

The Role of Greek and Arab Scholars in Shaping ‘Ilm al- Aṭfāl (Paediatrics): A Comprehensive Review

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Abstract

Paediatrics is a vital branch of medicine, focusing on the health and well-being of children from infancy to adolescence. Drawing from ancient Greek and Arab texts, paediatrics includes comprehensive care for new-borns, swaddling techniques, neonatal massage, safe sleeping habits, hygiene maintenance, breastfeeding, and weaning. It is deeply rooted in the historical context of these ancient societies. *Abū Bakr Moḥammad Ibn Zakriyā Al-Rāzī* and *‘Alī Ibn Sahl Raban Al-Ṭabarī* were influential scholars in paediatrics, with *Al-Rāzī* renowned for his pioneering work in distinguishing diseases and congenital conditions. *‘Alī Ibn Sahl Raban Al-Ṭabarī* raised awareness about neglect of paediatric care and emphasized the importance of individualized medical needs for children, while Ibn Sina emphasized the importance of paediatric care. *Ibn Rūshd's Kitābul Kulliyāt*, a seminal work, emphasized the growth stages of children and the importance of hygiene in health care. *Abū Al-Qāsim Khalaf Ibn ‘Abbās Al-Zahrāwī*, another notable figure, focused on surgical interventions targeting urinary diseases in children, emphasizing the need for specialized paediatric care to address these unique health challenges. This research paper seeks to emphasize the significant contributions made by distinguished Greek and Arab scholars who established paediatrics as an independent field and were instrumental in the advancement of treatments for infantile ailments.

Keywords: Tadbīr Al-Mawlūd, New-Born, Judariyya, Ḥaṣba, Smallpox, Measles.

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INTRODUCTION

Paediatrics stands as a crucial and highly regarded branch of medicine, integral to the overall understanding and practice of healthcare. A historical perspective reveals that the care of children has been thoroughly examined in classical Greek and Arab texts, particularly under the term *Tadbīr al-Mawlūd*, which refers to the principles governing new-born care. This essential field encompasses a variety of practices, including the appropriate care of new-borns, techniques for swaddling infants to enhance their comfort and security, neonatal massage practices that contribute to health and wellness, and the establishment of safe sleeping environments that promote restful sleep. Additionally, paediatrics addresses fundamental practices such as the cleaning of the oropharyngeal and nasal areas to ensure hygiene, as well as recommendations for breastfeeding and the gradual weaning process [1, 2]. The extensive contributions of

Greek and Arab scholars have significantly highlighted the foundational elements of paediatric care, focusing on both preventive strategies and therapeutic approaches aimed at fostering and maintaining children's health [3, 4]. Their scholarly work continues to influence modern practices, emphasizing the critical importance of nurturing and protecting child health from the earliest stages of life.

Abū Bakr Moḥammad Ibn Zakriyā Al-Rāzī, a medical scholar from the late ninth and early tenth centuries, produced a ground-breaking work on smallpox and measles, known as *al-Judari wa al-Ḥasbah* [5-9]. This work was the first to recognize and articulate smallpox and measles as separate entities, laying the groundwork for subsequent medical literature [10]. *Al-Rāzī* also made significant advancements in paediatric bone disorders, distinguishing osteomyelitis from other forms of bone swelling, improving diagnostic accuracy for medical practitioners. He was the first known

physician to document spina bifida, contributing to the expanding knowledge of congenital conditions in medicine [1-11]. *Al-Rāzī* also demonstrated a profound understanding of neurology, identifying internal hydrocephalus and distinguishing between congenital microcephaly and acquired microcephaly [3-12]. These contributions have established *Al-Rāzī* as a pioneer in the field of medicine, with insights that continue to influence modern medical discourse.

'*Alī Ibn Sahl Raban Al-Ṭabarī* authored the treatise '*Ilāj al- Atfāl*, which comprises 60 chapters dedicated to paediatric medicine. In the introduction of this work, he emphasizes the significance of medical care for children and critiques medical practitioners for their neglect of this area, noting that they often limit their discussions to a cursory overview of the breastfeeding phase [13].

'*Alī Ibn Al-'Abbās Al-Majūsī*, a prominent medical figure, wrote the comprehensive Book of the Medical Art, *Kamil al-Sanā al-Tibbiya*, also known as *Kitāb al Mālikī*. This work, which includes the 20th chapter, focuses on the care and management of infants and children, emphasizing the importance of understanding their unique medical needs [14]. *Al-Majūsī* also detailed the concept of the capillary system and uterine contractions during childbirth, providing insights into labor and delivery processes [1-15]. His detailed accounts and descriptions of surgical procedures further contributed to the practice of medicine and surgery in his era.

Ibn Sīnā's work, *Al Qanūn fī al-Tibb*, is a comprehensive guide to paediatric care for children from infancy to early childhood. It covers new-born care, breastfeeding practices, and the essential qualities of a good wet nurse. The text also discusses common paediatric illnesses such as diarrhea, intestinal worms, sleep issues, the common cold, coughs, throat tumors, vomiting, hiccups, abdominal cramping, and tenesmus. It also addresses concerns like nightmares, ear pain, excessive weeping, and rectal prolapse. The work also covers the handling and healthcare of children as they mature into adolescence and adulthood, discussing issues like bedwetting, convulsions, and managing contagious diseases [2].

Ibn Hubal Baghdādī's Kitāb al Mukhtarāt fī tib provides detailed guidelines for proper growth and development of children. The book emphasizes the importance of providing light, nutritive food, mild exercise routines, daily baths and massages, and cardiogenic diets rich in essential nutrients. Baghdadi also stresses the importance of instilling good habits in children from an early age, ensuring they become a natural part of their everyday lives. The book aims to lay a solid foundation for healthy and balanced development in children, ensuring their overall well-being and growth [16].

Ibn Rūshd's Kitāb al-Kulliyāt is a comprehensive guide that outlines the stages of child growth, from new-born infancy to adulthood. It emphasizes the importance of health, safety, and proper care in nurturing children to ensure they grow into healthy and well-adjusted adults. *Ibn Rūshd* advocates for regular bathing during lactation to maintain hygiene and comfort, and for incorporating mild forms of exercise into a child's routine. He also emphasizes the benefits of bathing in the morning to invigorate the child and prepare them for the day ahead. However, he strongly prohibits the consumption of fermented drinks and hypnotic substances, as well as fruits and meat during health crises [17]. Overall, *Ibn Rūshd's* work highlights the importance of a healthy and well-adjusted child for their future.

Abū Al-Qāsim Khalaf Ibn 'Abbās Al-Zahrāwī, a 4th-century surgeon, conducted extensive research on children's urinary diseases and treatment methods. He recommended surgical intervention for children with defects in their passage and rectum, as well as those requiring circumcision. His 30th article on surgical principles detailed the rationale and procedures involved [7-19]. *Al-Zahrāwī's* work continues to influence our understanding of childhood diseases and guide contemporary medical practices involving paediatric patients.

MATERIAL AND METHODS

This research focuses on the analysis and integration of knowledge on '*Ilm al- Atfāl* (Paediatrics) derived from historical Unani literature, including texts such as *Kitāb al-Hāwī*, *Kitāb al-tasrīf*, *Dhakhīra Khwarizm Shāhī*, *Firdaus-al-Hikmat*, *Kitāb-al-Mansurī*, *Al-Qanun fī tib*, *Kitāb al-Kulliyāt*, '*Ilāj al atfāl*, *Kitāb al Mukhtarāt fī tib*, and *Kāmil-al-Sanā* etc.

Furthermore, the exploration extends beyond these traditional sources by incorporating perspectives from modern academic literature. This includes a thorough review of scholarly journals, research articles, and contemporary publications, thereby creating to establish a comprehensive framework that not only draws upon historical insights but also effectively connects them with contemporary academic discourse and emerging ideas. This dual approach not only enriches the analysis but also puts the Unani system of Medicine within the broader landscape of Paediatrics.

Objectives

This research paper aims to thoroughly explore and analyse the intricate knowledge on '*Ilm al-atfāl* (Paediatrics), as articulated and described by a number of prominent scholars and influential philosophers from both Greek and Arab civilizations. By meticulously examining their invaluable contributions and insights, the study seeks to provide a comprehensive and detailed understanding of the historical perspectives on '*Ilm al-*

atfāl (Paediatrics) that have shaped our current knowledge.

Ultimately, this study not only seeks to document the anatomical achievements of the past but also to inspire a renewed interest in the interdisciplinary nature of ocular studies, encouraging future scholars to build upon this rich intellectual heritage.

LITERATURE REVIEW

The Hippocratic Corpus, written by *Buqrāt* (*Hippocrates*), is a significant medical work that outlines the principles of prevention, particularly in paediatrics. It emphasizes the importance of immunization strategies for children and adolescents, with mumps, specifically parotitis, being a prominent viral infectious disease [20]. A treatise attributed to Hippocrates on the subject of dentistry underscores the importance of this era, which remains a focal point of interest in traditional medicine due to the belief that teeth could be lethal. Secondary ailments, such as fever or gum disease, were perceived to escalate quickly, leading to dire consequences. In his renowned work, *Air, Waters, & Places*, *Buqrāt* (*Hippocrates*) asserts that many illnesses, including skin abscesses, ulcerations, and even vesicle stones, were believed to stem from the inadequate quality of a nurse's milk, which disrupted the body's humoral equilibrium. If the milk was deemed unhealthy, excessively warm, or bilious, it could also result in the formation of stones in children [21].

Arastū (*Aristotle*) describes the development of children as a long process that commences with the detachment of the umbilical cord. Prior to this event, a new-born resembles a plant more than an animal. While ancient medical practices do not focus exclusively on paediatric care, children are inherently susceptible to certain illnesses that may prove fatal. For example, cancer sores can affect the mouth, uvula, and throat, obstructing adequate feeding and posing a serious risk to infants who are difficult to treat [22].

Jalinūs (*Galen*) emphasized the importance of healthy growth and development in children during their formative years. He suggested that new-borns should be gently applied with salt to their delicate skin to help them adapt to unfamiliar substances. *Jalinūs* also advocated for bathing children in traditional hammams as part of their hygiene routines, highlighting the importance of cleanliness and cultural practices in promoting children's natural development [17]. These practices aim to support their natural growth and enrich their experiences.

ʿAlī Ibn Sahl Raban Al-Ṭabarī in his renowned work, *Firdaus-al-Hikmat*, outlined significant principles pertaining to paediatric care. He emphasized the necessity for children to engage in moderate physical activity during their developmental years, alongside a diet that is light and easily digestible. Furthermore, he recommended that during their formative learning

period, children should practice wrestling while barefoot in open fields [13]. Additionally, *Al-Ṭabarī* advocated for the importance of hot baths for children, suggesting that such practices contribute positively to their overall health and well-being [23]. His guidelines reflect a holistic approach to child development, integrating physical exercise, dietary considerations, and hygiene practices to promote optimal growth and learning.

In *Kitāb-al-Mansurī*, *Abū Bakr Moḥammad Ibn Zakriyā Al-Rāzī*, a renowned physician and scholar, strongly prohibited children from consuming excessive amounts of milk, sweets, fatty cheeses, fruits, and heavy meals. He emphasized that such a diet can lead to serious health issues, such as vesicle calculus, which can significantly impact the well-being of young individuals [3]. His book serves as a crucial guide for promoting healthy eating habits. Beyond this work, *Al-Rāzī* also wrote a significant text on paediatrics, known in the West as "A Treatise on Paediatric Disease" or "The Diseases of Children." [11-25]. This text is recognized as the first dedicated work on paediatrics. *Mater Puerorum*, a paediatric clinical entity, originated from *Al-Rāzī*'s historical medical texts, *Practica Puerorum* and *Liber Continens* [7-26]. These texts detail various conditions, including night terrors, hyperpyretic convulsions, and epilepsy [7-24]. *Al-Rāzī* was a pioneer in paediatric neurosurgery, contributing valuable knowledge and practices that would influence future generations of medical professionals treating children's neurological disorders. *Al-Rāzī*'s work is a testament to the importance of understanding and treating children's neurological disorders.

In his book *Kamil al-Sanā al-Tibbiya*, *ʿAlī Ibn ʿAbbās Al-Majūsī* elaborates on the care and management of infants and children in the 20th chapter of Book Two, which is part of a two-volume set. Concerning the care of new-borns, the text recommends that immediately after birth, the infant's skin should be treated with a mixture of salt and crushed roses to enhance its resilience against environmental factors [4-27]. Additionally, moisture from the baby's ears should be gently removed, and for the first two days, the infant should be nourished with a blend of finely crushed sugar and sesame seed oil.

Furthermore, the text recommends that every two to three days, infants should receive a bath in fresh lukewarm water that has been infused with myrtle and roses. When putting the baby to sleep, it is essential to provide a comforting embrace, gentle rocking, and soothing melodies while ensuring the environment is dimly lit. The reasons for the baby's crying are attributed to external factors such as temperature fluctuations and internal factors including hunger, thirst, or the discomfort caused by the retention of urine and feces [11-27].

In his influential book, *Kitāb al-Tasrīf li-man 'ajiza 'an al-ta'lif fī al-tibb*, Abū Al-Qāsim Khalaf Ibn 'Abbās Al-Zahrāwī explored the clinical distinctions between adults and children, with a particular focus on managing urinary incontinence [28, 29]. He presented a case involving hydrocephalus, a congenital condition characterized by an abnormal increase in head size. Al-Zahrāwī's contributions to paediatric surgery were substantial, as he detailed a range of conditions including harelip, adenoids, ranula, imperforate external urinary meatus, perforated anus, hermaphroditism, gynecomastia, supernumerary fingers, and syndactyly [29]. His research underscores the critical need for a comprehensive understanding of paediatric diseases and the surgical techniques required to address them. Al-Zahrāwī's insights not only advanced the field of surgery for children but also emphasized the necessity of tailored approaches in treating various medical conditions that affect younger patients.

Ibn Sīnā's Al Qanūn fī al-Tibb deals an extensive overview of medical care spanning from infancy to adolescence, highlighting the critical roles of adequate nutrition and the physical and mental well-being of both breastfeeding mothers and wet nurses. This section elaborates on the significance of breastfeeding, its recommended duration, and the benefits of soothing techniques such as gentle rocking and lullabies during feeding sessions [2-30]. Additionally, it addresses various health issues including sleep disorders, night terrors, snoring, colic, and respiratory problems like sneezing, coughing, coryza, hiccups, and retropharyngeal abscesses. The text further explores neurological conditions such as hydrocephaly and underscores the importance of physical activity [30, 31]. It emphasizes the necessity of proper nutrition throughout the developmental stages, from infancy through young adulthood, to ensure optimal health outcomes. This comprehensive approach reflects a holistic understanding of health that integrates both physical and psychological aspects of care during these formative years.

In his renowned work, *Dhakhīra Khwarizm Shāhī*, *Ismā'īl Jurjānī* dedicated a section to Paediatric Surgery, where he elaborated on various paediatric medicines and treatments. He further explored the diagnosis of illnesses across different age groups, offering numerous causes and therapeutic options for children [32]. Additionally, *Jurjānī* addressed a range of paediatric issues, including the care of new-borns at birth, challenges related to dentition, the processes of weaning and breastfeeding, as well as the management of convulsions [32- 34]. Through his detailed exploration, *Jurjānī* contributed significantly to the field of paediatrics, providing valuable information that remains relevant in understanding the medical needs of children. His work serves as an important historical reference for both practitioners and scholars interested in the advancement of paediatric medicine.

CONCLUSION

In conclusion, the historical contributions made by Greek and Arab scholars to the expansive field of paediatrics significantly underscore the foundational importance of this vital discipline within the broader context of healthcare. This importance is especially crucial as it emphasizes the necessity of providing specialized care and attention for children, encompassing the essential stages of growth from infancy through the crucial years of adolescence. Their pioneering insights and discoveries regarding various aspects of child health, hygiene practices, and developmental methodologies not only played a pivotal role in shaping early medical understanding but continue to resonate within contemporary paediatric care today. This ongoing impact highlights the enduring relevance of these ancient teachings, which serve to inform modern practices and approaches in nurturing the well-being of future generations of children. Thus, the legacies left by these scholars remain invaluable, offering essential guidance and knowledge that contribute to the evolution and improvement of paediatric healthcare for years to come. It is crucial to recognize their contributions, as they have established a foundation for advancements in Paediatrics that benefit not only to the medical professionals but also the patients at large.

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