

ORIGINAL ARTICLE

A Literary Exploration of *Salas-ul-Baul* (Urinary Incontinence) in Greco-Arabic/ Greco-Persian Medicine

Abstract

Salasul baul is a disturbing health condition as the affected person is not capable to hold the urine. It causes considerable morbidity, social seclusion, and psychological stress, leading to poor quality of life (QoL). It, thus, must be given a significant attention not only from the hygiene perspective but also for its impact on their quality of life. Higher incidence is found in females of advancing age. Debilitating health related quality of life is an important reason and factor for seeking treatment. Most of those suffering from *Salasul baul* do not share their problem with the healthcare provider, thus increasing the disease burden. Therefore, in order to prevent urinary incontinence, its risk factors should be known in the first place.

In the present paper, various scientific papers from reputed journals have been reviewed and also Unani literature has been incorporated to offer an integrated outlook of this dysfunction. Many eminent Unani scholars have described this condition with the name of *salasul baul* in their classical treatises. Emphasis for the correction of this condition has been given to diet, herbal formulations and riyazat (exercise). Patients' education and adherence to a specific exercise regime is vital in preventing urinary incontinence.

Key words: Stress, Psychological, Urinary incontinence, Exercise therapy, Risk factors, Hygiene

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Introduction

Urinary incontinence (UI) in classical texts is defined as involuntary loss of urine (Smith, 2001, pp. 424-32; Schultheiss, et al, 2000, pp. 352-62; Hanafy, Saad, and Al Ghorab, 1974, pp. 114-120) and inability to control urine (Khan, n.d., pp. 407-409). Any involuntary leaking of urine can be defined as UI. It is a major health complaint among older adults, affecting up to 30% of community-dwelling elders and 50% of nursing home residents. Up to age 80 years, UI affects women twice as commonly as men. UI has a significant impact on a patient's well-being, resulting in social isolation, embarrassment, and depression. UI is also a risk factor for nursing home placement. While certainly not a normal part of aging, progressive age, functional debility, dementia, obesity, smoking, affective disorder, constipation, certain medical illnesses, such as chronic obstructive pulmonary disease and heart failure, and a previous pelvic surgery, are related to UI.

Older patients should be asked directly about the symptomatology of UI since only half of affected women with incontinence may talk with their physician. UI can then be determined to be either *transient* or *established*. (Kasper, 2015, p. 58)

There are four ways in which leaking of urine may take place:

- i. Bladder is unable to empty the urine completely, or
- ii. Bladder is unable to store urine; or
- iii. One or both of the sphincters in urethra may be unable to allow storage of urine or
- iv. One or both of the sphincters in urethra may be unable to allow passage of urine.

(Kasper, 2015, p. 58)

Four classifications of established UI have been proposed based on understanding of impairment, existing in one or several of the urine storage mechanisms of the lower part of the urinary tract:

1. Stress incontinence
2. Urge incontinence
3. Mixed stress and urge incontinence
4. Overflow incontinence (Kasper, 2015, p. 58)

Although, UI is a current concept in medical sciences, historical texts show that it has been known throughout the history. The literary search in classical historical texts has showed that urinary incontinence has been known since ancient times (Smith, 2001, pp. 424-32). The oldest medical prescription comes to us from Mesopotamia, dating back to 2100 B.C. The Edwin Smith Papyrus and the Ebers Papyrus from the 2000 B.C. are the first sources concisely dealing with urinary incontinence (Schultheiss, et al, 2000, pp. 352-62). The Egyptian Edwin Smith papyrus and the Greek legend Hippocrates have discussed urinary symptoms in spinal injuries (Smith, 2001, pp. 424-32). The Egyptian Ebers Papyrus dated c. 1550 B.C. contains about 900 to 1000 medical recipes (Smith, 2001, pp. 424-32; Schultheiss, et al, 2000, pp. 352-62). Among them, one can find remedies "To remove the urine which runs too often" and "to remove constant running of the urine" (Hanafy, Saad, and Al Ghorab, 1974, pp. 114-120). There is a mention of Juniper berries, cypress and beer for the treatment of incontinence and if a child is suffering from UI and cries, opiates are suggested (Smith, 2001, pp. 424-32). Moreover, these Egyptian sources have already specified devices for the collection of urine in males and also pessaries for women (Schultheiss, et al, 2000, pp. 352-62). Urinary incontinence in Greco-Persian medicine has been referred to in the outstanding work of Hippocrates



(460-377 B.C.) who has written comprehensively about the diseases of the urinary tract. He has also discussed and dealt with the management of urinary incontinence. Claudius Galen (129-201 AD) has carried out physiological experiments on the lower urinary tract and proposed that micturition is accompanied by contraction of the abdominal muscles (Schultheiss, et al, 2000, pp. 352-62). He has also conducted experiments on the section of the spinal cord. He has revealed that in diseases of the spinal cord there is atony of the bladder. He has also showed in animal experiments the valvular action of the bladder neck (Smith, 2001, pp. 424-32). Regarding the causes of urinary retention, he has distinguished clinically the paralysis of the bladder after spinal injury from sub-vesical obstruction due to bladder stone (Bloom, Milen, and Heininger, 1999, pp. 12-9). Aetius (mid-5th to mid-6th century) has written in his treatise that incontinence in children is differentiated as either continual and dribbling or occasional and nocturnal, the former being attributed to the paralysis of the sphincter of the bladder (Smith, 2001, pp. 424-32). The Islamic physicians have made detailed studies on the urine and described many of the urinary diseases (Smith, 2001, pp. 424-32). Zakariya Razi (Rhazes, (865-925 AD), Al Majoosi (Haly Abbas, (949-982 AD), Ibn Sina (Avicenna, 980-1037 AD), Ismail Jorjani (1042-1137 AD), Akbar Arzani, Azam Khan etc. have written specifically on UI. For example, whereas Muhadhdhab al Deen Al Baghdadi (1117-1213 AD) has described that the bladder wall consists of two layers, Galen (130- 200AD) holds that the bladder wall is formed of only one layer. The anti-reflux and micturition mechanisms are not in line with Galen's view but are consistent with Present-day's understanding (Dobrowolski, Pudwell, and Harvey, 2020, pp. 881-886). An important historical period to develop medical sciences is called as Greco-Arabic/Greco-Persian medicine. The present study is to define UI based on the medical school that is mostly developed in Islamic civilization, particularly during 9-13th century AD (Islamic Golden Age).

***Salasul Baul* (Urinary incontinence) in Greco-Arabic/Greco-Persian system of medicine**

1- Definition

In the Greco-Arabic/Greco-Persian system of medicine, urinary incontinence is known as *Salasul Baul*. It is defined as the incapability to control urine or involuntary leaking of urine.

2- Mahiyat-e-Marzi (Etiology)

Persian scholars mentioned about the etiology of urinary incontinence.

Ali bin Abbas Majoosi (Haly Abbas, 949-982 A.D) in his treasured compilation "*Kamilus Sana (al-Maleki)*" mentioned that:

- Laxity of the muscular layer of the urinary bladder causes unintentional loss of urine.
- Morbid matter in the bladder leads to *zoafe quwate masika* (weak power of retention),
- UI often occurs in children
- Additional causes include vertebrae dislocation and loosening of bladder ligaments

Ali ibn Sahl Rabban al Tabari (838–870 A.D) has deliberated in his treatise, "*Firdousul Hikmat*", that dribbling of urine occurs due to the laxity of the musculature because of:

- *Zoafe masana* (weakness in the bladder) or
- *Hiddate masana* (excessive warmth of the bladder).



Ismail Jorjani mentions five main causes of *salasaul bawl* in his compilation “*Zakheera Khwarzam Shahi* (Treasure of Khawrazm).” They are as follows:

- i. *Sue mizaj barid* (atypical cold temperament),
- ii. *Zoafe azlate masana* (bladder muscles weakness),
- iii. Too much fluid intake, including alcohol and diuretics
- iv. Injury to bladder musculature, or vertebrae dislocation
- v. Uterine inflammation or omphalitis or constipation, and pregnancy or any other disease of surrounding structure.

Rhazes has indicated that in patients with involuntary loss of urine *masikul bawl advia* are effective. These drugs do not increase thirst or cause weight loss.

Ibne Sina, believe that regular exercises (*riyazat*) can save a person from temperamental and humoral disturbances.

3- Management

The principle of treatments (*usoole ilaj*) of *salasul bawl* are:

- Eliminating the cause viz., the temperament correction through diet and herbs, and
- Removal of morbid humor is required in case of dominance of humor.

Riyazat is a voluntary movement that is performed for *Tanqiyae mawad* (evacuation of wastes material) from the body. *Riyazat* helps in maintaining good health, disease prevention and curing certain ailments. *Riyazat* helps in giving strength to the certain organs or to a specific set of muscles. Exercise (*Riyazat*) also improves mood and decreases feelings of worry and stress.

Two basic types of *Riyazat* are: (Firdaus, 2016, pp. 6486-6498)

a. *Riyazat e Haqeeqi/Kulli/Complete exercise*, such as, cycling, horse riding, jumping, running.

b. *Riyazat e Juziya/Partial exercise*, performed to strengthen any organs, a group of muscles or any specific parts of the body. Also doing exercise is shown to be effective in curing urinary incontinence (Rizvi, and Zuberi, 2006, pp. 907-922.; Dumolin, 2004, pp. 504-510)

Majoon-e-Kundur is a compound Unani pharmacopoeial formulation, described in the National Formulary of Unani Medicine, part I and in other classical Unani texts. It is mentioned for *Taqteer-ul-Bawl* (dribbling of urine), *Salas-ul-Bawl* (Urinary incontinence), *Bawl Filfarash* (Nocturnal enuresis), and *Zof-e-Masana* (Weakness of urinary bladder). (Khan, 2018, pp. 119-127)

Conclusion

Salasul bawl is a chronic debilitating disease which is important both from hygiene perspective and because of its impact on QoL. Several treatment choices for UI are now available with high efficacy and practicability. It is a long-term distressing disease, often under reported, which adversely affects one’s quality of life; thus, it is of a public health importance. (Kwon, et al, 2010, pp. 133-138) This clinical condition is common worldwide. It affects mostly females of all age groups and across different ethos. Incidence is higher as the age advances. The International Continence Society has defined UI as “the complaint of any uncontrolled leaking of urine that is a social or hygienic problem.” (Milsom, and Gyhagen, 2018, pp. 217-222) UI is, a symptom and not a disease that arises



as a result of the impairment of either the bladder or the sphincter mechanism. The common causes of UI comprise stress UI, urge UI, and mixed UI. (Milsom, and Gyhagen, 2018, pp. 217-222) UI is estimated to affect 200 million people globally and it is also expected that it will affect over 423 million people. (Kwon, et al, 2010, pp. 133-138)

This data achieved is highly underestimated since the majority of women do not share the problem of UI with their healthcare providers. (Kwon, et al, 2010, pp. 133-138) According to a report, the mean yearly incidence of UI ranges from 1% to 9%, while there is a wide variation in the estimation of remission, from 4% to 30%. (Milsom, and Gyhagen, 2018, pp. 217-222)

Many studies have revealed that UI is linked with a decline in overall and health-related quality of life (QoL). QoL is a key forecaster of treatment-seeking for UI. Understanding the critical linkage between UI and QoL is vital to the efficiency of routine screening and early intervention. Despite growing apprehension about the under-diagnosis of incontinence, our understanding of the effect of UI on the Quality of Life and the determinants of treatment-seeking for this problem are limited. (Biswas, et al, 2017, pp. 130–136)

Principles of management, as per classical Greco-Arabic/Greco-Persian texts include, comprise correction of temperament through dietary approach and evacuation of diseased humour. Unani pharmacoepial formulations, such as *Majoon e Kundur*, have shown efficacy in UI management. *Riyazat* (exercise), including training of pelvic floor muscles, is acknowledged to be operational first line intervention for improving urinary symptoms in addition to QoL, as revealed in some studies. *Riyazat* is a voluntary movement with the aim of *Tanqiyae mawad* (evacuation of wastes material) for an individual. Regular exercises (*riyazat*) can save a person from temperamental and humoral disturbances. Prevention includes education of clients before they become affected as well as adopting a regular exercise regime.

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