

Harnessing the Healing Potential of *Khamira Abresham Hakim Arshad Wala* in the Management of Different Health Conditions

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Abstract

Khamira Abresham Hakim Arshad Wala is a potent Unani remedy that plays a vital role in fortifying the body's vital organs and efficiently reducing free radicals by enhancing levels of antioxidant enzymes. The term 'Khamira' originated from the Unani system of medicine and was first introduced by the esteemed Hakeem during the Mughal period. This preparation involves incorporating herbal drugs into a base (Qiwam) containing sugar or honey, resulting in a squashy consistency. Khamira Abresham Hakim Arshad Wala is widely utilized in preventing ischemic heart diseases and managing various neurodegenerative disorders. Its remarkable properties help maintain healthy blood pressure and promote optimal blood flow. Moreover, it aids in fortifying the brain and liver during convalescence periods and offers relief from the adverse effects of diseases such as measles, chickenpox, and smallpox. In the modern era of advanced medicine, Khamira Abresham Hakim Arshad Wala continues to play a pivotal role in healthcare due to its antioxidant and anti-inflammatory characteristics. Studies have shown its potential in reducing the risk of myocardial infarction and providing significant neuroprotection against cognitive impairments and neurodegeneration. For generations, this traditional medicine has been utilized to efficiently treat a wide spectrum of health conditions. The present review article extensively examined the medicinal significance of Khamira Abresham Hakim Arshad Wala, highlighting its remarkable antioxidant and anti-inflammatory properties. These

properties have been found to be associated with reduced instances of myocardial infarction, indicating its potential as a heart-protective agent. Moreover, Khamira Abresham Hakim Arshad Wala exhibits significant neuroprotective effects, guarding against cognitive impairments and neurodegeneration. Furthermore, the present article sheds light on the traditional use of Khamira Abresham Hakim Arshad Wala in treating a diverse range of ailments.

Keywords: *khamira, Khamira Abresham Hakim Arshad Wala, free radicals, antioxidant, neuroprotective, myocardial infarction*

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INTRODUCTION

Unani, or *Yunani*, originating from the Arabic term for "Ionian" or "Greek," denotes the Persian-Arabic traditional medicinal system adopted by the Mughals in India. Gradually, *Unani* medicine gained popularity in South Asia and contemporary

Central Asia. This age-old system hinges on utilizing natural elements such as plants, animals, and minerals to treat chronic illnesses. Its origins can be traced back to the teachings of ancient Greek physicians Hippocrates and Galen [1]. Today, *Unani* medicine is practiced in various regions, including India, Sri Lanka, Bangladesh, Iran (known as Persian medicine), Pakistan (referred to as Eastern medicine), and the eastern part of China (known as Uighur medicine). During the Mughal period, Indian *Hakims* coined the term '*khamira*' to indicate a fermented confection. *Khamira Abresham Hakim Arshad Wala (KAHAW)* is a semi-solid preparation that combines herbal and animal ingredients with a base (*Qiwam*) made of sugar or sugar with honey. *KAHAW*—a remarkable elixir—boasts an intriguing blend of ingredients such as Abresham (derived from *Bombax mori* cocoons) and owes its discovery to the ingenious *Hakim Arshad Wala*. This potent concoction is further enhanced by the infusion of natural treasures such as cardamom, Indian bay leaf, citron, and saffron. Together, these components bestow *KAHAW* with the power to combat the ravages of age-related degeneration and shield the brain from the detrimental effects of reactive oxygen species (ROS). The cornerstone of *Unani* medicine lies in its adherence to the fundamental laws of nature, and *KAHAW* has exhibited its remarkable efficacy in addressing a diverse range of health issues, from bradycardia, cardiac weakness, arrhythmia, palpitations, and strokes to neurobehavioral impairments, liver toxicity, asthma, and cardiac debility. It acts as a tonic for the heart, brain, liver, and stomach while stimulating the proper functioning of major organs in the body and safeguarding the body's natural heat. Numerous pieces of evidence highlight *KAHAW's* popularity as a powerful *Unani* medicine that profoundly impacts the treatment of diverse human ailments, including cardiovascular diseases (CVDs), atherosclerosis, cerebral ischemia, and cognitive impairment. Additionally, it functions as a potent herbal tonic, delivering enhancements in cases of senile debility and chronic ailments [2–8].

NEUROPROTECTIVE PROPERTY OF KHAMIRA ABRESHAM HAKIM ARSHAD WALA

KAHAW has been recognized for its neuroprotective properties, particularly in the context of neurodegenerative diseases such as Parkinson's, Alzheimer's, and Huntington's disease. These conditions are typified by the progressive degeneration of distinct clusters of neurons within the brain. Although the exact cause of neurodegenerative diseases remains unclear, oxidative stress has been identified as a contributing factor in their development. Oxidative stress emerges when there is a disparity between free radicals and the body's capacity to defend against them through antioxidants, ultimately resulting in diminished tissue antioxidant levels. This imbalance can result in various diseases such as Alzheimer's, Parkinson's, heart failure, aging, cancer, and diabetes mellitus. Free radicals, in excess, can disrupt the normal function of lipids, proteins, and DNA, leading to irreversible damage to neurons. Studies have shown that free radicals play a significant role in the pathogenesis of cognitive impairments associated with neurodegenerative disorders. In this regard, *Unani* traditional medicine, known for its antioxidant properties, holds promise as a potential neuroprotective therapy. *KAHAW*, as a herbal extract from *Unani* traditional medicine, has been found to possess antioxidant properties that help reduce the generation of oxygen radicals, thereby safeguarding against cognitive impairments. Animal models injected with a sub-diabetogenic dose of Streptozotocin (STZ)—a compound causing oxidative stress—exhibited perturbations in brain glucose and energy metabolism, leading to cognitive deficits. *KAHAW* administration showed a significant improvement in cognitive function, as evidenced by decreased oxidative damage and energy deficits in the brain, along with increased levels of glutathione (GSH)—a vital antioxidant [10–24]. In neurons grappling with cognitive impairments and neurodegeneration, there was a notable reduction in the levels of GSH (glutathione) and GSH-dependent antioxidant enzymes, encompassing glutathione peroxidase (GPx), glutathione reductase (GR), glutathione-S-transferase (GST), catalase, and superoxide dismutase (SOD). *KAHAW* treatment effectively ameliorated these impairments induced by STZ, leading to improved antioxidant defense and neuronal protection. Furthermore, *KAHAW* has been observed to have beneficial effects on various other diseases related to the heart, brain, and mental well-being. Scientists have extensively studied herbal formulations and plant extracts, unveiling the antioxidant potential of *KAHAW*, which contributes to the preservation of cognitive function and neurobehavioral activities [15–20].

Additionally, *KAHAW* aids in modulating oxidative stress by scavenging free radicals and promoting neuronal recovery in infarcted areas by supplying essential nutrients to damaged tissues. Oral supplementation of *KAHAW* has been shown to protect against ROS and reverse cognitive impairments associated with neurodegenerative diseases. These findings suggest that *Unani* medicine, particularly *KAHAW*, holds promise as a neuroprotective therapy in human diseases by mitigating free radical generation and preserving neuronal health. Such implications could be vital for future treatments in the field of neuroprotection [20-24].

CARDIOPROTECTIVE POTENTIAL OF KHAMIRA ABRESHAM HAKIM ARSHAD WALA

KAHAW has emerged as a promising cardioprotective agent, considering the prevalence of CVDs as a leading cause of illness and mortality, particularly in developed countries. The pathophysiology of CVD encompasses myocardial infarction (MI)—a condition in which the myocardium experiences necrosis because of insufficient coronary blood flow to meet the metabolic requirements of the heart. In MI, an imbalance in ROS and antioxidant enzymes within cardiac muscles leads to the generation of harmful free radicals, exacerbating the damage. Elevated lipid peroxidation (LPO) and diminished levels of essential antioxidant enzymes such as superoxide dismutase (SOD), catalase (CAT), and glutathione (GSH) are key factors contributing to myocardial damage in the context of MI [2, 3, 5, 7]. A potential strategy to prevent cardiac failure in MI is to modulate free radical generation and enhance endogenous antioxidant enzymes. Experimental studies have shown that *KAHAW*, derived from *Unani* medicine, possesses potent medicinal and therapeutic values owing to its antioxidant properties sourced from natural resources such as plants, animals, and minerals. The herbal extract has shown its effectiveness in addressing a wide range of ailments, encompassing cardiovascular disorders. In rat models of MI induced by isoproterenol (ISO), which causes significant free radical production, *KAHAW* administration led to improved cardiac function by inhibiting ROS production and bolstering antioxidant levels. Moreover, *KAHAW* has shown beneficial effects in various chronic diseases and pathological conditions such as arrhythmia, atherosclerosis, cerebral ischemia, and cognitive impairment [8]. Furthermore, the oral intake of *KAHAW* has been observed to alleviate ISO-induced myocardial necrosis and oxidative stress, as illustrated in Table 1. Furthermore, *KAHAW* has been reported to alleviate dyslipidemia, hepatic steatosis, and associated hypertension by reducing oxidative stress, tumor necrosis factor-alpha (TNF- α) levels and normalizing nitric oxide (NO) production. In conclusion, *KAHAW* holds significant promise as a cardioprotective agent, showing the potential to improve cardiac function, counteract oxidative stress, and offer therapeutic benefits in various cardiovascular and chronic diseases. Its antioxidant properties and unique composition derived from natural sources make it a valuable asset in promoting heart health and combating cardiovascular disorders [25–37].

NEPHROPROTECTIVE PROPERTY OF KHAMIRA ABRESHAM HAKIM ARSHAD WALA

KAHAW has been recognized for its nephroprotective properties, with its composition comprising of 22 ingredients sourced from plant, animal, and mineral origins. These components are rich in antioxidants, making *KAHAW* an effective remedy against cardiotoxicity and nephrotoxicity. Various ingredients in *KAHAW*, such as *Syzygium aromaticum*, *Crocus sativus*, *Nardostachys jatamansi*, *Pistacia lentiscus*, *Punica granatum*, and *Bombyx mori* cocoon, exhibit high antioxidant activity, as indicated by several studies [2, 8]. In 2003, the World Health Organization (WHO) highlighted the importance of traditional and complementary medicine in supporting global health coverage, with *KAHAW* being one such potential approach in targeting nephrotoxicity in clinical studies. Doxorubicin (DRX)—a potent anti-tumor antibiotic—is known to cause both cardiotoxicity and nephrotoxicity in various animal models. The metabolic breakdown of DRX generates free radicals that interact with nucleic acids, proteins, and lipids, leading to cell death [9]. Nonetheless, the co-administration of DRX alongside *KAHAW* has demonstrated encouraging protective effects in countering DRX-induced nephrotoxicity. Animals treated with DRX alone demonstrated elevated levels of lipid peroxidation (LPO), blood urea nitrogen (BUN), and serum creatinine, while those treated with a combination of DRX and *KAHAW*

Table 1. Composition of *Khamira Abresham Hakim Arshadwala* [8, 9].

S.N.	Unani name of ingredients	Scientific names	Quantity
1	Abresham	<i>Bombax mori</i>	505 g
2	Marjan	<i>Bombax mori L Silk cocoon</i>	6 g
3	Turanj	<i>Citrus medica L.</i>	5 g
4	Ood Gharqi	<i>Aquilaria agallocha Roxb</i>	4 g
5	Shahed	<i>Apis mellifera L.</i>	250 g
6	Mushk	<i>Moschus moschiferous L.</i>	05 g
7	Marwareed	<i>Mytilus margaritifera L.</i>	09 g
8	Ambar	<i>Physeter catodon L.</i>	06 g
9	Sumbul-Teeb	<i>Nardostachys jatamansi D.C</i>	05 g
10	Sazaj Hindi	<i>Cinnamomum tamala</i>	05 g
11	Elaichi Khurd	<i>Elettaria cardamomum L.</i>	05 g
12	Qaranfal	<i>Syzygium aromaticum L.</i>	05 g
13	Sandal sufed	<i>Santalum album</i>	06 g
14	Anar	<i>Punica granatum L</i>	140 ml
15	Bihi	<i>Cydonia oblonga Mill.</i>	140 ml
16	Zafran	<i>Crocus sativus L.</i>	5 g
17	Shakar	<i>Sacchararum officinarum L.</i>	750 g
18	Yaqoot	<i>Aluminium oxide</i>	9 g
19	Yashab	<i>Hydrated silica</i>	9 g
20	Keora	<i>Pandanus tectorius</i>	96 ml
21	Seb	<i>Malus pumila P</i>	140 ml
22	Mastagi	<i>Pistacia lentiscus L</i>	5 g

showed significant reductions in these parameters, moving them closer to normal levels. Additionally, pre-treatment with *KAHAW* enhanced the preservation of antioxidant enzymes against DRX-induced toxicity. Several other herbal extract products with antioxidant properties, such as *Phyllanthus urinaria*, *Phyllanthus emblica*, and Cranberry, have also been tested against DXR-induced toxicity and have demonstrated protective effects.

In summary, *KAHAW* exhibits nephroprotective potential, with its diverse ingredients sourced from natural origins providing high antioxidant activity. The combination of *KAHAW* with certain therapeutic agents, such as DRX, shows promise in mitigating nephrotoxicity and safeguarding kidney health. Moreover, the use of other herbal extract products with antioxidant properties further reinforces the significance of *KAHAW* in combating toxicity-related kidney damage [38–51].

CONCLUSION & FUTURE PERSPECTIVE

In conclusion, *KAHAW* stands as a safe and effective *Unani* medicine, widely utilized to address various ailments by maintaining a balanced state between oxidative damage and antioxidant enzymes. Notably, oxidative stress and inflammation have been linked to a range of chronic pathological complications, including arthritis, asthma, cardiac, mental, digestive disorders, urinary infections, and sexual diseases. Within these circumstances, inflammatory processes set in motion by oxidative stress prompt the activation of proinflammatory cytokines such as interleukin 1 β (IL-1 β), interleukin 6 (IL-6), and tumor necrosis factor α (TNF- α), thereby playing pivotal roles in the pathogenesis of these ailments. Importantly, *KAHAW* exhibits a promising anti-inflammatory role against proinflammatory cytokines, including IL-1 β , IL-6, and TNF- α , in various ailments. However, further research is needed to elucidate the full extent of its anti-inflammatory effects and explore its long-term impact on multiple diseases. Moreover, it remains unclear whether *KAHAW*'s anti-inflammatory properties inhibit IL-1 β , IL-6, and TNF- α , pivotal cytokines involved in proinflammatory processes. Nevertheless, the fact that

KAHAW effectively addresses oxidative stress and inflammation opens new therapeutic possibilities for countering various diseases, including neurodegeneration, MI, and nephrotoxicity. The ability of *KAHAW* to serve as a neuroprotective agent makes it truly remarkable, owing to its potent antioxidant and anti-inflammatory attributes. This potential translates into the amelioration of neurological deficiencies, the reduction of oxidative stress, and the mitigation of the detrimental impact of cytokines, and increasing antioxidant enzyme levels. As research advances, *KAHAW* may emerge as a valuable addition to modern medicine, offering novel therapeutic approaches for managing complex diseases with oxidative and inflammatory components. Given its historical use and well-documented therapeutic advantages, *KAHAW* emerges as an auspicious contender warranting deeper investigation and potential incorporation into contemporary healthcare approaches.

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Conflict of Interest

None declared

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