

ORIGINAL ARTICLE

An Overview of the Status of Pediatrics in Medical Texts from the Third to the Tenth Century A.H.

Abstract

Pediatrics is one of the most significant and practical disciplines in Medical Sciences. Indeed, the theoretical and clinical approaches of the physicians operating in this sphere have effectively impacted Medicine in Islamic civilization. The knowledge and perspectives of Muslim physicians have been varied depending on their dwelling regions, as each region has specific characteristics in terms of weather and climate. This would trigger the occurrence of some specific diseases or clinical symptoms peculiar to that region. Concerning children's diseases, as displayed in the writings of Muslim scholars, they encompass either ailments common among adults and children, or those specific to children. These latter ailments include those which are region-specific, infectious/contagious diseases and non-infectious / non-contagious diseases. Research into different types of children's diseases is beyond the scope of the present study, and demands further research. However, this study introduces and describes some independent and general treatises concerned with Pediatrics. It is hoped that the findings of the study can pave the ground for further research into this discipline within the scope of the History of Medicine in Islamic civilization.

Key words: Pediatrics (Children's Medicine), Children's diseases, Medical writings, Midwifery writings

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Introduction

Medical Science has witnessed many transformations during its history. Reviewing medical texts and writings is a tool which can immensely aid the researchers of History of Science in addressing the changing patterns and trends of this science in the context of time and location. In each study, the identification of sources of the issue under question, along with its historical background and the studies carried out on that, is the main essence of each investigation. In the last few years, some broad research studies have been conducted in different disciplines of medicine. One of these disciplines which has been partly neglected is the analysis of the history of Children's Medicine. Pediatrics, indeed, is one of the most significant and well-known branches of Medicine, without which the study of Medicine would be incomprehensive. Owing to the vast scope of medical knowledge, physicians and medical science practitioners are efficient in specific disciplines such as internal, dissection, gynecology, dentistry, pharmacology, and surgery. However, with the passage of time and in conjunction with advances in pediatrics, this branch of medical science became specialized. Based on written documents and through a descriptive method, the present study tries to investigate the trend of children's diseases found in the studies of Muslim physicians' works. Thus, for the sake of integration of the data, a theme-oriented approach is adopted to report the works done in this discipline. Also the criterion adopted for this research is the time after the 7th century A.H in Iran. There exists some scarce information regarding children's medicine. It is found that in Mesopotamia, Egypt, and Greece, there were certain texts dealing with looking after a baby during the breastfeeding period, some afflicting diseases at the time of babies' teething, as well as having a brief touch on some children's diseases like Poliomyelitis (Polio).¹ Despite inadequate knowledge about ancient times, this shows that there has been a link between Pediatrics (children's medicine) and Gynecology (women's medicine).²

The point that must be taken into consideration in the study of medical texts is that medicine in its early history was interwoven with some superstitions and magical methods. The association between medicine and superstitions went through lots of transformations and by the emergence of Medicine Schools of Thought, superstitions and magical treatments was expected to fade away. However, contrary to our expectation these non-scientific approaches invariably remained in Medicine. Some treatment methods in medicine,

1- al-Sameraei, 1980: 335.

2- al-Hajj qassim, 1989: 23-33.



for instance, are connected to a belief in lay-medicine considering magic and spell as the sources of diseases; and thus for the treatment of diseases and prescription of drugs, it focuses on methods mixed with superstitions and application of amulets and charms. Magic-based treatments, like focusing on the magical values of animals and plants for facilitating delivery, looking after the fetus in pregnancy, and treatment of children diseases, all gives witness to the employment of some scientific methods mixed with superstitions. Ibn Rabban Tabari has allocated a considerable part of his manuscript to the prescription of charms and amulets for facilitating delivery, helping women with hard or delayed labor, and treating infertility.³ Even Zakaria Razi, the renowned scientist and competent physician, has not been immune to these beliefs and thoughts, as we can see the traces of magic-based and hidden metaphysical power of such treatments in his “*al-Havi*”.⁴ Accordingly, even some of Razi’s works like “*al-Khavas*” or “*fi Khavas al-Ashya*” illustrate his belief in magic affairs and their connection with Medicine.⁵ The intertwined connection of divination and magic is evident throughout Medical History. Baha al-Din, for instance, in his work, has also pointed to some non-scientific treatments relying on divination spell and magical mechanism in the treatment of children.⁶

As mentioned before, this study provides some information about important medical texts regarding theoretical and clinical observations of children’s medicine, which have been the reference of other medicine books contemporary with them or those published years later. This research is just an introduction to medical texts from the 3rd to 10th century A.H, which, in part, dealt with the subject of children’s medicine, as well.

Children’s Medicine in the works of Muslim physicians

Islamic medical texts have been written in two distinct categories on the subject of children’s medicine. First, there is some information on this discipline in the texts mainly concerned with Obstetrics and Gynecology. Another group is general Medicine books, along with their description, diagnosis, and treatment of different kinds of diseases, have addressed some diseases and treatments specifically related to certain ages. But it was after the 3rd century A. H that gradually some treatises and monographs independently focused on children’s medicine.

1- General Medical Texts

In most important medical texts written by physicians in

3- Farkhondehzadeh, 2015: 53-61.

4- Razi, 1955, Vol. 3: 92, 382.

5- Ibn Abi Usaybia, 2001, Vol. 3: 34.

6- Baha al-Din, 2003: 83-84.



the context of specific time and location, considered in this study, different kinds of diseases, (together with their diagnosis, causes, and their treatments), including some children's diseases, have been illustrated. Ibn Rabban Tabari as the first author of encyclopedia of Medicine has not provided information on children's diseases as a separate category, but he has briefly written about nursing and caring for a child in breastfeeding period and some diseases occurring during this age period.⁷ In all the medical works of Zakaria Razi, no specified part or chapter has been devoted to Medicine for children.⁸ However, in the description of diseases, he mentions their occurrence in children, and in some parts, he has explained the differences noticed in the cause, root, and diagnosis of some diseases between children and adults.⁹ In his book "*al-Mansouri*", in the chapter about caring for children in terms of health and looking after the baby at the time of birth, Razi has mentioned some important points. Moreover, he has paid attention to the hygiene and diet of children and teenagers in his writings.¹⁰ Majuosi Ahwazi, is a physician whose impact on the study of children's medicine is undeniable and no studies on this issue can claim to be complete without giving due attention to his works. In one discussion entitled "*Fi Tadbir Abdan Atfal*", he not only has suggested some methods for looking after a child's health and hygiene after birth, and prescribing treatment for some diseases in this period and choosing the right nanny for the child; he has also presented some information about the upbringing methods for children till their puberty.¹¹ In one part of his book, "*al-Ta'lim al-Awal*" entitled "*al-Tarbiat*", Ibn Sina has presented some invaluable information about breastfeeding mothers, looking after the infant and the baby in breastfeeding period, and some diseases appearing in the teething period. In this chapter, he has also focused on the importance of a child's upbringing, education and discipline.¹² In the treatise "*al-Siasat*", he also addresses some upbringing methods for children and duties of a father since the birth of a child.¹³ Zahrawi, who is renowned as a top surgeon in the 4th century due to his masterpiece on Medicine titled "*Al-Tasrif le man Ajz an Al-ta'lif*", has described children's diseases and written about the diagnosis and treatment of diseases in childhood.¹⁴ Moreover, Zahrawi in his 30th article on surgery principles has recommended that surgery be performed on children only under two conditions: children suffering from some natural birth defects in urinary passage and rectum; and children in need of circumcision.¹⁵

Finally, we need to mention the Persian-writing physi-

- 7- Ibn Rabban Tabari, 2002: 72.
- 8- Razi, 1955, Vol. 1: 63.
- 9- Razi, 2008: 105, 124.
- 10- Razi, 1988: 583, 231, 233- 234.
- 11- Majuosi, 2008: 75.
- 12- AVECINA, 2005: 21-24.
- 13- AVECINA, 1985: 12.
- 14- Zahrawi, 2004: 225, 281, 270.
- 15- Zahrawi, 2001: 274- 278.



cian of the 6th century A.H, i.e. Seyed Ismaeel Jorjani. In his most distinguished writing on Medicine "*Zakhireh Kharazm Shahi*", Jorjani not only has discussed different subjects in children's medicine and treatment, he has also devoted one section of his work to children's surgery. Regarding blood-letting, in addition to focusing on its importance and necessity in general, he has mentioned the harms of this form of treatment in childhood. He also explains the details and diagnosis of diseases in different ages and provides information on different causes and forms of treatments for children. As mentioned before, Jorjani has devoted some part of his manuscript to this sphere of Medicine, roughly translated as "*On the raising of children*". This work focuses on subjects such as looking after a child at the time of birth, breastfeeding methods, choosing a nanny, weaning a baby off breastfeeding, teething problems in babies, as well as some other children's diseases like convulsion, teaching them how to talk as well as some discussions on children's hobbies.^{16, 17}

Like earlier periods, research into children's medicine in Safavid is restricted to nursing and maintaining the health of a child when they are fetus, are born and are breastfed.¹⁸ According to Elgood, in Safavid period, different kinds of diseases prevalent among children were addressed in the medical texts at that time, but he argues that this information lacks truth and innovation. However, some physicians, like Baha al-Din, are exceptions to this, as he made precious contributions to the sphere of children's medicine. The approach of the integration of the study of diseases of children with those of adults was continued till the next periods in history, as found in the third chapter of the book "*Kholasat al-Tajarib*", discussing diseases of children. The only advantage of this manuscript over the previous works is that it has allocated an independent section to this field in medicine. The approach of the writer in the description of diseases is not methodical and he has sufficed to a mere description of a few diseases plus different types of fever. However, the writer in other chapters of this work has provided some valuable information on children's diseases. In this regard, Baha al-Dowleh presents detailed information about Pertussis (whooping cough) and scientifically explains the different forms of affliction in adults and children to this disease. In addition, he mentions various types of sore throats in children and explains some infectious diseases like measles.¹⁹

2- Texts on Medicine and Obstetrics

The two branches of fetology and gynecology have been

16- Jorjani, 2012, Vol. 2: 293, 275.

17- Jorjani, 2012, Vol. 3: 192.

18- Elgood, 1978: 315, 317.

19- Baha al-Din, 2003: 109, 125.



the central focus of texts on different stages of a fetus growth. Of course, some of these works focus on caring for a child after the birth. In the first centuries, children's medicine and gynecology and obstetrics were considered as one field owing to the connectivity of the subjects. Although the early texts were about fetology, in some treatises, some chapters or sections were devoted to children's medicine. The book "*Khalgh al-Janin va Tadbir al-Habali va al-Mowludin*" by Orayb ibn Sa'ad Qortobi, a physician from Spain, is one of these works. In some scholars' views, this work on medicine is the first book which scientifically deals with subjects such as fetology, the science of birth, necessities of care for pregnant women, infants and children, children diet, health maintenance, and treatment of children's diseases.²⁰ "*Khalgh al-Janin va Tadbir al-Habali va al-Mowludin*" includes 15 chapters, with some chapters divided into smaller ones. From chapter 10 to chapter 15, the book is dedicated to medicines for children, discussing the stages of growth from fetal stage to puberty; Chapter 10 deals with the stages of infants' growth and the ideas of earlier physicians, fortune tellers and Arabs; Chapter 11 is about looking after children from the very birth and the treatment of diseases at this age; Chapter 12 focuses on looking after babies in the second stage of their life, starting after their 40th day until their cutting of molar teeth. The chapter is also about some treatments for diseases in this period; Chapter 13 is about raising a child after their teething of molars and then their falling out which is the 3rd stage of a child's life when the child starts talking and is weaned off; this chapter also provides some information about diseases and treatments at this age; Chapter 14 addresses raising a child after their losing of teeth till their puberty and some treatments for diseases in this period; and Chapter 15 is about boys' and girls' puberty and the changes they experience at this stage. Orayb has considered the issue of raising a child both in medical terms and educational terms, and has allocated a discussion in his book to the importance of educating a child.²¹ Physicians of the following centuries have used and applied Orayb's ideas and viewpoint in "*Khlgh al-Janin*". Abu al-Qasem Zahrawi, the distinguished physician and surgeon in Spain, for instance, has relied on Orayb's views in his book "*al-Tasrif li man Ajr an al-Ta'lif*".²²

The book titled "*Tadbir al-Hobali va al-Atfal va al-Sebyan va Hefz Sehatehom*" is another work related to this subject. It is written by Ahmad Ibn Mohammad Baladi (978 A.H), known as Ibn Salaj, the efficient physician in the 4th century. Baladi's attempt for compiling a book about pregnancy, de-

20- Defa'a, 1998: 232-234.

21- Orayb, n.d.: 74, 83.

22- Hemarene, 2008: 164.



livery, and diseases of women and children is an innovative work of Muslims in writing monographs on various branches of medicine. This book contains discussions on fetology, women and delivery diseases, and the way to maintain a child's health from breastfeeding period till their puberty. In the first chapter of the book, the writer first defines some words like fetus, infant, and child. It discusses the period before the birth, a child's growth in womb, their breastfeeding time, and the adolescence period. The book also explains different views physicians and philosophers hold in this regard. Then, the writer, based on the stages of development and puberty, has organized the contents of the book into three articles: the first article, on pregnancy and fetology, the second one about a child's important affairs and their raising, and the third article on children's diseases and their treatment. The third chapter of this book is what the present study is concerned with: knowing the symptoms and treatment of different diseases of children, like head conditions, fever, digestive system conditions, and even skin diseases.²³ One of the remarkable points in the mentioned work is that Baladi in the third article of section 60 explains and differentiates among various diseases like smallpox, measles, and chicken pox.²⁴ According to a report, he is the first physician who has diagnosed chicken pox in children.²⁵ In this regard, it is noteworthy that Baladi was Ahmad Ibn Abi al-Ash'ath Farsi's (970 A.H) student.²⁶ Ibn Abi Ash'ath²⁷ never wrote an independent book on children's diseases, but Asibaeh has mentioned the treatise titled "*al-Jodari va al-Hasbah va al-Hamigha*" as one of Ibn Abi Ash'ath's works.²⁸ Since we have no access to this manuscript, we have no ideas about its subject or contents, but some successors argue that Baladi has presented his master's viewpoint on chicken pox in his work "*Tadbir al-Hobali*".

3- Independent treatises

Amongst texts written in the form of monograph in the field of children's medicine, one can refer to "*Tadbir al-Sebyan*", attributed to Mohammad Ibn Zakaria Razi.²⁹ The original treatise is not available and what have been left are only a manuscript of a Latin translation and three copies of manuscript in Hebrew. In addition to Elgood who has referred to Razi as the founder of Pediatrics,³⁰ Samraee has considered Razi as the first physician in this field because of his book, entitled "*fi Tib al-Atfal*" on this subject which is presumably one of his missing works.³¹ However, although some detailed and solid studies have been recently conducted on this sub-

- 23- Baladi, 1980: 75.
- 24- Baladi, 1980: 325.
- 25- al-Hajj qassim, 1988: 73.
- 26- Sezgin, 2000: 422, 449.
- 27- Golshani et al, 2012: 343.
- 28- Ibn Abi Usaybia, 2001, Vol. 2: 261.
- 29- Razi, 2010: 18.
- 30- Elgood, 1978: 372.
- 31- al-Sameraei, 1980: 336.
- 32- Ibn Abi Usaybia, 2001, Vol. 3: 29-50.
- 33- Birouni, 1992: 10-14.



ject, it is still skeptical whether or not this treatise belongs to Razi. The summary of the recent study indicates that since the mentioned treatise is not listed in Razi's works,³² like so Birouni,³³ and regarding the fact that the existing manuscripts lack introduction and vary from one another, and most importantly that Razi's viewpoint about children's disease in his work "*al-Fakhir*" thematically differs from the contents of his treatise "*Tadbir al-Sebyan*", therefore it is speculated that the treatise "*Tadbir al-Sebyan*" is merely a collection of various writers' notes who focused on one single subject and later this work has been attributed to Razi.³⁴

Based on these speculations, even if we reject the idea that this treatise belongs to Razi, we, nevertheless, only because of his treatise titled "*al-Jodari va al-hasbah*", must still recognize him as the first physician stressing the importance of this field in medicine. The fifth chapter of this manuscript, as one of its most important ones, addresses the cause of the spread of smallpox in breastfeeding women, infants, children, and teenagers.³⁵

Ahmad Tabari is one of the most outstanding physicians paying special attention to this field of medicine. Although Tabari has acquired his reputation in medicine due to writing his famous treatise "*Moalijat al-Boghratiyeh*", he has also written a separate treatise (*Alaj al-Atfal*) about children's diseases.³⁶ Thus, owing to writing this treatise, Tabari can be considered as one of the first physicians in the field of children and his work as the first independent treatise. Prior to Ahmad Tabari and his work, Muslim physicians believed that if a baby gets sick during breastfeeding period, their mother or nanny breastfeeding the baby would be the source of the disease, and hence treatments should be carried out on mother or nanny.³⁷ Whereas, Tabari has proved that the sick baby itself should be treated.³⁸ Besides discussing different causes of diseases of children and their treatment in his treatise,³⁹ Tabari has also written the treatise "*Alaj al-Atfal*" in 60 chapters specifically devoted to this field. He has pointed to the importance of medicine for children in the introduction of his treatise and has criticized physicians for ignoring this field and sufficing only to a brief discussion on breastfeeding period; he also continues that he has compiled a complete and comprehensive work in this regard.⁴⁰ This treatise discusses different subjects such as children's medicine, looking after the mother during the pregnancy and her bleeding period after delivery and breastfeeding time on the one hand; and some other subjects such as symptomology, diagnosis and treatment for different diseases of children on the other

- 34- Bos et al, n.d.: 3-4.
- 35- Razi, 1992: 8-14.
- 36- Sezgin, 2000: 435.
- 37- Tabari, 2014: 53.
- 38- al-Sameraei, 1980: 337.
- 39- Tabari, n.d.: 346.
- 40- Tabari, 2014: 53-54.
- 41- Sezgin, 2000: 429.



hand.

Amongst other works written in this field, we can refer to a book written by Ibn Jazzar, the prolific physician and pharmacist in the North Africa. This treatise under the title of "*Siyasat al-Sebyan va Tadbirehom*" or "*Tadbir al-Atfal*" has been written in the field of pediatrics and looking after the healthy and sick infants.⁴¹ In the introduction, the writer points to the importance of this field in medicine and highlights that there has never existed a complete and comprehensive work in this discipline before. This book contains 22 chapters on the way to prevent contracting some diseases as well as the description and treatment of these diseases. The first six chapters begin discussing from the birth of a baby till their childhood with a brief touch upon subjects such as care and hygiene at the time of birth, way of breastfeeding, way of sitting and walking, choosing a nanny, etc. The seventh chapter discusses subjects about teething and its related diseases in this period; and from eighth chapter to chapter 21, he describes different diseases related to head, ears, nose, stomach, eyes, mouth and teeth, different kinds of cough, etc. Finally, in chapter 22, the writer writes about best child-raising methods.⁴² This manuscript was really important in the field of children's medicine, to the extent that some scholars have considered it as the most important written work in this field until the writing of "*Tadbir al-Hobali va al-Atfal va al-Sebyan va Hefz Sehatehom va Modavat al-Amraz al-Arezah la Hom*" by Ahmad Baladi.⁴³ Well-known and distinguished physicians like Ibn Sina have adopted some parts of this work in their writings.⁴⁴ Thus Dr. al-Hileh believes that Ibn Sina follows Ibn Jazar in his methods, and it is assumed that Sheik al-Raes Ibn Sina had access to the treatise, as he, at times, used some words of Ibn Jazzar in his work.⁴⁵

Conclusion

Children's Medicine has been one of the most important and practical disciplines in Islamic civilization. A considerable part of theoretical and clinical ideas of the related writings comprise research into general and special diseases of children, Investigating Muslim physicians' writings can pave the ground for deeper and more applicable research in this sphere of History of Medicine. Based on the investigations on studies related to children's medicine, one can classify the writings of Muslim physicians into three groups; general Medicine books, writings on midwifery, delivery and women diseases, and finally independent treatises. In all these books, theoretical ideas and clinical experiences of Muslim physi-

42- Ibn Jazzar, 2008: 51.

43- Razi, 2010: 18.

44- Aavecina, 2005: 40-45.

45- Ibn Jazzar, 2008: 51.



cians have been recorded, through which researchers can gain a true understanding of knowledge and views of Muslim physicians in the sphere of medicine for children. (Table 1)

Table 1: Typology of Medical Texts in the Sphere of Children Medicine

Title	Century	Type of Writing	Discussions Concerning Children Medicine
<i>Ferdows al-Hekmah</i>	3 rd Cent.	General	1st and 2nd part of the 4th article / raising a child in breastfeeding period / diseases afflicting a child
<i>al-Hawi</i>	3 rd and 4 th Cent.	General	Clinical explanation of diseases afflicting children too / clinical differences in symptoms in adults and children
<i>Al-Tasrif li man Ajzan al-ta'lif</i>	4 th cent.	General	A description of children diseases and surgical methods for children with a natural birth defect in their urinary passage or rectum; and circumcision.
<i>Kamel al-Sana'at al-Tabiyeh</i>	4 th Cent.	General	looking after a child in breastfeeding period / Discussions Concerning Children Medicine/educating children
<i>Al-Qanun fi Tib</i>	5 th Cent.	General	Breastfeeding women / looking after a child in breastfeeding period / clinical symptoms of children's diseases at the time of teething
<i>Zakhireh Kharazm Shahi</i>	6 th Cent.	General	Looking after a child in breastfeeding period / clinical symptoms of children at the time of teething, etc / educating children
<i>Kholaseh al-tajrib</i>	11 th Cent.	General	Clinical explanation of diseases afflicting children / clinical differences in symptoms in adults and children
<i>Khalgh al-Janin va Tadbir al-Hobali va al-Mowludin</i>	4 th Cent.	Midwifery and women diseases	Fetology, science of birth, requirements of pregnant women, infants and children, children diet, maintaining health of children and treatment of their diseases
<i>Tadbir al-Hobali va al-Atfal va al-Sebyan va Hefz Sehatehom va Modavat al-Amraz al-Arezah la Hom</i>	4 th cent.	Midwifery and women diseases	Fetology, women and delivery diseases, maintaining children's health in breastfeeding period till puberty / children diseases
<i>Al-Jedri va al-Hasbah</i>	3 rd and 4 th Cent.	Independent	Description of diseases more prevalent in children / explaining the cause of smallpox in breastfeeding women and children
<i>Alaj al-Atfal</i>	4 th Cent.	Independent	Specialized treatise on Children Medicine / diagnosis and treatment of different diseases in children
<i>Syiasat al-Sebyan va Tadbire hom</i>	4 th Cent.	Independent	Specialized treatise on Children Medicine / Children Medicine and looking after healthy and sick infants / diagnosis and treatment of different kinds of children's diseases



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