INTERNATIONAL JOURNAL OF UNANI AND INTEGRATIVE MEDICINE

E-ISSN: 2616-4558
P-ISSN: 2616-454X
www.unanijournal.com
IJUIM 2025; 9(3): 119-125
Impact Factor (RJIF): 6.59
Peer Reviewed Journal
Received: 07-09-2025
Accepted: 10-10-2025

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Unveiled Mahiyat-e-Maraḍi (pathogenesis) of *Dhayābitus* through the prism of unani medicine: A critical review

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DOI: https://www.doi.org/10.33545/2616454X.2025.v9.i3b.390

Abstract
Background: *Dhayābitus* (Diabetes Mellitus) is one of the prehistoric anciently recognized disease, with references dating back over 3500 years. The Ebers Papyrus (1550 BCE) described frequent urination, while Greco-Roman physicians such as Hippocrates and Aretaeus of Cappadocia acknowledged the wasting nature of the disease and forged the term *diabetes* ("siphon"). In Indian Ayurvedic texts, disease is referred to as *Madhumeha*, and Chinese medicine describes it as sweet urine that attracts insects.
Objective: To explore the historical evolution, classical understanding, and Unani concept of Dhayābitus, including its classification (*Aqsam*), etiology (*Asbāb*), clinical features (*Alamat*), and *Mahiyat-e-Maraḍī* (etiopathogenesis).
Methods: A analysis of primary classical Unani texts and comparative historical accounts, emphasizing on the works of eminent physicians including *Rāzī, Ibn Sīnā, Jurjānī, and Ibn Zuhr, Akbar Arzan*i as well as the perspectives of Greco-Roman, Indian, Chinese, and Arabic-Islamic contributors.
Results: Unani scholars depicted *Dhayābitus Shakri* (Diabetes Mellitus), primarily as a disorder of the kidneys associated with a deranged temperament of the kidney (*Sūʾ-i-Mizāj*). The cardinal symptoms included intense thirst (*ʿAtash Shadīd*), excessive urination (*Kasrat-i-Bawl*), wasting (*Huzāl*), and sweet urine (*Bawl Shīrīn*). Pathogenesis was attributed to derangement of *Quwwat Jādhiba* (absorptive faculty), weakness of *Quwwat Māsika* (retentive faculty), and hyperactivity of *Quwwat Dāfiʿa* (expulsive faculty). Four principal causes were identified: (1) *Sūʾ-i-Mizāj Ḥārr Kulya* (abnormal hot temperament of the kidney), (2) *Duʿf-i-Kulya* (weakness of the kidney), (3) *Ittisāʿ al-Kulya wa Majārī* (dilatation of kidneys and urinary passages), and (4) *Burūdat-i-Mizāj* (cold derangement). Complications encompassed *Diqq* (emaciation), *Zubūl al-Aʿḍāʾ* (cachexia), boils, gangrene, and sexual dysfunction (impotency).
Conclusion: The Unani perception of *Dhayābitus* reflects a comprehensive understanding that integrates symptoms, causes, and complications centuries before the arrival of modern endocrinology. This historical insight highlights the depth of classical medical knowledge and its relevance for contextualizing present-day research on diabetes.

Keywords: Diabetes Mellitus, *Dhayābitus*, *Sūʾ-i-Mizāj Ḥārr Kulya*, *Duʿf-i-Kulya*, *Ittisāʿ al-Kulya wa Majārī*, *Burūdat-i-Mizāj*, Polyuria, Polydipsia

Introduction

The term "diabetes" originates from the Greek words "diabainein" or "diabainemo," meaning "to pass through" or "siphon," while the Latin word "mellitus" translates to "sweetened with honey." This nomenclature reflects the cardinal manifestations of the disease, namely excessive thirst, polyuria, glycosuria, increased appetite, and progressive weight loss [1, 2] In the Greeko-Arabic system of medicine, the condition is referred to as *Dhayabitus* in general, with *Dhayabitus Shakri* used specifically for diabetes mellitus [3, 4, 5] Diabetes mellitus *(Dhayabitus shakari)* is one of the most prevalent lifestyle disorders, particularly in urban populations. Although considered a modern epidemic, it is not a newly recognized disease. Its manifestations and systemic complications were known to ancient physicians. Historical references are documented in Egyptian papyri, classical Indian ayurvedic text and Chinese medical literature, as well as in the writings of early Greek and Arab scholars. Aretaeus of Cappadocia, in the 2nd century AD, provided one of the first detailed accounts of the disease and coined the term "diabetes.

Later, in the 17th century, Thomas Willis appended the term "mellitus" to highlight the markedly sweet taste of the urine [6]

The World Health Organization defines diabetes mellitus (DM) as a heterogeneous group of metabolic disorders characterized primarily by chronic hyperglycemia, accompanied by impairments in carbohydrate, lipid, and protein metabolism. A closely related entity, metabolic syndrome, also referred to as syndrome X or insulin resistance syndrome, comprises a constellation of interrelated metabolic disturbances that significantly increase susceptibility to both diabetes mellitus and cardiovascular disease. The cardinal features of metabolic syndrome include central (abdominal) obesity, hypertriglyceridemia, reduced high-density lipoprotein (HDL) cholesterol, hyperglycemia, and arterial hypertension [7, 8].

Material methods

The Classical text is taken from Unani literature as well as contemporary medicine, which served as the foundation for the *Dhayābitus*. Books such as *Al-Qānūn fi'l Ṭibb, Kitāb al-Ḥāwī fi'l Ṭibb, Kitāb al-Taysīr fi'l Mudāwā wa'l-Tadbīr, Dhakhīra Khwarizm Shāhī* etc provide the data and assertions used in the articles. Scientific research articles are also used for the source of information published in journals that are available *via* resources such as Google Scholar, Scopus, PubMed, and Science Direct, which were used to collect more data.

Epidemiology

According to the International Diabetes Federation (IDF), an estimated 589 million adults between 20 and 79 years of age, that is about 11.1% are living with diabetes globally. By 2050, this number is projected to rise to nearly 852.5 million. The expected 17% increase is primarily linked to an elderly population and rapid urbanization.

More than 90% of all cases account for Type 2 diabetes, which makes it the most predominant form of the disease. Currently, it is the 8th leading cause of global disease burden, and it is expected to become the 2nd leading cause by the end of 2050. Significantly 95% of the projected increase in diabetes cases will occur in lower and middle-income countries, where population growth and demographic shift are more rapid than in high-income regions. In 2024, China, India, and the United States reported the largest numbers of adults with diabetes in the 20-79 year age group. In India alone, it is estimated that 89.8 million people are affected, which is expected to increase to 156.7 million by 2050. The prevalence of diabetes is nearly the same in men and women (11.3% compared to 10.9%), although globally in 2024. There were 9.8 million more male cases than female cases worldwide [9]

Historical background of *Dhayābitus*

The history of diabetes known for thousands of years, illustrating how human beings gradually understood this complex metabolic disorder [10] Documentation of diabetes mellitus can be traced back to ancient civilizations such as Egypt, India, and China, where details of its symptoms were documented in medical texts [11] Diabetes mellitus is known to be one of the oldest recognized diseases, with records tracing back 3500 years ago. Its historical perspective can be divided into the following categories throughout records [12]

1. Ancient Era

a. Ancient Egypt (1550 BCE-300 BCE)

The earliest reference of disease resembles like diabetes mellitus found in the Ebers Papyrus, dated around 1550 BCE and discovered in 1862 in the tombs of Thebes. This medical manuscript contains the descriptions of excessive urination (polyuria), and now interpreted as diabetes. Though the etiological basis was unknown, the observation of frequent urination signifies early awareness of the condition's clinical manifestation [8, 12, 13].

b. Ancient Greco-Roman (800 BCE-146 BCE)

In ancient Greece, physicians such as Hippocrates (460-375 BCE), the father of medicine, described a disease resembling diabetes with references to excessive urination accompanied by bodily wasting, but he did not use the word "diabetes" in his writing. A condition known as "diabetes" [14] "Diabetes" is a greek word means 'Siphon', signifying the excessive urination and excessive fluid loss associated with the disease.

Diabetes has been recognized for centuries. The term "diabetes" was first coined in the 2nd century by the physician Aretaeus of Cappadocia. He was the disciple of Hippocrates. He derived the word from the Greek "a siphon," meaning "to pass through," reflecting the excessive urination. He describes the disease as a "melting down of flesh and limbs into urine". He explained that the disease progresses rapidly and causes severe muscle wasting, stating that "the flesh is dissolved into urine" [2, 6, 8, 14]

Before Aretaeus contribution, ancient Greek medical writers such as Rufus of Ephesus (c. 1st century AD) and Roman Physician Galen (131-201 CE) elucidated diabetes as a medical condition marked by intense thirst, frequent urination, and progressive muscle wasting, often leading to death. Galen, having encountered only two cases in his lifetime, referred to the ailment as diarrhea urinosa ("diarrhea of urine") and dipsakos ("thirsty disease"). He considered it as a primary renal disorder caused by defective fluid retention, noting that the urine of affected individuals appeared clear and resembled unchanged like water. Aretaeus was the first who coined the term diabetes, who derived the word from the Greek verb diabaino ("to pass through"), reflecting the excessive urination [6, 8, 14, 15].

c. Ancient India

In the Ayurvedic system of medicine, in between the 5th and 6th centuries CE, scholars such as Susruta, Charaka, and Vaghbata described a disease in their medical treatise named "Madhumeha" (literally "honey urine"). The Clinical features of the disease included frequent urination, sweet-tasting and sticky urine, weight loss, and attraction of the ants to urine which is used as a practical diagnostic tool that indicates high blood sugar levels and glucosuria. Indeed, the diagnosis was made by tasting the urine or noting that the ants gathered around it. Charak and Sushrut documented that the disease was most prevalent in those who were inactive, obese, and gluttonous, and who consumes excessive sweet and fatty foods.The disease was linked to an imbalance of Kapha and metabolic dysfunction. The treatment emphasized on diet and lifestyle modification [2, 6, 8, 14].

d. Ancient China and Japan

In traditional East Asian medical literature, similar

symptoms were described by the Chinese physician named Chang Chung-Ching around 229 CE, and later reported in Japan by Li Hsuan. The disease was identified by sweet-tasting urine that attracted dogs and insects. The patients who were suffering from the disease are more prone to chronic skin infections and tuberculosis, indicating an early awareness of the immune system associated with the disease [14, 16, 17].

2. Arabic Period

Ibn Sina (Avicenna, 980-1037 CE), in his book "Canon of Medicine", integrated Greco-Roman and Persian medical knowledge and provided a detailed description of the disease. He referred to the disease as *"al-dulab"* (water wheel) and *"zalqul-kulliya"* (diarrhea of the kidneys), which emphasized the persistent and involuntary nature of urination. Avicenna considered the kidneys to be the primary site of dysfunction but also mentioned the systemic nature of the disease. Importantly, he was the first to describe several complications of diabetes, including sexual dysfunction (impotence), gangrene, furunculosis, skin infections, and mental disturbances. Moreover, he differentiated between emaciating diabetes and other forms of diabetes, which is similar to modern classification of type 1 and type 2 diabetes [11, 14].

3. Renaissance and Early Modern Diagnostic Period

The scientific foundations of diabetes mellitus were strengthened during the Renaissance. The English physician and anatomist Thomas Willis (1621-1675 CE), who served as personal physician to King Charles II, noted the sweet taste of urine and blood in diabetic patients. He subsequently introduced the term "mellitus" (from the Latin mel, meaning honey-sweet) to differentiate this condition from other polyuric disorders, such as diabetes insipidus [6, 8]
Further progress came in the 18th century when Matthew Dobson (1766) demonstrated that the sweetness of diabetic urine was due to the presence of sugar. In 1776, he confirmed the presence of an excess amount of sugar in both urine and blood, confirming the metabolic basis of the disease and laying the foundation for experimental medicine [6, 8]

Later in the 19th century, a French researcher, Claude Bernard in1857 demonstrated the role of the liver in glycogenesis and proposed that diabetes was caused by overproduction of glucose, providing further insight into its pathophysiology [6, 8]

Mutradif (synonyms)

Classical Unani texts describe diabetes using a wide range of terminologies. Overall, Unani scholars employed a variety of designations such as *Dhayābitus, Ziasaqus, Daramees, Dawwāriyya, Dūlābiya, Zalq al-Kulya, Istisqā'-e-Anmas, Dipsakos, Mu'attisha, A'atisha, Parkāriyya* to describe this complex condition.

Rāzī (865-925 AD) was the first to introduce the term *Dhayābitus* in his treatise *Kitab al-Hāwī fi'l Tibb*. He mentioned that patients of *Dhayābitus* often experience intense thirst and frequent urination because the ingested water is excreted without absorption. He also noted the associated symptoms such as frequent urination, excessive thirst, nocturia, and urinary incontinence [18]

Ibn Sīnā used terms such as *Dawwāriyya, Dūlābiya, Zalq al-Kulya,* and *Zalq al-Majāri,* and in *Al-Qanūn fi'l Tibb,* he additionally referred to the disease as *Ziasqomas* and *Qramees* [3].

Other classical scholars also contributed diverse terminologies:

In *Kitāb al-Taysīr fi'l Mudāwā wa'l Tadbīr* mentions *Parkāriyya* [19]

Ṭibb-i-Akbar cites *Salas al-Bawl* and *Istisqā'-e-Anmas* [20]

Iksīr-i-A'zam uses terms such as *Mu'altisha, Bawl Shirīn*, *Madhumeha,* and *Shahdiya* [5]

These terms often derive from metaphorical comparisons; *"Dūlābiya"* is an Arabic term used for *rehat* or *charkha* signifies the resemblance between continuous urination and the drawing of water from a well using a *charkha* [21, 22]

The literal meaning of *Dawwāriyya,* is *chakkar katna*, and *Parkāriyya,* which refers to wandering like a compass *(parkar)*, denotes the reversal of water flow within the body, representing the continuous circulation without absorption [22] Similarly, *Zalq al-Kulya* refers to the "slipping of the kidneys" (gurde ka phisalna), where the kidneys or bladder are unable to hold water. As a result water is excreted out continuously similar as the passage of undigested food in *Zalq al-Mi'da wal-Am'ā'* [18, 23]. The term *Istisqā'-e-Anmas* also highlights the condition of bladder *(Anmas)*, which links the disorder to impaired urinary retention [20, 22].

Different views of unani scholars regarding *Dhayābītus*

Abū Bakr Muḥammad ibn Zakariyyā Rāzī, in his book *Al-Ḥāwī fi'l-Ṭibb*, described diabetes as a disorder marked by intense thirst and frequent urination, even after consuming large amount of water. He describes it as an abnormal hot temperament of the kidneys, which increases the water absorption and leads to the quick expulsion of water. *Rāzī* compared the condition to *Zalq al-Am'ā* and explained that the kidneys continuously draw fluid from the vessels, liver, stomach, and intestines, creating a cycle of thirst and urination. He noted that treatment is difficult because the disease stems from a fundamental alteration in the kidney's *Mizaj*, rendering it excessively hot and leading to increased fluid absorption [18].

Sayyid Ismā'īl Jurjānī describes in his famous treatise *Dhakhīra Khwarizm Shāhī* the four key factors responsible for causing polyuria in *Dhayābitus*. First is weakness of the kidneys, which hinders fluid retention; Second is dilation of the urethra leading to continuous urination; Third is abnormal excessively cold temperament of the liver and kidneys, often triggered by cold exposure such as drinking chilled water; Fourth is an abnormal hot temperament of the kidneys, which causes them to absorb more fluid than they can hold, resulting in excretion. *Dhayābitus* also predisposes patients to Diqq (emaciation) [23].

Ibn Sīnā explained in his medical encyclopedia *Al-Qānūn fi'l-Ṭibb*, that the term diabetes is derived from the Greek word *diabanein*, meaning "to pass through" or "siphon," indicating the excessive urination. He underlined that the disease was already identified by the Greek and Arab physicians, who had studied it extensively and suggested various treatments. Severe thirst is one of the most important characteristic feature of the disease, while the kidneys fail to retain the consumed water, leading to its rapid elimination in the form of urine. According to *Ibn Sīnā* disease is caused by an imbalance in temperament along with the weakness of kidneys, bladder, and liver. He also reported several complications, including psychological disturbances, impotence, gangrene, and boils. Importantly,

he was the first to distinguish the form of diabetes linked with emaciation, thereby differentiating it from other causes of polyuria [3]

Burhanuddin Nafees explained that *Dhayābitus* arises from a cold temperament that diminishes the *Quwwat Māsika* (retentive power), producing excessive urination. This abnormal cold temperament may also play a role in causing certain behavioral alterations in diabetic patients [22]

Ibn Zuhr stated that *Dhayābitus* may develop from an imbalance in any of the four temperaments. When it results from a hot and dry temperament, the condition appears in a severe form. If it stems from a cold and moist temperament, excessive thirst is absent, and the urine tends to be pale with low density. A cold and dry temperament was considered fatal, as it depicted that the patient was near to death. In such patients, profound physical and mental weakness was observed, while the thirst was comparatively mild. These observations highlight the ability of *Ibn Zuhr's* to distinguish between mild and severe types of diabetes [19]

Akbar Arzānī described the disorder marked by uncontrolled thirst occurring without fever or bodily dryness. The water that is consumed passes rapidly through the kidneys without undergoing metabolic processing, and the patient remains thirsty despite continuous drinking [20]

'Alī ibn 'Abbās Majūsī identified the disease as *"Parkariyya"*, characterized by excessive urination caused by the hyperactivity of the *Quwwat Jādhiba* (absorptive power) of the kidneys. The shift of the renal temperament toward *Ḥarārat* stimulates greater fluid absorption, drawing fluids from the liver and other organs, which are diverted to the kidneys, producing intense thirst in the patient [24]

According to *Mohammad Hasan Qarshi*, diabetes is referred to as *"Dulab"*, which in Urdu is also called *"Rehet"* or *"Charkhi"*. In the Alexandrian era, it was customary to fill water into large reservoirs and install a Dulab (wheel or water-lifting device) in them. This mechanism would continuously draw water out and then let it fall back into the same reservoir. Since in this disease, due to intense thirst, water is frequently consumed and then immediately expelled from the body, it was metaphorically named *Dhayābitus*. This illness is also called *"Daura"* and *"Parkar"*, both of which carry the same meaning [25]

Unani concept of *Dhayābītus*

Importantly, ancient Unani physicians primarily considered *Dhayābītus* to be a disorder of the kidneys. The classical texts provide comprehensive descriptions of *Dhayābītus Shakri*, including its signs, symptoms, treatment, prognosis, and complications [3, 5, 18, 20]

In the Unani system of medicine, Signs and symptoms of *Dhayābītus Shakri r*esemble like diabetes mellitus. In this condition, any water consumed by the patient is rapidly expelled through urine shortly after intake, like how food is expelled in *Zalq al-Mi'da wal-Am'ā'*. For this reason, *Dhayābītus Shakri* is also known as *Zalq al-Kulya* [18, 21]

Unani physicians identified four potential causes of *Dhayābīṭus* [3]

- *Sü'-i-Mizāj Kulya Harr* (Hot derangement in the temperament of the kidney)
- *Du'f-i-Kulya* (Weakness of Kidney)
- *Ittisā kulya wa Majārī-i-Bawl* (Dilatation of Kidney and Tubules)
- *Burūdat Badan, Kabid wa Kulya* (Cold derangement in temperament)

In Unani system of medicine, *Sū'-i-Mizāj Kulya Ḥārr* (pathological hot temperament of the kidneys) is considered as a predisposing factor for *Dhayābitus*. This condition leads to dilation of the renal vessels, thereby disturbing the normal functions of the kidneys and weakening their *Quwwat Māsika* (retentive ability). The *Quwwat Ghādhiya* (nutritive faculty) is responsible for the processes of ingestion, digestion, absorption, metabolism, assimilation, and the excretion of waste products. The functions of *Quwwat Ghādhiya* are carried out through three primary actions, such as *Teḥsīl* (reception), *Ilṣāq* (attachment), and *Tashbīh* (assimilation), and are supported by four faculties: *Quwwat Māsika* (retentive faculty), *Quwwat Dāfiʿa* (expulsion faculty), *Quwwat Jādhiba* (absorption faculty), and *Quwwat Hāḍima* (digestion faculty). These faculties are influenced by the four *Mizāj ī Kayfiyāt, Ḥarārat* (heat), *Burūdat* (cold), *Ruṭūbat* (moisture), and *Yubūsat* (dryness). Any imbalance among these qualities disrupts the normal activity of the nutritive faculty [27, 28]

A pathological hot temperament is thought to increase the *Quwwat Jādhiba* (absorptive faculty) of the kidneys, causing them to draw excessive amounts of water from the liver. Since the kidneys are unable to digest and retain this fluid adequately, it is eliminated through the urinary bladder as urine. To make up for the fluid depletion in the liver, the *Urūq Masārīqā* (mesenteric vessels) absorb additional fluid. This compensatory mechanism creates a vicious cycle of persistent thirst, increased fluid consumption, and frequent urination [3, 5, 18]

Classification of *Dhayābitus* in Unani medicine

1. According to the presence or absence of sugar in the urine, *Dhayābitus* is categorized into two types based on [22, 25, 26]

Dhayābitus Sāda

Dhayābitus Sāda, also termed *Dhayābitus Ghayr Shakri*, is marked by excessive thirst and polyuria in the absence of urinary sugar. It develops as a result of impairment in the liver's nutritive processes and dysfunction of the vessels (*fasād-e-taghdhiyya wa hadm kabidī wa ʿurūqī*) [20, 25, 26]

Dhayābītus Shakri

The condition presents with intense thirst, frequent urination, and the passage of sugar in the urine. It is referred to as a *Bawl Shirīn* in unani and also termed as *Madhumeha* in Hindi [20, 22, 25, 26]

2. According to *Khiffat* and *Shiddat* (intensity) of signs and symptoms, it is also divided into two types:

Dhayābītus Hārr

In this type, the symptoms of *Dhayābitus* appear abruptly, with marked thirst (polydipsia) and excessive urination (polyuria). These are further accompanied by features of *Sūʾ-i-Mizāj Hārr*, such as dryness of the body and heat in the flanks, resulting from *Sūʾ-i-Mizāj Hārr Sāda* impacting the kidneys [20, 26]

Dhayabītus Bārid

In this type, thirst and frequency of urination are comparatively less [20, 26]

***Asbāb* (Aetiology)**

Unani scholars provide a detailed explanation regarding the underlying causes of diabetes. They emphasized a strong

association between the disease and kidney function. Across most classical texts, four principal factors are consistently identified as the main contributors to the onset of diabetes [3, 21, 23]

1. ***Sü'-i-Mizaj Kulya Harr*** **(Deranged hot temperament of the kidney):** It is due to the abnormal hot temperament of the kidneys. In this condition, the kidneys absorb large amount of water from the bloodstream but are unable to retain it. As a result, patients present with a complaint of frequent urination (polyuria). To balance this fluid depletion, the patient experiences intense thirst (polydipsia), leading to increased water intake [3, 5, 18, 23, 25]
2. ***Du'f-i-Kulya*** **(Weakness of Kidney):** The impaired capacity of the kidneys to retain water is primarily associated with their functional weakness and the deterioration of *Quwwat Māsika* (the retentive power). Because of this weakness, a lot of water is passed out through urine. Furthermore, the kidneys are unable to manage and metabolize the water supplied by the liver, which further aggravates the imbalance of fluid regulation within the body [3, 5, 18, 23]
3. ***Ittisā kulya wa Majārī-i-Bawl*** **(Dilatation of Kidney and Tubules):** Kidneys are unable to retain water for a long period of time due to the pathological dilation of the *Kulya wa Majārī-i-Bawl* (kidneys and urinary passages). As a result, there is a rapid elimination of water from the body, which consequently leads to polyuria [3, 5, 18, 23, 25]
4. ***Burūdat Badan, Kabid wa Kulya*** **(Cold derangement in temperament):** In some instances, diabetes may occur as a consequence of continuous or excessive exposure to cold. Long-term exposure to cold can disrupt the normal functioning of the body or selectively impair the temperament of the key organs such as the liver and kidneys. Such disruption leads to an abnormal cold temperament known as *Sūʾ-i-Mizāj Bārid* [3, 5, 18, 23]

Mahiyat-E-maraḍī (pathogenesis)

The nutritive faculty *(Quwwat-e-Ghādhiyah)* of the body and its organs carries out three primary functions: *Tehseel* (acceptance), *Ilsāq* (adherence), and *Tashbīh* (assimilation). These processes are supported by four subsidiary faculties like Māsika (retentive), *Hāzima* (digestive), *Jādhība* (absorptive), and *Dāfia* (eliminative). Their proper functioning depends upon the four temperamental qualities *(Kaifiyāt-e-Mizāj),* namely *Harārat* (heat), *Burūdat* (cold), *Ratūbat* (moisture), and *Yabūsat* (dryness) [27, 28] Any disturbance in these temperamental qualities impairs the activity of the nutritive faculty, ultimately disrupting *Badal mā Yatahallal* (assimilation), which is vital for the nourishment, growth, and preservation of the body and its organs. Within the framework of Unani philosophy, three fundamental faculties are considered essential for regulating the absorption, digestion, and excretion of water that the kidneys receive from the liver. These faculties included [18, 23, 24]

1. *Quwwat Jādhiba* (Absorptive Faculty)
2. *Quwwat-e-Mäsika* (Retentive Faculty)
3. *Quwwat Dāfi 'a* (Expulsive Faculty)

According to Unani scholars, when the kidneys develop *Sūʾ-i-Mizāj Kulya Hārr* (hot derangement of temperament), their normal function becomes impaired. In this condition, the *(Quwwat Jādhība)* absorptive faculty of the kidneys becomes hyperactive, drawing a large amount of water from the blood and the liver. Due to increases in its absorptive faculty the burden on the kidneys increases, resulting in weakening of the retentive faculty *(Quwwat Māsika)* and simultaneously enhancing the expulsive faculty *(Quwwat Dāfiʿa)*. As a result, the kidneys fail to retain or metabolize the fluid, which is instead expelled rapidly into the urinary bladder in the form of urine, leading to polyuria. To compensate for this excessive fluid loss, the liver continuously absorbs water in an attempt to meet the kidneys' needs. The deficit created in the liver is further balanced by drawing fluid through the *Urūq Masārīqā* (mesenteric vessels) from the stomach and the intestines. This depletion of water induces dryness in these organs, thereby triggering excessive thirst (polydipsia) and compelling the patient to consume large amounts of water. Consequently, a vicious cycle is established in which excessive fluid intake is followed by frequent urination, perpetuating the pathological state [18, 22, 23, 24, 25]

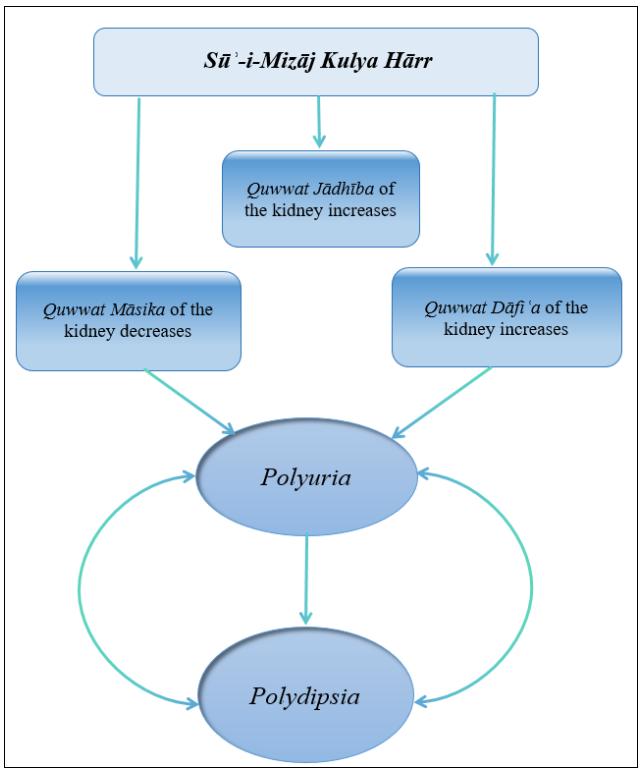

Fig 1: Mahiyat-e-Maraḍī of Dhayābītus

'Alāmāt-i- Maraḍ (sign and symptoms)

- Increased frequency of urination [3, 18, 23, 25]
- Excessive and persistent thirst [3, 18, 23, 25]
- Dryness of the mouth and body [3, 18, 23]
- Sweet urine that attracts ants and flies [3, 18, 23]
- Fatigue and general discomfort [3, 18, 23]
- Weight loss [3, 18, 23]
- Nocturia (night-time urination) [3, 18, 23]

General presentation

Symptoms may vary between individuals. Many patients remain asymptomatic, with diagnosis occurring incidentally during routine check-ups or while investigating other medical conditions.

1. Onset and Early Stage [5, 22]
- Gradual development of the disease. Patient often unaware for weeks to months
- General weakness and fatigue.
- Increased thirst without dryness.
- Frequent urination.
- Preserved/healthy appetite.

2. Progressive Stage [5, 22]
- Worsening of thirst and urination frequency
- Development of Nocturia
- Increasing debility and weakness
- Urine with a sweet taste/odour, attracting ants and flies
- Burning sensation and pain in the genital and urinary tract.

3. Advanced/Severe Stage [5, 22]
- Elevated body temperature and constipation
- Loss of eyebrows, wrinkling of face, acne, dull complexion
- Cachexia (severe weakness and wasting)
- Reduced libido and menstrual disturbances in women
- Subnormal temperature in the late stages
- Equalization of heart and pulse rate
- Dizziness, vertigo, irritability
- Oliguria (low urine output)
- Loss of appetite, excessive vomiting
- Leg cramps
- Numbness in the hands and feet
- Infertility
- Death due to extreme weakness or toxemia

***Awarizat* (Complications)**

According to *Ibn Sīnā,* diabetes leads to *Diqq* (phthisis) and *Zubuul-e-A'da* (cachexia) as a result of excessive fluid loss from the body. He further noted that patients gradually develop physical, mental, and sexual debilitation, often accompanied by complications such as boils, abscesses, and gangrene [3]

Rāzī observed that in long-standing cases of diabetes, patients progress to marked emaciation *Nuhūl,* and profound wasting, *Huzāl-e-Shadīd* [18]

According to *Sayyid Ismā'īl Jurjānī Dhayābitus* also predisposes patients to Diqq (emaciation) [23]

In his book, Azam Khan noted that Diabetes is described as a Chronic disorder that may occasionally result in *Zuban* (cachexia) and progressive wasting *(diqq)*. It is emphasized that the term *"diqq"* does not denote the well-known disease of the same name, but rather the wasting associated with advanced age in elderly people *(Diqq al-Shaykhūkha)*. When the illness becomes chronic, it weakens the liver *(Du'f-i-Kabid),* produces emaciation of the body *(Huzāl),* causes dryness of the skin, and leads to the appearance of scaly eruptions [5]

Conclusion

Dhayābitus is one of the oldest disease of mankind.The history of *Dhayābitus* illustrates the rich intellectual legacy of multiple civilizations, including Egyptian, Greek, Roman, Indian, Chinese, and Arabic traditions, each contributing to its knowledge to develop a concept of the disease. Unani medicine made important contributions by linking the dysfunction of the kidneys and imbalance of temperament *(Mizāj)* with overall health issues. Renowned physicians such as *Rāzī, Ibn Sīnā, Jurjānī, Ibn Rushd,* and *Akbar Arzānī* provided a detailed account of the disease, not only about the symptoms but also gaving the *Mahiyat-e-Maraḍi* (pathogenesis), causative factors, and complications, thereby enriching medical literature. The classification of *Dhayābitus* into *Dhayābitus Sāda* and *Dhayābitus Shakri,* with further subdivisions into *Ḥārr* and *Bārid* type. In the present era of a global diabetes epidemic, the holistic and preventive focus of Unani physicians appears remarkably prescient. Therefore, classical unani knowledge can create a more comprehensive framework for the diagnosis, prevention, and management of *Dhayābitus*.

Acknowledegement- N/A

Conflict of interest- No conflict of interest.

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How to Cite This Article
Khan S, Ahmad I, Kafi A, Siddiqui S, Javed A. Unveiled Mahiyat-e-Maraḍi (pathogenesis) of Dhayābitus through the prism of unani medicine: A critical review. International Journal of Unani and Integrative Medicine. 2025; 9(3): 119-125.