



Prevention of Primary Hypertension Through Asbab-e-Sitta Zaruriya: A Therapeutic Paradigm

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Abstract

Hypertension, defined as blood pressure elevation to a level that increases the risk of organ damage, Recent guidelines classify hypertension as systolic blood pressure ≥ 130 mmHg or diastolic blood pressure ≥ 80 mmHg, distinguishing between primary (essential) and secondary forms. It affects over one billion individuals globally and contributes to approximately 9.4 million deaths annually. Nearly 63% of total deaths in India are due to non-communicable diseases, of which 27% are attributed to cardiovascular disease which affects 45% people in the 40–69 age group. Unani medicine refers to hypertension as “Zaghtuddam Qawi,” although classical texts discuss a condition known as “Imtila,” which exhibits clinical features akin to hypertension, such as headache and palpitation, heaviness in chest. Unani scholars categorize Imtila into two types: Imtila bi Hasbil Auiya, characterized by increased blood volume and vessel tension (akin to primary hypertension), and Imtila bi Hasbil Quwa, where blood quality is compromised. The prevention and management of hypertension in Unani medicine emphasizes the Asbab-e-Sitta Zaruriya (six essential factors), including atmospheric air, diet, physical activity, psychological well-being, sleep, and elimination/retention. Proper management of these factors can help to mitigate hypertension risks. This holistic approach recognizes the interplay of lifestyle and environmental factors in maintaining health, underscoring the importance of balanced nutrition, regular physical activity, and mental tranquility. Ultimately, the integration of Unani principles with modern understanding of hypertension offers a comprehensive framework for prevention and management.

Keywords: Zaghtuddam Qawi, Imtila, Asbab-e-Sitta Zaruriya, Unani medicine, melancholic Hypertension

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INTRODUCTION

Hypertension is defined as the presence of blood pressure elevation to a level that places patients at increased risk for target organs damage in several vascular beds including the retina, brain, heart, kidneys and large conduit arteries [1]. One recent classification recommends hypertension is defined as systolic blood pressure ≥ 130 mmHg or diastolic blood pressure ≥ 80 mmHg. In contrast, previous guidelines defined hypertension as systolic blood pressure ≥ 140 mmHg or diastolic blood pressure ≥ 90 mmHg. It is categorized as either primary (essential) or secondary hypertension. In approximately 90–95% of the cases, no medical cause can be found which is termed as “primary HTN” and the remaining 5–10% of cases are caused by other conditions due to the involvement of kidneys, arteries, heart, or endocrine system and is known as secondary HTN [2, 3]. Hypertension is

one of the leading causes of the global burden of disease. Elevated blood pressure affects more than one billion individuals and causes an estimated 9.4 million deaths per year. The 2019–2020 National Family Health Survey (NFHS-5) reported a hypertension prevalence of 24% in men and 21% among women, an increase from 19% and 17% respectively from the previous round (2015–16) [4]. Nearly 63% of total deaths in India are due to non-communicable diseases, of which 27% are attributed to cardiovascular disease which affects 45% people in the 40–69 age group [5]. Hypertension doubles the risk of cardiovascular diseases, including coronary heart disease (CHD), congestive heart failure (CHF), ischemic and hemorrhagic stroke, renal failure, and peripheral arterial disease (PAD) [2, 6]. In Unani medicine the term *Zaghtuddam qawi* in present concept cannot be found in classical unani literature. However, the condition called “*Imtila*” has been widely discussed by Unani physicians. When studied thoroughly the clinical features of *Imtila* in classical literature of Unani medicine corresponding with the clinical features encountered in the patients of hypertension, like palpitation, headache, heaviness in head, restlessness, flushing of face, epistaxis, giddiness and vertigo, etc. There are several risk factors like obesity, alcohol consumption, smoking and tobacco intake, high salt intake, psychological stress, sedentary lifestyle, etc. [7, 8]. The hypertension can be easily prevented and managed by modification and moderation in *Asbab-e-sitta zruriya* (six essential factors) like *Hawa-e-Muheet* (atmospheric air), *Makool wa Mashroob* (food and drink), *Harkat wa Sukoon-e-Badani* (physical activity and rest), *Harkat wa Sukoon-e-Nafsani* (psychological activity and repose), *Naum wa Yaqza* (sleep and awakefulness), *Istefragh and Ehtibas* (elimination and retention). *Asbab-e-sitta zruriya* play key role in maintaining the healthy life and healthy society.

CONCEPT OF HYPERTENSION IN UNANI MEDICINE

Unani scholars provided extensive descriptions of the determinants of blood pressure but did not classify these descriptions as a disease. Recent Unani physicians have adopted the term “*Zaghtuddam Qawi*” to refer to hypertension. However, this term does not appear in classical Unani literature. Instead, the condition known as “*Imtila*” has been extensively discussed by various Unani philosophers in their respective treatises. The clinical features of *Imtila* are described in classical texts closely align with those observed in patients with hypertension. Thus, we can correlate *Imtila* and hypertension as representing the same condition. Subsequently, Unani physicians began to translate hypertension as “*Zaghtuddam Qawi*.”

TYPES OF IMTILA

In Unani system of medicine, two types of *Imtilā* have been described.

Imtila bi Hasbil Auiya (Repletion Regarding Vessels)

This type of *Imtila* involves an increase in blood volume, leading to over-distended and tense blood vessels, which raises vascular pressure. It is referred to as *Nabz-e-mumtali*, characterized by a full pulse (*nabz*). Clinical symptoms include flushing, tense skin, fatigue, a heavy sensation in the body, headaches, palpitations, dilated blood vessels, and visual disturbances. Movement can be dangerous in this condition due to the risk of blood vessel rupture. In severe cases, ruptured vessels can result in nosebleeds, hemorrhagic strokes, seizures, and other serious issues. Venesection (FASD) is effective for lowering blood pressure and reducing blood volume, thereby decreasing the risk of bleeding, which can occasionally lead to fatal outcomes [9–12].

Imtila bi Hasbil Quwa (Repletion Regarding Vitality)

This type of *Imtila* is characterized by a normal blood volume, but with alterations in blood quality, or both quality and quantity may be affected. Individuals with this condition are at risk of developing infectious diseases, such as septicemia and pyemia. The clinical features are like those seen in *Imtila bi Hasbil Auiya* (repletion regarding vessels), though the severity is somewhat less pronounced [3, 13–15].

In my opinion, the *Imtilā bi Hasbil Auiya* (repletion regarding vessels) can be linked to primary hypertension, characterized by increased blood volume and vessel tension without any identifiable

pathological causes. In contrast, *Imtilā bi Hasbil Quwa* (repletion regarding vitality) correlates with secondary hypertension, where identifiable pathological issues exist, such as kidney diseases, endocrine disorders, and dyslipidemia. These conditions result in both qualitative and quantitative alterations in the blood (akhlāt).

Another classification of hypertension can also be done as per Unani philosophy; (a) imbalance in hot and moist temperament, or sanguinous imbalance; and (b) imbalance in cold and dry temperament or melancholic imbalance [16].

Sanguinous Hypertension

This type of hypertension arises from an imbalance in the hot and moist temperament. It is characterized by an increase in blood volume circulating in the body. Those with a sanguine temperament are at the highest risk. This form of hypertension is often a result of excessive consumption of hot and moist food (*har ratab aghziya*), a luxurious lifestyle and physical inactivity. As a result, blood volume increases. This type of hypertension is typically associated with primary hypertension, which is most often found in adults.

Melancholic Hypertension

This type of hypertension arises from an imbalance in the cold and dry temperament, affecting the contraction and relaxation of blood vessels. It is commonly observed in individuals with a melancholic disposition and is typically seen in older adults.

Etiopathogenesis

The etiopathogenesis of hypertension involves a complex interplay of various factors, many of which are influenced by lifestyle choices and environmental conditions. Hypertension can develop due to excessive food intake, physical inactivity, and stress, leading to obesity, increased blood volume, and artery stiffness. Luxurious lifestyles and consumption of heavy foods (*ghiza-e-ghaliz*) further promote vascular damage and elevated cholesterol. These factors raise blood pressure by increasing cardiac output, vascular resistance, and sympathetic activity. The etiopathogenesis of hypertension is described in (Figure 1).

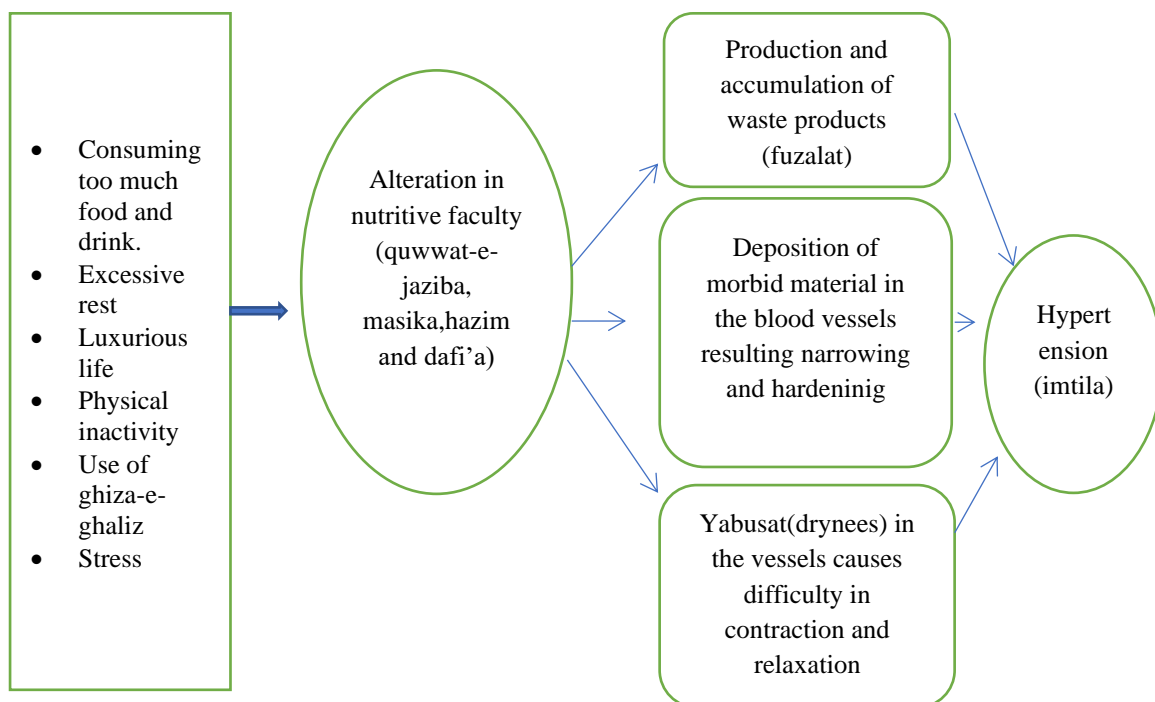


Figure 1. Etiopathogenesis of hypertension.

Prevention and Management Through Asbab-e-Sitta Zaruriya

To maintain a healthy life and prevent diseases, Unani physicians outlined six essential factors, known as Asbab-e-Sitta Zaruriya. Adhering to these factors is crucial for overall well-being, as they impact every individual throughout their life. Thus, they are regarded as vital components for a healthy existence.

Sabab (cause) is an Arabic word (plural – Asbab), According to Unani medicine it is defined as a specific factor responsible to generate a new state (from health to sickness or from sickness to health) or to maintain an old state in human body [17]. The six essential factors are:

- Hawa-e-Muheet (atmospheric air).
- Makool-wa-Mashroob (foods and drinks).
- Harkat-wa-Sukoon-e-Badani (physical activity and repose).
- Harkat-wa-Sukoon-e-Nafsani (psychological activity and repose).
- Naum-wa-Yaqzah (sleep and wakefulness).
- Istifragh-wa-Ihtibas (elimination and retention).

Hawa-e-Muheet (Fresh Air)

Unani scholars emphasize the importance of fresh and clean air for maintaining health and supporting physiological functions. They note that different seasons, each characterized by unique mizaj because of different qualities of air, can influence health and are associated with specific diseases. For instance, winter may not be suitable for individuals with balghami amraz or those with a balghami mizaj. Additionally, blood pressure tends to rise during winter due to the constriction of blood vessels, making hypertensive patients more susceptible to conditions like angina, myocardial infarction (MI), and stroke. By changing in environment, individuals can prevent certain diseases [18]. Furthermore, Unani physicians have observed that sometimes a change of location can aid in disease recovery.

Air pollution is a significant contributor to cardiovascular and respiratory health issues, often leading to life-threatening conditions. While it is widely recognized that polluted air causes respiratory diseases, its impact on cardiovascular health is less commonly acknowledged. Research has shown that air pollutants can severely affect cardiovascular indicators, including heart rate, heart rate variability, arrhythmia, heart failure, cardiac arrest, ischemic heart disease, cerebrovascular diseases (like stroke), blood pressure, atherosclerosis, thrombosis, and coagulation. In 2016 alone, approximately 7 million deaths were attributed to poor air quality – 4.2 million from outdoor pollution and 3.8 million from household pollution – with most pollution-related fatalities linked to cardiovascular issues. Key pollutants, such as particulate matter, sulfur dioxide (SO₂), and nitrogen oxides (NO_x) have detrimental effects on the cardiovascular system. Studies conducted in over 30 European cities indicate that higher levels of SO₂ and NO_x are correlated with increased cardiovascular problems and mortality [19–21].

Makool-Wa-Mashroob (Foods and Drinks)

Makool wa mashroob (food and drinks) plays a crucial role among the Asbab-e-Sitta Zarooriyah. A balanced diet is essential for maintaining health; without it, individuals may be prone to various diseases. Foods can be broadly categorized into two types: (i) ghiza-e-lateef, which is easily digestible and readily assimilated into the body, leading to the production of thin blood; and (ii) ghiza-e-kaseef, which is difficult to digest and does not integrate well into the body, resulting in production of thick and viscous blood due to insufficient action of the digestive faculties (quwwat-e-mutagayyara) [13, 22]. An excessive intake of ghiza-e-kaseef can lead to an increased production of khilt-e-ghaleez wa lazij (thick and viscous humor), disrupting the body's faculties [13–29]. When khilt becomes ghaleez and lazij, the heart faces challenges in pumping blood against increased vascular resistance. This can lead to more vigorous contractions of the heart, increasing the risk of myocardial infarction (MI) and angina. Recent research has linked high-fat, high-carbohydrate, and high-salt diets to increased cardiovascular morbidity and mortality.

DASH DIET

The dietary approach to stop hypertension (DASH) diet, developed in the 1990s and tested in controlled trials, aims to reduce blood pressure and cardiovascular disease risk through nutrition. The DASH diet emphasizes a variety of foods, including fruits, vegetables, low-fat dairy, whole grains, chicken, fish, and nuts, while limiting fat, meat, sweets, and sugary beverages. It is rich in calcium, potassium, magnesium, and dietary fiber, while being low in fat. Additionally, the diet improves autonomic and vascular function and reduces left ventricular mass in overweight patients with hypertension. These benefits are particularly pronounced when combined with weight loss and increased physical activity.

Low-fat and low-carbohydrate diets can help reduce cardiovascular disease (CVD) risk factors and may even contribute to plaque regression and lower CVD mortality. Evidence indicates that consuming vegetables and fruits is linked to a decreased risk of coronary heart disease (CHD).

Drinking alcohol in moderation, specifically between 20 and 72 grams per day, does not significantly increase the risk of heart disease. However, excessive alcohol consumption is linked to a higher likelihood of alcohol dependence, hypertension, obesity, several types of cancer, car accidents, injuries, and suicide [23, 24].

Moderate consumption of tea and coffee, around 3–4 cups per day, does not appear to have harmful effects. However, excessive intake is linked to an increased risk of coronary heart disease (CHD) [25].

Harkat Wa Sukoon-e-Badani (Physical Activity and Repose)

To maintain a healthy lifestyle and prevent diseases associated with sedentary lifestyle, it's essential to engage in regular physical activity. In today's world, many people prefer indoor activities like watching TV, using computers, playing video games, or reading, leading to minimal physical movement. This sedentary lifestyle increases the risk of various health issues, including heart attacks, dyslipidemia, type 2 diabetes, anxiety, and obesity, etc. [26].

To counter this, individuals should incorporate moderate exercise, such as brisk walking, cycling, or participating in outdoor games, tailored to their physical condition and endurance. Regular exercise has a warming effect on the body, enhances metabolic rates, and facilitates the removal of waste products. It also boosts the immune system and helps prevent numerous conditions, such as hypertension, diabetes, and osteoarthritis [17–18, 27].

After physical activity (harkat), rest (sukoon) is crucial for maintaining health. Continuous movement without adequate rest can lead to the depletion of bodily fluids (rutubat), negatively impacting natural body heat (hararat-e-ghareeziya). A decrease in this heat disrupts normal metabolic processes. Additionally, rest aids digestion, promoting the production of high-quality body fluid (akhlāt), which are vital for a healthy life. An imbalance of either excessive activity or rest can result in coldness (buoodat), which in turn slows down bodily functions. Therefore, achieving a balance between movement and rest is essential for overall health [28, 29].

Recent evidence underscores the positive impact of physical exercise on an individual's health and well-being. Numerous studies have demonstrated that regular exercise can help to normalize elevated blood pressure, particularly at mild to moderate intensity [30]. As early as 1983, the World Health Organization advocated non-pharmacological strategies as both primary and adjunctive treatments for hypertension. Nicholls identifies exercise as the most promising non-pharmacological approach to managing hypertension. Furthermore, various organizations – including the American Heart Association, the American College of Sports Medicine, the National Institutes of Health, and the Centers for Disease Control – have published policy statements endorsing the role of exercise in treating hypertension [31].

Exercise is thought to lower blood pressure through various mechanisms, including neurohumoral, vascular, and structural changes. Some proposed explanations for its antihypertensive effects are reductions in catecholamine levels and total peripheral resistance, enhanced insulin sensitivity, and changes in the balance of vasodilators and vasoconstrictors [32].

Harkat Wa Sukoon-e-Nafsani (Psychic Movement and Repose)

Unani medicine highlights the importance of adequate mental stimulation and proper relaxation for the mind and brain. It recognizes that psychic movements (nafsiyati awamil), such as fear, anger, anxiety, and depression, significantly affect various bodily functions. These psychic movements have a negative impact on cardiovascular health. Prolonged exposure to these conditions can lead to adverse health outcomes. These psychic movements are governed by the internal and external movement of Ruh (pneuma), khun (blood), and hararat-e-ghareeziya (vital heat). During this time, the dissolution of Ruh can occur. Therefore, following periods of mental activity (harkat-e-nafsani), achieving mental tranquility (sukoon-e-nafsani) is crucial for the body to recover and replenish lost substances [9, 33]. However, excessive sukool-e-nafsani can lead to kund zahni (memory retention issues), nisan (dementia), and diminished cognitive processes [18].

A balance between mental activity and rest is essential for maintaining good health. Recent studies have indicated that psychic movements, including anxiety, stress, and depression, are linked to coronary heart disease (CHD) [34, 35].

Recent studies revealed that unemployment, extended work hours, job instability, low wages, job strain, and sleep disorders were linked to an increased risk of hypertension [36].

Naum Wa Yaqza (Sleep and Wakefulness)

Normal sleep and wakefulness are crucial for maintaining health. Adequate sleep offers numerous benefits, while lack of sleep can disrupt mental health and negatively impact digestion and metabolism. Insufficient sleep diminishes cognitive, sensory, and motor functions and gradually impairing decision-making abilities. Wakefulness can lead to the deterioration of the Ruh and essential bodily fluids, resulting in dryness and digestive issues. On the other hand, sleep brings tranquility, aids digestion, alleviates fatigue, and enhances the body's strength and functions. However, excessive sleep can lead to increased coldness and moisture in the body's temperament, potentially causing weakness, laziness, reduction in hararat-e-ghariziya, obesity, hypertension, and other health problems [28, 37].

During normal sleep, blood pressure decreases compared to waking hours, a phenomenon known as "nocturnal dipping," which is partly due to reduced sympathetic activity. Habitual sleep duration less than the median of 7–8 hours, is linked to a higher risk of hypertension, particularly among those who sleep fewer than 6 hours per night. Interestingly, some studies have also found that longer sleep durations can be associated with an increased risk of hypertension. The relationship between obstructive sleep apnea (OSA) and hypertension is well-documented, with about 50% of OSA patients being hypertensive and an estimated 30 to 40% of those with hypertension having OSA. The Sleep Heart Health Study indicated that individuals who sleep 5 hours or less per night have a higher prevalence of hypertension. Additionally, the activation of the hypothalamic-pituitary-adrenal axis and the sympathetic nervous system, often seen in insomnia, may contribute to the development of hypertension [38, 39].

Ehtibas Wa Istifragh (Retention and Elimination)

During the process of taghayyuarat wa istehalat (metabolism) a lot of morbid and useful materials are formed in the body. The elimination of useful materials from the body or retention of the morbid materials in the body causes certain diseases. Abnormal retention of waste matters leads to diseases by one the following cause (i) Accumulated wastes may become muta'affin and potentially trigger infectious disease, (ii) Accumulated wastes causes hindrance for absorption/diffusion of useful material

(mawad-e-saleha), (iii) Accumulated wastes in the organ may produce Su-e-Mizaj, and (iv) Accumulated wastes may suffocate the *hararat ghareezia*, eventually resulting in its extinction. In the same way, the elimination of the substances which must be retained causes abnormal conditions like nutritional deficiency, weight loss, nephrotic syndrome, etc. [18].

CONCLUSIONS

Hypertension represents a significant global health challenge, contributing to millions of deaths and a substantial burden of disease. The Unani medicine perspective on hypertension, particularly through the lens of “Imtila,” provides valuable insights into its clinical features and underlying mechanisms. By categorizing hypertension into primary and secondary forms, and associating these with specific Unani concepts, we gain a deeper understanding of the condition’s complexity. The emphasis on the Asbab-e-Sitta Zaruriya highlights the importance of a holistic approach to prevention and management, encompassing lifestyle modifications in diet, physical activity, mental well-being, and environmental factors. Integrating Unani principles with contemporary medical practices can enhance strategies for managing hypertension, promoting overall health and well-being. Ultimately, a comprehensive understanding of hypertension, informed by both modern and traditional knowledge, is essential for effective prevention and intervention in the face of this prevalent condition.

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