⁴ and Muhadhdhab al

Deen Al Baghdadi surmised that *Galaba Burudat al-Mathan* leads to *Salas al-Bawl*. Samarqandi wrote that *Galaba Burudat al-Mathana* and the muscles of uterus are weakened by the accumulation of *Fasid Mawad* (morbid matter).^{25, 26} Further the mean age of patients was 40.91 years. According to Unani scholars, *Sin al-Kahulah* ranges from forty to sixty years. In *Sin al-Kahulah*, the *Mizaj* is *Barid* and *Yabis*. Unani scholars were of opinion that in *Sin al-Kahulah* the *Mizaj* is toward *Burudat*.¹⁰

The strength of the present study was till date none of the studies, have evaluated *Mizaj* in women with MUI. Further, MUI was diagnosed based on MESA Questionnaire and for general *Mizaj* validated self-reported *Mizaj* questionnaire was used. Though current findings are important, the limitation of this study was test and re-test reliability of parameters used for assessments of *Mizaj* has been not carried out. Hence, further it is recommended to validate the *Mizaj* parameters in larger sample size, so that these parameters can be used for clinical assessment of different diseases.

Conclusion

This preliminary study validated the claim of Unani scholars that this disease is more common in *Barid Mizaj* and the *Su'-i-Mizaj* is towards *Burudat* in women with MUI. Thus, the above studies confirm the *Mizaj* theory in Mixed Urinary Incontinence.

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Conflict of Interest

The authors declare no conflict of interest.

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