

## Medicine in the Medieval Islamic World, Innovation and Public Policy and Historical Rulers Perspective

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**Abstract:** *The field of medicine throughout the Mediaeval Islamic era is a witness to the noteworthy accomplishments of intellectuals, physicians, and policymakers who safeguarded and advanced the medical knowledge inherited from ancient times. This research paper examines the extensive historical background of Islamic medicine in the medieval era, investigating the pioneering advancements achieved by Islamic academics, the influence of governmental policies on healthcare, and the enduring influence on the overall progress of medicine. A comprehensive analysis of the origins of Islamic medical innovation and the corresponding public policies that facilitated its development provides valuable insights into the significant influence of this period on contemporary healthcare methodologies.*

**Keywords:** *Islamic Medicine, Medieval Islamic World, Innovation in Islamic Medicine, Public policies in Islamic Medicine, Islamic Scholars*

### Introduction

The field of medicine during the Mediaeval Islamic world serves as a witness to the constant capacity for human creativity and the significant impact of governmental policy on the evolution of healthcare systems. The historical epoch under consideration, which endured from the 7th to the 13th century, was distinguished by the ascendancy and enlargement of the Islamic Empire. It was during this period that erudite individuals and medical practitioners produced pioneering advancements in the realm of medical understanding. The contributions mentioned above, characterised by their innovative nature and a profound reverence for scientific principles, persistently influence contemporary medical advancements and healthcare methodologies (Pormann & Savage-Smith, 2007).

The Mediaeval Islamic world, characterised by its multifaceted cultural influences and advantageous access to the wisdom of previous civilisations, served as a conducive environment for pursuing intellectual endeavours and scientific investigation. Islamic academics played a crucial role in preserving and safeguarding ancient Greek and Persian medical literature while contributing significantly to the subject

through groundbreaking advancements. As mentioned earlier, the scholars endeavoured not simply to save the accumulated expertise of previous eras but also to expand upon it by assimilating many medical traditions into a cohesive and progressive corpus of knowledge (Bouzenita, 2009).

Prominent individuals in the field of Islamic medicine, like Ibn Sina (Avicenna), Ibn al-Haytham (Alhazen), and Al-Razi (Rhazes), made significant contributions to this scholarly pursuit. The contributions of scholars like Avicenna and Alhazen, exemplified by Avicenna's influential "Canon of Medicine" and Alhazen's notable advancements in ophthalmology, not only expanded the frontiers of medical knowledge but also established the groundwork for further improvements in the field (Ofek, 2011).

The distinguishing characteristic of the mediaeval Islamic approach to medicine is the integration of knowledge and public governance. The contemporary rulers and policymakers had a discerning appreciation for the significance of scientific endeavours, actively endorsing scientific research and investing in developing healthcare facilities. The fostering of an atmosphere conducive to the flourishing of scholars and physicians resulted in establishment of public hospitals, the translating of essential medical books, and the formulation of ethical frameworks for medical practice (Arjomand, 1999).

This research article examines the various dimensions of medicine in the Mediaeval Islamic world, focusing on the pioneering contributions of scholars and the significant influence of public policy. Through a comprehensive analysis of the historical backdrop, prominent individuals, groundbreaking developments, and policy frameworks, a profound comprehension can be attained regarding the impact of this particular age on the course of medicine and healthcare. This enduring legacy has significantly influenced our contemporary approach to healthcare.

### **Historical Emergence of Medicine in the Medieval Islamic World**

To gain insight into the progress of medicine in the mediaeval Islamic world and its subsequent breakthroughs and implications for public policy, it is imperative to examine the historical backdrop that provided the basis for these developments. Two crucial elements of this particular context encompass the emergence and expansion of the Islamic Empire and the significant impact exerted by pre-Islamic medical traditions.

#### **The Development of the Islamic Dynasty**

During the 7th century, the Islamic Empire experienced a rapid and significant expansion under the guidance of the Prophet Muhammad and subsequent Caliphs. The empire quickly expanded across extensive territories, encompassing the Middle East, North Africa, Spain, and certain sections of Asia. The empire's military campaigns facilitated the encounter of diverse cultures and knowledge systems and furnished the essential resources and stability required to advance intellectual and scientific pursuits (Kaadan).

A fundamental characteristic of the Islamic Dynasty was its profound reverence for knowledge. The Quran, regarded as the sacred scripture of Islam, has been instrumental in fostering a culture of intellectual pursuit and inquisitiveness, hence promoting a scholarly atmosphere. The early Islamic rulers implemented many institutions, such as the House of Wisdom (Bayt al-Hikmah) located in Baghdad, which served as prominent centres for translation, scholarly inquiry, and the dissemination of knowledge (Hassan, Khan, & Rahman, 2009).

### The Impact of Pre-Islamic Medical Traditions

The development of Islamic medicine was not an isolated phenomenon but built upon and drew on preceding medical traditions. Greek and Persian treatment exerted significant influences in the field.

#### Greek Medicine

Greek medicine experienced significant expansion throughout the Hellenistic period, marked by the conquests of Alexander the Great. This era facilitated the dissemination of Greek culture and medical expertise over the Eastern Mediterranean region. The contributions of renowned Greek physicians such as Hippocrates and Galen have emerged as seminal texts within medicine. As the Islamic Empire underwent expansion, it assimilated a wide range of literature and knowledge into its intellectual and cultural milieu. In acknowledgement of the significance of Greek medicine, Islamic academics undertook substantial endeavours to translate these texts into Arabic. The translated works were a fundamental source for a significant portion of Islamic medicine, with experts frequently expanding upon and enhancing Greek medical theories and practises (Shehada, 2012).

#### Persian Medicine

Persian civilisation has a profound legacy of medical knowledge, exemplified by the notable contributions of geniuses such as Ibn Sina (Avicenna) and Al-Razi (Rhazes). The field of Persian medicine, which drew inspiration from Greek medical knowledge as well as local healing practices, played a pivotal role in the advancement of Islamic medicine. The "Canon of Medicine" authored by Avicenna emerged as a crucial medical compendium within Islamic scholarly circles, exerting a lasting impact on medical discourse over an extended period (Kaadan, 2011).

#### **Contributions of key Muslim scholars in Islamic medicine**

The remarkable advancement of Islamic medicine during the Mediaeval Islamic era can be attributed to the significant contributions made by visionary intellectuals and physicians who actively expanded the frontiers of medical understanding. Within this group of distinguished individuals, three notable figures emerge prominently: Ibn Sina (also known as Avicenna), Ibn al-Haytham (often referred to as Alhazen), and Al-Razi (often recognised as Rhazes).

#### Ibn Sina (Avicenna):

Ibn Sina was a polymath whose impact transcended the boundaries of the medical field. He was born in the year 980 CE in Uzbekistan. His most renowned contribution to medicine is the "Canon of Medicine" (al-Qanun fi al-Tibb), which attained significant recognition and was a fundamental pillar of medical research for numerous centuries. This medical encyclopaedia represents an important scholarly work that effectively structured and amalgamated the medical knowledge prevalent throughout its era (Abdel-Halim, 2014). It successfully integrated perspectives derived from several historical traditions, including those of the Greeks, Romans, Persians, and Indians. Avicenna made significant contributions in various disciplines, including anatomy, pharmacology, and the study of infectious diseases. The author's focus on empirical observation and the significance of clinical experience has a lasting impact on medicine (Pormann & Savage-Smith, 2007).

#### Ibn al-Haytham (Alhazen)

Ibn-al-Haytham made significant contributions to optics and ophthalmology, which have had far-

reaching ramifications in medicine. Alhazen was born in 965 CE in Basra, located in present-day Iraq. He made significant contributions to optics through his pioneering investigations on vision, light, and the anatomical structure of the eye. These seminal studies served as the bedrock for our current comprehension of optical phenomena. The "Book of Optics" (Kitab al-Manazir), authored by him, brought about a significant transformation in the discipline and yielded practical implications in the realm of ophthalmology. The contributions made by Alhazen in the field of vision and the functioning of the eye played a crucial role in the advancement of diagnosing and treating ocular disorders, hence creating a substantial impact on the overall growth of medicine throughout the Islamic Golden Age (Rashed, 2008).

Al-Razi (Rhazes)

Al-Razi was a prominent figure in medicine during the Islamic Golden Age. Al-Razi was a multifaceted scholar in medicine, chemistry, and philosophy. His notable achievements encompassed substantial advancements in clinical medicine and pharmacology. Al-Razi was born in 865 CE in Iran and made significant contributions to the highly innovative clinical observation and diagnosis field. His innovative methodology in comprehending diseases as discrete entities rather than mere manifestations was a notable deviation from preceding medical methodologies. He authored the "Kitab al-Hawi" (The Comprehensive Book) as an extensive medical encyclopaedia, offering significant insights into diverse medical disorders and their corresponding therapies. Al-Razi's contributions to the fields of pharmacy and chemistry were substantial, leaving a lasting influence on the progress of pharmaceutical sciences (Zarshenas, Mehdizadeh, Zargaran, & Mohagheghzadeh, 2012).

### **Innovation in Islamic Medicine**

The field of medicine during the Mediaeval Islamic world was characterised by a notable dedication to innovation, resulting in memorable progressions in diverse facets of healthcare. During this period, there were remarkable advancements in the field of diagnosis and treatment, successful implementation of public health interventions, and substantial contributions to mental healthcare.

Advancements in Diagnosis and Treatment:

Islamic physicians have made significant progress in enhancing medical diagnosis and treatment for various medical disorders. The emergence of clinical diagnosis in Islamic medicine is worth noting. Ibn Sina, a renowned physician, emphasised the meticulous examination and evaluation of patients, highlighting the necessity of considering symptoms holistically rather than in isolation. This methodology established the fundamental basis for contemporary clinical diagnosis (Van den Bulte & Lilien, 2001).

Islamic scholars significantly contributed to the treatment field by advancing surgical techniques and developing innovative surgical instruments. Al-Zahrawi (Albucasis) was the author of the renowned "Kitab al-Tasrif" (The Book of Healing) during the 10th century. The present surgical manual provides a complete overview of several surgical techniques and introduces novel surgical equipment that has emerged as indispensable implements for medical practitioners. The enduring influence of these surgical and diagnostic discoveries significantly shaped the evolution of medical practice (Miyazaki & Islam, 2007).

#### Public Health Measures:

During the Mediaeval Islamic world, there was a notable emphasis on public health, driven by politicians and leaders who acknowledged the significance of disease prevention and the establishment of healthcare infrastructure. A noteworthy contribution entailed the development of public hospitals commonly referred to as Bimaristans. These establishments offered medical services to a diverse patient population, irrespective of their social or economic standing, establishing a model for ensuring fair and inclusive healthcare availability (Strohmaier, 2012).

Islamic communities were at the forefront of implementing quarantine measures and tactics for disease control. During epidemics, it is customary for authorities to enforce the isolation of individuals who have been affected and to implement various measures to mitigate the transmission of contagious diseases. The prioritisation of water sanitation and hygiene practices has had a significant role in enhancing the general welfare of communities and mitigating disease outbreaks (King, 2021).

#### Mental Health Care:

The topic of mental health care is of paramount importance in contemporary society. During the mediaeval period, Islamic medicine demonstrated a notable level of sophistication in its approach to mental health care. Medical professionals have acknowledged mental illness as a valid health issue and have devised many treatments and interventions. The Islamic medical tradition was characterised by its comprehensive approach to healthcare, which placed significant emphasis on recognising the interdependence of physical and mental well-being. Avicenna, an influential figure in medicine, expounded on the significance of achieving a harmonious existence encompassing mental well-being in his medical treatises (Bouzenita, 2009).

#### **Public Policy and Islamic Medicine**

The advancement and affluence of Islamic medicine in the Mediaeval era were not just attributable to individual scholars' endeavours. Still, they were substantially shaped by official policies that fostered and promoted progress in the healthcare field. The guidelines under discussion encompassed two significant elements: the involvement of Caliphs and rulers and the Translation Movement.

The significance of caliphs and rulers in historical contexts

The influence of caliphs and rulers in the Islamic Empire significantly impacted the development of medicine and healthcare throughout the Mediaeval era. The individuals acknowledged the significance of scientific investigation and knowledge safeguarding, specifically within medicine. Numerous kings actively facilitated and provided financial support for the pursuits of scholars and physicians, thereby cultivating a favourable milieu for advancing knowledge and developing novel ideas (King, 2021).

During the reign of Caliph Al-Ma'mun (813-833 CE), the House of Wisdom (Bayt al-Hikmah) was constructed in Baghdad, which gained significant recognition as a prominent hub for scholarly activities and the translation of knowledge. The institution not only accommodated researchers from many backgrounds but also provided financial support for the translation of several ancient manuscripts from Greek, Roman, Persian, and Indian origins into the Arabic language. The translations encompassing crucial medical works played a pivotal role in augmenting the body of knowledge within Islamic medicine. Caliphs saw the significance of knowledge acquisition in fostering the advancement of their kingdom, thereby allocating substantial resources towards intellectual endeavours (Rashed, 2008).

The Islamic rulers of the time also demonstrated a commitment to developing healthcare facilities as part of their public policy initiatives. Bimaristans, sometimes referred to as public hospitals, were established with the primary objective of delivering healthcare services to the general people. These establishments served as facilities for medical treatment and as hubs for medical teaching and research. The confluence of medical accessibility and scholarly engagement was pivotal in advancing Islamic medicine (Ofek, 2011).

The Translation Movement:

The Translation Movement refers to a historical period characterised by the widespread translation of texts from several languages into Arabic during the Islamic Golden Age. The Translation Movement, which is frequently linked with the House of Wisdom, was a deliberate endeavour aimed at translating and incorporating ancient works from several cultures into the Arabic language. This effort significantly augmented the body of accessible medical knowledge. The translation of Greek and Roman medical writings, together with those from Persian and Indian traditions, played a crucial role in preserving and disseminating ancient knowledge, enabling Islamic academics to access and study these valuable resources (King, 2021).

The Translation Movement was not solely a linguistic conversion exercise but rather a purposeful endeavour aimed at assimilating and incorporating this knowledge into the fabric of Islamic culture. The diligent efforts of scholars and translators ensured the accurate translation of these books and their comprehensive comprehension within their respective cultural and scientific frameworks, facilitating a more profound assimilation of the knowledge (Hassan et al., 2009).

### **Challenges and Opportunities in Islamic Medicine's Innovation and Public Policy**

Challenges:

#### **I. Recognition and Acknowledgment:**

Despite its notable contributions, the field of Islamic medicine frequently needs to be noticed within the broader discourse on global healthcare. One significant obstacle lies in guaranteeing the recognition and acknowledgement of Islamic medical innovation's historical and persistent influence.

#### **2. Contemporary Integration:**

Integrating Islamic medicine's extensive historical knowledge and practises into contemporary healthcare systems presents several difficulties. The continuous worry revolves around the need to reconcile traditional practises with modern evidence-based medicine, all while ensuring cultural sensitivities are respected.

#### **3. Allocation of Resources:**

The allocation of resources in the healthcare sector continues to pose a significant problem, particularly in places historically associated with Islamic medicine. Restricted resources can impede efforts to ensure equitable access to healthcare services and promote research.

Opportunities:

#### **I. Cross-Cultural Collaboration:**

The possibility for enriching contemporary medical practices lies in collaborations between scholars, policymakers, and healthcare practitioners across different cultures. The dissemination of knowledge has

the potential to foster novel approaches to addressing global health issues.

### 2. Resurgence of Traditional Practises:

An increasing inclination is observed towards reexamining traditional healing practices, encompassing the utilisation of herbal treatments and holistic methodologies. Islamic medicine has a substantial body of knowledge that can contribute to these endeavours.

### 3. Health diplomacy:

It entails utilising the promotion of Islamic medicine to cultivate collaboration and build mutual understanding among states. This phenomenon provides prospects for global cooperation in research, healthcare infrastructure, and policy formulation.

### Conclusion

In conclusion, it can be inferred that the field of medicine during the Mediaeval Islamic world is a significant and noteworthy aspect of human civilisation's historical narrative. During the historical period under consideration, Islamic scholars and policymakers played a pivotal role in advancing medical knowledge through their pioneering contributions. Concurrently, state policies were implemented to facilitate the development of healthcare infrastructure and promote ethical medical practices. The enduring impact of Islamic medicine on the contemporary healthcare system is attributed to its pioneering ethos of scientific exploration and empathetic care for the ill. Recognising the historical significance of this heritage and promoting intercultural partnerships in the field of medicine can contribute to advancing our comprehension and implementation of healthcare in contemporary times.

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