Introduction

In Iran (previously known in the West as Persia), the art and science of medicine and medical care have roots in the pre-Islamic era. It has been noted that the history of medicine in Persia is as old and rich as its civilization. According to Elgood, Persians established the fundamentals of anatomy, physiology and pathology long before the Greeks. In 2007, Shoja and Tubbs reviewed the history of anatomy and medicine in Persia from the period before the establishment of the Persian Empire to the modern era and emphasized the significant contributions made by the physicians of Persian origin to the art and science of medicine. Pre-Islamic science of medicine in Persia reached its zenith with the establishment of the academy of Gondi-Shapur. During the Sassanid dynasty (226–652 AD), Nestorian Christians, from Edessa and Nisibis in Northern part of Mesopotamia and Syria, migrated to the Persian Empire. Here they played a pivotal role in enhancing the importance of the academy of Gondi-Shapur or Jundi-Shapur. During this period, there were remarkable achievements in humanistic sciences including medicine by many physicians/authors whose medical textbooks were used for centuries in burgeoning medical schools in Europe. The medical texts written during the Golden Age of Islamic Medicine contain sections and chapters about the clinical conditions, diseases and medical care of children. It was during this era that the first treatise was written on the diseases of children and their care. This essay will describe, in brief, the writings about the conditions and diseases of children and their medical care, by three prominent Persian physicians of the Golden Age of Islamic Medicine: 1) Abu Bakr Muhammad Ibn Zakaria Razi, Rhazes (865–925 AD); 2) Ali ibn-al-Abbas al-Majusi or Haly Abbas (949–994 AD); and 3) Abu Ali al-Husayn ibn Abd Allah ibn Sina or Avicenna (980–1037 AD).

This manuscript was presented, as a poster, at the annual meeting of the American Academy of Pediatrics, Historical Section, October 2014, San Diego, California

Keywords: Avicenna, Haly Abbas, Islamic Medicine, Rhazes

Cite this article as: Modanlou HD. Medical Care of Children during the Golden Age of Islamic Medicine. Arch Iran Med. 2015; 18(4): 263 – 265.

Pahlavi (Persian language during the Sassanid dynasty) and later to Arabic. They further contributed to medical science as the authors of several medical texts. Medical texts attributed to Hippocrates, Dioscorides, Celsus, Rufus and Soranus of Ephesus, Galen and other Greco-Roman authors were all translated into Arabic.

The most relevant text dealing with pregnancy and the care of the newborn infants was written by Soranus of Ephesus (98–138 AD). With the current definition of medical specialties, Soranus of Ephesus may be designated as the first Perinatologist. Soranus wrote about breastfeeding, testing of the milk, weaning, problems of nursing, excessive crying, constipation, teething, assessment of growth and development, tonsillitis, thrush, skin lesions, diarrhea, wheezing, coughing and clinical signs of rickets in Roman children. Similar to many scholars in the West, Raju writes that “until the Renaissance very little was changed from what Soranus wrote”. As Andrew C Miller states, this and similar statements completely ignore the contributions made by physicians during the Golden Age of Islamic Medicine including the medical care of children.

Golden age of Islamic medicine

The period from 8th to 13th centuries AD was a remarkable period of scientific inquiry and achievements in the field of mathematics, philosophy, astronomy and medicine in the Islamic world. For several centuries, medical texts written during this period by the pillars of medicine in that era were the principal medical teaching texts in subsequent burgeoning of the medical schools in Europe. In this essay, I will focus on only three prominent physicians/philosophers part of whose writings encompasses diseases and the medical care of children.
Abubakr Muhammad Ibn Zakaria Razi or Rhazes (865–925 AD)

A musician in youth and an alchemist, Razi discovered and purified alcohol and other chemical substances, and became a physician later in life. Born in the city of Ray, near Tehran, he built a hospital, practiced and taught medicine in Baghdad.1,10,12 Two of his most important texts in medicine were The Comprehensive Book on Medicine (Kitab al-Hawi fi al-tibb or The Liber Continens) and a book of medicine dedicated to Mansur (Liber ad Almansorem). However, his finest achievement was a monograph on smallpox and measles that was republished continuously in Latin throughout the centuries. It was translated into English in the 18th century and several times thereafter.12 In this treatise on smallpox and measles (Kitab fi al-Jadari wa-al-Hasbah), Razi distinguished smallpox from measles and noted the complications of these illnesses.13

The first treatise on pediatrics is the Practica Puerorum written by Razi about the year 900 AD.12 Radbill notes, “Having given acknowledgement that previous author such as Soranus, Orba- sius (325–403 AD), Aetius (502–575 AD), and Paulus (625–690 AD), as well as, writers in India, Charaka, and Susruta, wrote extensive section on pediatrics in their texts, it was Rhazes who first siphoned off pediatrics into a monograph of its own”. The author relates, “The first printed pediatric book was that of Bagellardus, De Egritudinibus Infantium in 1472. This was largely based on the Practica Puerorum of Rhazes”. The author also states that the Liber Continens begins with a chapter on infant care and the next chapter deals with children. There is also a chapter on putting the child to sleep. Rhazes differentiated osteomyelitis (spina ventosa) from other swellings of the bones in children and was the first to describe spina bifida. In the same book, he also discussed infantile convulsions and difficult dentition. In the obstetrical section of the Continens, Rhazes listed as signs of viability in newborns passing urine, sneezing, or crying. In the Liber ad Almansorem, there is a chapter on prenatal care and one on management of the newborn. One summarizing care of children during childhood and adolescence follows a chapter on the choice of a wet nurse. Rhazes recognized internal hydrocephalus and differentiated congenital versus acquired microcephaly. He also differentiated hereditary or congenital convulsions from the acquired or post-traumatic seizures. Rhazes placed great emphasis on bathing the child and warned against use of ointments, which could only trap dirt and excrements. He wrote about infantile paralysis as well as birth injuries. The booklet on the ailments of children and their care (Practica Puerorum) contains chapters dealing with varieties of diseases in children and their medical care. These chapters are: Dermal lesions of children; Scabies; Enlargement of the head; Abdominal distension; Sneezing; Sleeplessness; Epilepsy; Certain affliction which is called Mater Puerorum; Saneous matter from the ears; Venum running from the ear; Diseases of the eyes; Obligity of vision; Diseases of the teeth; Constipation; Cough; Pruritus and vesicles; Worms; Distension or Prominence of the umbilicus; Hernia; Stone in the bladder; and Paralysis of children.

Ali ibn-al-Abbas al-Majusi (Haly Abbas in Latin, 949–994 AD)

He was born into a Zoroastrian family from the Iranian city of Ahwaz about the time of Razi’s death. Al-Majusi practiced medici-
5. Hygiene and disorders of dentition, inflammation of gums, fever and convulsion during dentition, aphthous stomatitis (thrush), constipation and diarrhea and their remedies are discussed.
6. Disorders of sleep, night terrors, snoring, colic and their remedies.
7. Disorders of eyes, ears, skin eruptions (frunculosis, intertrigo), hernias, round worms and flatworms and remedies for their cure.
8. Disturbances of the breathing, (sneezing, cough and coryza, hiccough, retropharyngeal abscess), disturbances of digestive system are discussed.
9. Discussion on neurological disturbances such as hydrocephalus and inflammation of the brain is presented.
10. Emphasis on proper nutrition from infancy to young adult, the beginning of formal education after age six year, the benefits and value of exercise is covered. For the value of exercise he states: (a). It hardens the organs and renders them fit for their functions; (b). It results in a better absorption of food, aids assimilation, and, by increasing the innate heat, improves nutrition; (c). It clears the pores of the skin; (d). It removes effete substances through the lungs; (e). Strengthen the physique. Vigorous exercise invigorates the muscular and nervous system.

Avicenna’s knowledge about the medical writings by eminent physicians/authors before him is evident as in this chapter of Canon of Medicine; Avicenna refers to writings by Hippocrates, Galen, Paulus of Aegina, Aetius, Rhazes, Haly Abbas and others. The forgoing three leaders of Islamic medicine had remarkable achievements for learning from writings of other historically renowned physicians who preceded them. They added their own clinical experience and knowledge by producing medical texts that were the mainstay of medical learning in European medical schools for centuries to come. In their medical writings, children and their medical care had a prominent place.

Financial Discloser: None
Conflict of Interest: None to declare
Clinical Trial registration: Not applicable

References