

INTRODUCING THE MOST FAMOUS FEMALE PHYSICIANS, MIDWIVES AND NURSES FROM THE BEGINNING OF ISLAM TO THE QAJAR ERA IN IRAN

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Abstract. Since ancient times, the active participation of women in various scientific fields has been important for researchers. The current study aims to introduce female physicians, midwives and nurses from the beginning of Islam to the Qajar era in Iran. This library study used a descriptive-analytical method and information was collected from valid Persian, Arabic and English sources. In medieval works, women's footprints can be seen in the treatment of various diseases the healing of the injured and nursing. In the history of medical science, we are faced with a kind of duality in the position of women in the field of medicine, on the one hand, women were engaged in treatment and helped to improve the status of medicine and on the other hand, their medical works are specifically not seen in the sources. Most of the names of women recorded in the field of health care are related to the era of the Prophet (PBUH) and we found 56 names of women from the beginning of Islam to the Qajar era by searching various books and papers. The historical examples mentioned in this research can be used to explain the appropriate patterns of women's presence in today's scientific world.

Keywords: *Female physicians, nurse, midwife, ancient Iran, Persian medicine, history of medicine.*

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1. Introduction

Undoubtedly, the active participation of Iranian and Muslim women in the political and social fields in the distant past is a significant topic both for researchers and for us. We should look at our past with more pride than this and despite the sometimes unfair advertisements that are sometimes made about women, we should be proud and firm and have the confessions of researchers that Iranian and Muslim women are hardworking, caring and intelligent people and in this way we believe ourselves more than before (Panahi, 2002). The presence of women in the world of medicine, especially in the fields of surgery and as physicians, goes back to the beginning of human history. In ancient

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Iran, attention to the issues related to medicine, including the duties of physicians and methods of treating patients was reflected in many texts such as *Dinkard* and *Vandidad* (Tayyebi & Asadi, 2020). Historically, women have been less involved in medical fields compared to men and their employment rates also differ according to race, economic, social and geographic status. Women's informal jobs in medicine have been widespread in roles such as nurses or paramedical specialists (Discrimination, Women's Human Rights, 2008). Ruth Roded explains in her book that: "Woman in the Islamic Middle Ages was very influential in the political arena and participated in government affairs". This political authority that was given to women angered some historians who, in response to this new situation, which according to them was a violation of the law, removed women from their writings or limited their role in various fields and dimmed (Roded, 1994).

In the book "Medicine in the Safavid Period", Cyril Lloyd Elgood states, quoting Haly Abbas Majosi Ahwazi, that: "During the period of Haly Abbas, female physicians performed the most difficult surgeries related to childbirth without the help of male physicians" (Elgood, 1978). Some physicians used female physicians to treat female patients, for example, Tabari (839-923 AD) tells the story of a woman who had a wound on her shoulder, she went to the physician, but the physician refused to treat her and said that she should wait for her colleague to come and close her wound. In ancient times, the treatment of women has always faced problems. At first, even women's uterine cancer was not operated. In the classical period, the treatment of all uterine lesions and diseases of women was done exclusively by the mother or her friends and midwives, but later Haly Abbas Ahwazi wrote for the first time about the diseases of the genitals of women (Hijazi, 1997).

If we say that Avicenna and other ancient physicians personally examined women's wombs, it is an exaggeration and it turns out that there were midwives at that time who were not inexperienced as well. According to the available documents, educated and experienced midwives performed these examinations and it is very clear that physicians cooperated with these midwives in cases of necessity, especially for the treatment of the diseases of the women of nobles, especially the women of the sultan's harems. These midwives were not uneducated women, but they studied medicine and midwifery in the presence of physicians and were very skilled in their fields (<https://rasanews.ir/fa/news/253685>). Abū al-Qāsim Zahrāwī (Albucasis), a famous Andalusian physician and surgeon in the 10th and 11th centuries AD, has written that some medical procedures that require touching the genitals of female patients are difficult for male physicians. In this context, the male physician was obliged to find a female physician who could do the work or a midwife to do it with the order of the male surgeon. The existence of female physicians can be inferred, though not explicitly, but through direct evidence (Pormann, 2009).

Also, Khaldun (1996) writes in his book "Introduction": "We have found that midwives are much better than physicians with the diseases of children from birth to the time they are weaned". He also called women's service a noble work and "a necessary thing in civilization". Midwives played an important role in providing health services to women. Unfortunately, to date, no known medical book written by a woman in the Middle Ages or earlier has been identified (Giladi, 2010; Molénat, 2003).

2. The purpose of the research

The most important question in the current research is whether there have been professional female physicians in the history of Iran and Islam and whether they have left a legacy. This research can represent the biggest challenge for women who study their status and role in scientific fields. We are trying to highlight an issue that has received very little attention in the past by activating women's awareness, especially to strengthen women's self-esteem knowing that they have contributed to the formation of a part of history at various scientific levels. In this research, we try to create an image of women interested in various branches of medicine and paramedicine from the beginning of Islam to the Qajar era in Iran to emphasize and frame the issue of treatment. However, before talking about women and their roles, we are going to give a brief account of Muslim medicine.

3. The Emergence of Muslim Medicine

Medicine or the science of the body, “the science of maintaining health in recovery and restoring health when sick” is one of the sciences that Muslims have paid attention to. In general, the recording of the history of physicians in the Islamic world began in the Middle Ages, especially in the era when we saw the change in the attitude of the Islamic Ummah and the liberation from moral restrictions. To fully study the science of medicine, the early Muslims began to study the medical heritage of Greece, Iran, Egypt and India. Muslim physicians translated and studied the legacy of past physicians and then added the results of their experiences and scientific opinions to it (Monica, 2003). Islamic medicine is one of the most well-known aspects of Islamic civilization and one of the branches of science in which Muslims made great progress and mastery. Among these branches is Women's Medicine. This branch of medicine which was formed by paying attention to Islamic teachings, went so far that detailed sections of the medical books of Muslim scientists and sages were dedicated to it and independent treatises were written in this field (<https://rasanews.ir/fa/news/253685>).

Since the beginning of Islam, the Islamic government has been full of the names of great physicians who dedicated their lives to their country and the whole world. While there were many famous male physicians, there were also Muslim female physicians who participated in the medical profession from early Islam, as they were part of the advancement of medical science. However, history did not appreciate those women physicians, because their role and presence were partially ignored in science (Issa Bek, 1928). Thus, the role of women recorded through male writings during this period is few, if not rare. There is ample evidence that many female physicians received their education from formal institutions and were among the elite, such as the midwives who received medical training from *Zahrawi*, a famous Andalusian physician and became his assistants (Abou-Bakr, 2021). Little information is available about female physicians in the Islamic world in the Middle Ages, although it is likely that women regularly practiced medicine with some scientific capacity. Authors of male physicians have mentioned the presence of female physicians in describing certain methods or situations (Monica, 2003).

4. Hospitals and Women's Medical Staff

During the lifetime of the Prophet (PBUH) and the outbreak of wars, a medical center was established to treat the war wounded inside the tent by *Rufaida al-Islamiah* and *Kabiah* daughter of *Saeed Aslami* and the women there treated and nursed the war-wounded men (Morteza Ameli, 2001). Historians consider this tent to be the first hospital in Islam. After this initiative was started by a woman in early Islamic society, Muslims turned their attention to hospitals and tried to develop and improve them in the following ages (Abou-Bakr, 2021). The establishment of hospitals in the east of the Islamic countries was generally done by Iranians and it was imitated and built from the *Jundishapor* hospital (Najmabadi, 2018). Hospitals had two separate sections, the men's section and the women's section. Each department was equipped with all medical instruments, nurses, male and female servants, agents and inspectors (Isa Beck, 1992; Tajbakhsh, 2000). There is not much evidence about the employment of female physicians in women's departments; it seems that mostly male physicians treated women. Of course, in the book "Religions School", the author of which is *Mobdi Zoroastrian* who lived in the 11th century of *Hijri*, he described the traditional life of *Zoroastrians* and *Mazdiasna* and mentioned the hospital with a special section for women and the existence of a female physician in ancient Iran. "And in every city, there was a hospital of *Khosrow* and there was a physician from the emperor and the men's hospital was separate from the women's and the women's physician was a knowledgeable woman and such a hospital was for men and women separately" (Najmabadi, 2018; Isa Beck, 1992; Tajbakhsh, 2000; KeiKhosro, 1983). Also, in the *Mansouri Hospital* in Cairo - the largest hospital in Egypt in the Middle Ages - which had separate departments for the treatment of patients with fever, surgery, dysentery, severe pains and women's diseases, many male and female nurses were working (Tajbakhsh, 2000). *Ahmed Isa Bek* (1876-1946 AD), in the book "History of Hospitals in Islam", mentioned that a female physician known as the daughter of *Shahab al-Din al-Saiiq* played a central role in the *Mansouri Hospital* in Egypt (Isa Beck, 1992). In addition to working in hospitals, women also worked in clinics and went to patient's homes to treat their patients just like men. The home visits of female physicians were different because midwives and obstetricians performed their operations in patients' homes (Abou-Bakr, 2021). "*Sheikha Rahjib*" can be mentioned among other women in the field of medical knowledge at the top of Islam. It has been said about her that anyone who fell ill would visit her and be admitted to her house for one night and receive treatment. It has been said that this woman used to stand behind the curtain when the men visited her, except in the case of some diseases, which came out from behind the curtain (Elgood, 1973).

5. Research Background

The great book "Fihrist Alam al-Zariah ila Tasanif al-Shia" written by *Alinaqi Monzavi*, 1998 was examined. This book includes the names of all Islamic scientists in various political, economic, cultural, social and scientific fields, which have been published in several volumes. The advantage of this book is that it lists the names of elders and scientists alphabetically, but does not specify their fields of work and specialized fields (Monzavi, 1998). In this research, this source has been used for ease and access to women's names. *Hajianpour and Karimi* (2015) in the article "Medical and Therapeutic Presence of Women in the Wars of the Age of the Prophet (PBUH) (1 to 11

AH) to the role and performance of women's medicine and treatment in the wars of the era of the Prophet (PBUH) and the description of therapeutic activities they have discussed the introduction of active women in the field of medicine (Hajianpour & Karimi, 2015). In another article called "The Scientific Position of Women in Muslim Historiography" (Azizi, 2015), the issues of not recording the names and presence of women in the scientific, economic and political scenes were examined and the author is concerned about the lack of social role of Muslim women, especially in the field of knowledge and scholarship (Azizi, 2015). Also, in the article "Medical and Medicine and its Challenges in the Era of Afsharia and Zandiyeh (1735-1794 AD)" (Tayebi & Asadi, 2020), the authors introduced Iranian and foreign physicians and compared them in the field of medicine. And they gave a detailed description of the medical condition at that time (Discrimination, Women's Human Rights, 1999). The English article "Female Physicians and Medical Profession in the Islamic History" by (Abou-Bakr & As-Saa'dy, 2020) introduced women physicians mostly during the life of the Prophet of Islam and the medical situation that period evaluated (Abou-Bakr, 2021).

6. Methods

In collecting information for this research, we referred to several Persian, Arabic and English sources. This library study was carried out in a descriptive-analytical way using the keywords of Iranian women physicians, Muslim women physicians, Midwives, Doctors, Persian Medicine and History of Medicine. A search in reliable databases such as Scopus, PubMed, Science Direct and Google Scholar was also conducted to obtain more information. Despite the abundance of resources about medicine and doctors, it can be said that information about the role of women in health and treatment fields was scarce and scattered. Therefore, a lot of effort was made to collect this information and we tried to get a real picture of the role of women in the medical profession and to conclude as much as possible about their status and position in this specialized field.

7. Findings

The number of women working in medicine was not so high, but the number of midwives was much higher; because midwifery was a special job for women and all births were done with the help of midwives, but both men and women practiced traditional medicine with herbal medicines (Roded, 1994). Women used to compete with male physicians in medical work and dressing wounds and whenever they saw no need for men to be present, they did medical work themselves (Hijazi, 2002). *Tabari* in his book "*Tarikh al-Rosol va al-Moluk*" mentions a place that is like a general clinic and has many specialties where a female surgeon works with male physicians (Muhammad Ibn Jarir Tabari, 1992). Medicine was not only for men but some women were among the scientists of medical science. It is said that the sister and daughter of *Hafid ibn Zahra-i Andalusi* had a hand in medical knowledge; they were well-versed in the treatment of women's diseases. According to *Mohammad ibn Jarir Tabari*, when *Marwan ibn Hakam* had his neck cut in half in a conflict, a woman named *Fatimah*, the daughter of *Aus*, operated on his neck and put medicine on it and saved *Marwan* from death (Tajbakhsh, 2000). *Umm al-Hassan*, the daughter of *Qazi Ahmad ibn Abdullah ibn Abd al-Moneim Abu Jaafar Tanjali* from *Lusheh* (a town in Andalusia), was a physician, memorizer of the Qur'an and a poet (Isa Beck, 1992). Many Muslim physicians have entered the field in the Islamic

era and the encyclopedia books and others have not been able to record their names completely and properly and have mentioned only a few of them (Morteza Ameli, 2001).

In the past, Iranians, especially women, were less inclined to use medical and chemical medications. They were more dependent on traditional medicine and were among the followers of Hippocrates and Avicenna. Iranian women divided all medicines, diseases and foods into four categories: warm, cold, wet and dry (Panahi, 2002). Unfortunately, neither internal nor external sources provide information on female activists in the field of medicine. Therefore, finding a picture of a physician or a female nurse in one of the most valuable collections of *Safavid* medical manuscripts can be considered very exciting. This image is included in the 5th chapter of a treatise by *Najib al-Din Mohammad Samarqandi* (died 1222 AD) called "*Osoul al-Tarakib*" (Principles of Combinations) and under the general title about injections and suppositories and it shows a woman who is giving an enema to another woman (Figure 1). The importance and value of this picture, regardless of the lack of information about female activists in the field of medicine, lies in the hidden message that it conveys and that is the need to treat women by women, at least in times when the physician needed to observe and touch the private parts (Karimi, 2016).



Figure 1. A female physician or nurse giving an enema to a patient
(Majlis Library, Manuscript, No. 60/65, G.T. 700)

Edward Pollock and other people have a lot to say about medicine: "There are both men and women among those who work in medicine. Small surgeries for women are mostly performed by female surgeons. The number of Iranian ophthalmologists called "*Kahal*" is vast and they are trusted throughout the East. *Kahals* specialize in various surgeries and perform them as well, such as inside convolution of the eyelid, crooking in eyelashes, trachoma, pterygium and cataracts". Sometimes the treatment of female physicians was discussed against the treatment of famous physicians, as *Abu Obeid Jowzjani* (980-1047 AD) mentions in his book "Life of Avicenna" about a female physician who, in contrast to Avicenna, who treated his headache with an ice pack, treated her headache with rose honey. The role of women in medical affairs and especially surgery can be understood from the words of *Abulqasem Zahrawi*. In the treatment of women's diseases, he considers it possible to perform urinary tract surgery and bladder stone surgery exclusively by a female physician and in the absence of a female physician, by a midwife along with a physician who gives the necessary orders and this shows that

in those days there were midwives who had excellent medical knowledge and expertise and performed gynecological surgeries (Azizi & Jan Ahmadi, 2020).

A perfect woman can also be seen among physicians of the Mongol era. Her name is *Seti al-Nisa* (1580-1647 AD) and she was the sister of *Talib Amoli*, a famous poet in the court of *Jahangir Shah* (1605-1627 AD), the *Babri* king of India. She was a virtuous, literate and eloquent woman and also skilled in medicine (Chandpuri, 2013; Fakhr al-Zamani Qazvini, 1961; Golchin Ma'ani, 1990). He knew the principles of treatment and held the “special physician” position in *Shah Jahan's* palace (1627-1658 AD). *Seti al-Nisa's* hometown was Amol (the city of *Mazandaran*). In the king's palace, they had considerable trust in her (Safa, 1992; Vaseti, 2003). The author of *Shah Jahannam* writes about her perfection of art: “*Seti al-Nisa* has a high skill in the techniques of medicine and treatment of difficult diseases” (Kenbu, 1967).

In the book “*Ilkhani Surgery*” written by *Sharafeddin Sabunji Oglu* (1385-1468 AD), it is stated: “All surgeons are women and these women were called *Tabibeh* (woman physician) and in my opinion, this title was applied to midwives who had a higher scientific status than usual” (Sabunuchi Oglu, 2013). *Jurji Zaydan* (1861-1914 AD) mentioned in the book “*History of Islamic Civilization*” that “there were several classes of physicians, from ophthalmologists, dentists, surgeons, midwives, gynecologists, special physicians for the insane and blood collectors. Of course, there were not a few female physicians among Muslims, including the sister of *Khasid Andalusian* and her daughter who was well versed in medicine, especially in the field of women's diseases” (Zidan, 1993). Observance of Islamic limits and customs made women more active in doing jobs such as medicine and midwifery among their same sex.

8. Medicine in the *Safavid era* (1501-1735 AD)

In the *Safavid era*, if children or women fell ill, none of the male physicians were allowed to appear at their bedside for treatment and only midwives were allowed to treat female patients because they usually had some knowledge of the effects of drugs and the treatment of patients (Olearius, 1984). Cyril Elgood writes in the book “*Medicine in the Safavid Period*”: “There was another job in the *Safavid* period that women could also do and that was medicine. On the other hand, the number of midwives was huge. They had good theoretical and practical knowledge and enjoyed the same respect as physicians. They were midwives whose existence was considered necessary for the society” (Roded, 1994).

In a special framework, male physicians were able to treat women's diseases and to respect the condition of the female gender; they had to learn to treat the patient's diseases without examining them. Sometimes, during a physician's visit, women would cover their arms with a very thin white cloth and extend it behind the curtain so that the physician could take their pulse and diagnose their pain (Chardin, 1956). At that time, the number of literate women was not very high, but if a woman could acquire the ability to read and write, the necessary books and materials in the field of medicine were available to her and the books contained materials in the field of midwifery and women's diseases. Interested and literate women could obtain the necessary information about this by referring to these books (Roded, 1994). Women's medicine was not only for ordinary women in society, but women working in this profession were also present in the royal harem and treated women and children. One of these women was able to achieve great fame and prestige with the help of her husband in the harem of *Shah Abbas I Safavid*

(1587-1629 AD). This woman was the wife of *Hakim Inayatullah Yazdi*. *Inayatullah Yazdi's* wife was engaged in the work of medicine and treatment of women, maids and children of the harem in the royal harem. *Iskandar Beyk Munshi* (1560-1633 AD), the famous historian of the *Safavid* era, writes about this woman: “She is famous for her intelligence and mental abilities and is unique and she is the sage of the harem, she is a *mahram* and she is in the service of Ashraf, more than other sages, closeness, dignity and privacy found and he always had the honor of talking and sharing the same language with the king” (Monshi, 2003).

Another example was a woman named “*Obeh*” or “*Khanjan*”. This woman played a major role in history by helping *Shah Ismail I Safavid* (1501-1524 AD) at the beginning of the formation of the Safavid government. He was from the *Zul Qadr* clan and his job was surgery and wound dressing (Hintz, 1936). *Khani Khan Khanum*, the mother of *Ali Qoli Khan Shamlu*, also practiced medicine in the royal harem (Hosseini Astarabadi, 1987). *Pasha Khatun* (*Shah Ismail Safavi's aunt*), whose profession was wound dressing and surgery, is another famous woman of this period who knew about medicine. Also, in this age, one of the female scientists of the 12th century of *Hijri* is *Asiri Ardakani*, the daughter of *Sadr al-Din Ardakani*, who is the great ancestor of *Seyyed Muhammad Ali Modares of Yazdi*, known as *Wamaq*. *Wamaq* writes about him: “My ancestor was a master of calligraphy and was very skilled in the art of medicine (Hintz, 1936).

Jean Chardin (1643-1713 AD), a French traveler, says: In the 12 years he traveled in Iran, he obtained information about the harem. “There were jobs for women in the harem, such as women tailors, shoemakers, professional teachers and old girls also worked as physicians in the harem and prepared medications for the women of the harem. Haremsara news can also be obtained from midwives who were called to harems. Midwives were invited to the harem when it became difficult for pregnant women to give birth” (Chardin, 1956).

9. Medicine during the *Afshariya* and *Zandiyah* era (1736-1795 AD)

Research shows the importance of medicine and physicians of this era in diagnosing and treating diseases in the country's geographical range. The unique situation of the *Afshariya* and *Zandiyah* dynasties due to civil wars and the approach of the sources to writing military and political developments have also influenced the research of this era to a very extent. Unfortunately, in examining the situation of female physicians in this era, we did not find specific names of midwives, nurses and female physicians (Tayyebi, 2020).

10. Medical situation during the Qajar era (1796-1925 AD)

The wide presence of women in society and social actions increased in the second half of Qajar rule in Iran. Establishing political-military and scientific-cultural relations with Europe and neighboring countries such as the Ottoman and Russia at the end of the Qajar period slowly changed the situation. A part of Iranian women demanded more attention to compulsory and universal literacy, support for girls and women's education and hygiene. Activity in the field of medicine and therapy was also one of the other fields in which women were able to participate after social transformations (<https://shahrvand-newspaper.ir/News:NoMobile/main/104186>). In his travelogue, Edward Pollack mentions the activities of several women ophthalmologists in Tehran who were famous

for their skill in treating diseases. Traditional pharmacology was also one of the other scientific fields in which the presence of women can be seen. Pollock (1989) refers to women who knew herbal medicine well and prescribed medicine to people.

11. Medical situation and treatment in *Bakhtiari* Tribe

Usually, the *Bakhtiaris* forbade women from engaging in some professions, but they did not prevent them from practicing medicine. The profession of medicine was transferred hereditarily to some women. Some of them were famous for removing the bullet from the body of a wounded person. If a father was skilled in the art of medicine, he would prefer to teach this art to his daughter. The salary of a *Bakhtiari* female surgeon was very expensive. In her book, Bishop (1956) describes the situation as follows: "I am surprised that Muslims, despite expressing contempt for women, even their highest leaders benefited from women's medical services and their sages are mostly women and this profession has been inherited". *Bakhtiari's* grandmothers are famous physicians, each in turn. They prescribe medicine not only for themselves but also for their serfs if necessary (McBean Ross, 1994). In some cities in Iran, some women are engaged in the treatment of eye diseases and their traditional medicines and treatment methods are surprisingly successful and effective (Brugsch, 1988).

12. Characteristics of *Bakhtiari* female physicians

- Paying attention to health matters and medicine is a distinctive feature of *Bakhtiari* women.

- The profession of medicine among tribal women is almost hereditary.

- Whenever a father or mother finds a new medicine, he teaches his older daughter how to use it and does not teach it to his sons because he does not consider them worthy of such an act.

- Women are skilled in dressing and washing wounds and removing gun bullets from the body (Dalmany, 1999).

The number of women physicians and midwives was different in different cities of Iran, for example, Urmia in the 19th century, a city with a population of 30,000 people, had only two ophthalmologists. One of these two ophthalmologists was a woman named *Mashadi Zabar Khanum* who practiced her medicine at home. His house yard was full of more than 100 patients a day. *Naser al-Din Shah*, in addition to several court physicians, also employed a royal dentist who provided services to a number of the privileged class. It seems that there was also a female dentist in Tehran in the late 1880s (Flore, 2008).

Around the city of Ardabil, there were some healers treated diseases such as diarrhea, vomiting and intestinal problems. These healers were mostly women. In most rural areas of Qajar, there was no physician. The number of physicians was also limited in urban areas. Therefore, old women and men provided the most primary health care, especially the role of old women in providing these services to women and children was important (Figure 2). Many female healers were both ophthalmologists and surgeons. Mostly old women who were called midwives were dealing with childbirth and diseases of young children. Women gave birth without help or with the help of traditional midwives. Midwives were mostly those who provided primary healthcare services to women and children. These women not only treat children's diseases but also adult women welcomed the services of this group. There were even women who specialized in

the treatment of certain diseases, such as a class of female healers in the *Julfa* region and Armenians in the suburbs of Isfahan, who were known as the healers of scarlet fever, while others specialized in treating syphilis (Flore, 2008).



Figure 2. Physician and midwife of the Qajar period

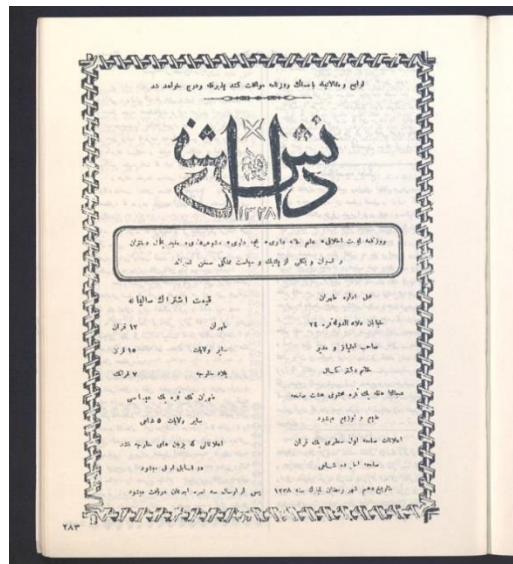


Figure 3. The first issue of *Danesh* Journal in 1910 AD

Iffat Sayah Sepanlu (Masoumeh), known as *Dr. Kahal* (ophthalmologist) was the first woman journalist who published a special journal for women called "*Danesh*" in 1910 (Figure 3) and became the first woman to have a concessionaire, editor and publisher in the press. She was the daughter of *Mirza Mohammad Hakim Bashi Hamedani*. Her father made it possible for her to complete her education in the schools of Christian missionaries in Tehran and learn medicine from the American missionaries who were doing charity work in Iran, from them, she was the first female ophthalmologist in the constitutional era who was allowed to treat patients. *Masoumeh* married *Dr. Hossein Kahal*, one of the constitutionalists and defenders of women's rights and benefited from his husband's encouragement and support to publish a magazine for women. *Iffat Sayah Sepanlu* opened his office on *Jalil Abad Street* in Tehran (Ameli, 2002).

13. The most famous female physicians, midwives and nurses

After studying various sources and references in Persian, Arabic and English in the description of women's condition, we extracted and collected the names of 56 women who were active in the field of medicine and therapy and were mentioned in history as physicians, midwives and nurses who are mentioned in Table 1.

Table 1. Names of female physicians, midwives and nurses from the rise of Islam to the Qajar era

No	Name	Specialization	Birthplace/ Residence	Date of Birth/ Death
1	Rufaida al-Islamiah	War Surgery	Al-Madinah	Prophet's era
2	Al-Rabi' daughter of Ma'oodh al-Ansariah	War Surgery	Al-Madinah	Prophet's era
3	Sheikha Rahjib	Women diseases	---	Prophet's era
4	Al-Shifaa daughter of Abdullaha Al-Qurashiyah	Skin diseases	Al-Madinah	Prophet's era
5	Hamna daughter of Hajash	War Surgery	Mecca	Prophet's era
6	Um Kobsheh al-Qazaiyah	War Surgery	Al-Madinah	Prophet's era
7	Um Salim	War Surgery	Al-Madinah	Prophet's era
8	Um Salmah	War Surgery	Al-Madinah	Prophet's era
9	Um Ayman	War Surgery	Al-Madinah	Prophet's era
10	Um Ziyad al-Ashjaiya	War Surgery	Al-Madinah	Prophet's era
11	Um Sanan al-Islamiya	War Surgery	Al-Madinah	Prophet's era
12	Umayyah daughter of Qays Al-Ghafariah	War Surgery	Al-Madinah	Prophet's era
13	Salma Um Rafe'	War Surgery	Al-Madinah	Prophet's era
14	Mo'azah Al-Ghafariah	War Surgery	Al-Madinah	Prophet's era
15	Kabiah daughter of Saeed Aslami	War Surgery	Al-Madinah	Prophet's era
16	A woman from Azrah tribe	War Surgery	Al-Madinah	Prophet's era
17	Nussaibah	War Surgery	Al-Madinah	Prophet's era
18	Umm Ommarah	War Surgery	Al-Madinah	Prophet's era
19	Umm Abih	War Surgery	Al-Madinah	Prophet's era
20	Lailah Al-Ghafariah	War Surgery	Al-Madinah	Prophet's era
21	Um Al-Alaa' Al-Ansariah	Nursing	Al-Madinah	Prophet's era
22	Um 'Atiah Al-Ansariah	Ophthalmologist	Al-Madinah	Prophet's era
23	Fatima daughter of Ows	War Surgery	Al-Madinah	Prophet's era
24	Faridah Al-Kubra	Ophthalmologist	Levant	Umayyad era
25	Zainab Owdiah	Ophthalmologist	Levant	Umayyad era
26	Kharqaa Al-'Amiriah	Ophthalmologist	Arab Peninsula	Umayyad era
27	Sallamah Al-Qas	Ophthalmologist	Al-Madinah- Levant	Umayyad era
28	Hababah	Ophthalmologist	Basrah	Died in 105 H
29	Mutayam Al-Hashemiah	Obstetrician	Basrah	Died in 244 H
30	Roḥaṣ	Obstetrician	Baghdad	Died in 245 H
31	Maḥbobah	Obstetrician	Iraq	Died in 247 H
32	Fadl, the freed-maid of Al-Mutawakkil	Obstetrician	Baghdad	Died in 257 H
33	Um Asiya	Midwife- Obstetrician	Egypt	Tulunids
34	Um Ahmad	Midwife- Obstetrician	Egypt	Mamluk era

35	The sister of Abu Bakr and her daughter	Obstetrician	Al-Andalus	Almohad Caliphate
36	The freed-maid of Abi Abdullah Al-Kenan	Anthroposophy and anatomy	Al-Maghrib Al-'Arabi	Died in the 5 th Hijri century
37	Daughter of Dohn al-Louz Damascene	---	Damascus	Died in 1216 AD
38	Um Al-Hassan, the daughter of Qazi Ahmed	Different parts of medicine	Al-Andalus	Contemporary: 750 H
39	Daughter of Shahab al-Deen al-Sa'igh	---	Egypt	11th century AH
40	Umm Jamilah	Skin diseases	---	Islamic era
41	Sister of Hafid ibn Zahra Andalusi	Women diseases	Andalusia	Islamic era
42	Daughters of Hafid ibn Zahra Andalusi	Women diseases	Andalusia	Islamic era
43	Setti al-Nisa	Different parts of medicine	Mazandaran-Iran- India	1580- 1647
44	Wife of Hakim Inayatullah Yazdi	Midwife-Obstetrician	Qazvin- Iran	Shah Abbas Safavi era
45	Ubi or Khanjan	Surgery & wound dressing	Tabriz- Iran	Shah Ismail Safavi I era
46	Khani Khan Khanum	Midwife	Qazvin- Iran	Died in 1580 AD
47	Pasha Khatun (Shah Ismail Safavi's aunt)	Surgery & wound dressing	Tabriz- Iran	Shah Ismail Safavi I era
48	Asiri Ardakani, daughter of Sadruddin Ardakani	Different parts of medicine	Yazd- Iran	12th century H
49	Zabar Khanum	Ophthalmologist	Tehran- Iran	Naser al-Din Shah era
50	Iffat Sayyah Sipanlou (Masoumeh)	Ophthalmologist	Hamedan- Iran	Qajar era
51	A female Surgeon	Surgery	unknown	4th century H
52	A female Surgeon	Different parts of medicine	unknown	5th century H
53	A female Ophthalmologist (unknown)	Ophthalmologist	Tehran- Iran	Qajar era
54	A female Dentist (unknown)	Dentist	Tehran- Iran	Qajar era
55	A female Surgeon (unknown)	Surgery	Tehran- Iran	Qajar era
56	A female Surgeon (unknown)	Surgery	Tehran- Iran	Qajar era

Source: Abou-Bakr & As-Saa'dy, 2021; Tajbakhsh, 2000; Muhammad Ibn Jarir Tabari, 1992; Azizi & Jan Ahmadi, 2020; Ameli, 2002; Abdullah Abdul Razzaq Massoud, 1985; Kahalah, 1984; Abul Faraj Esfahani, 1905.

14. Discussion and Conclusion

The presence of women in the political, scientific and cultural fields since ancient times is one of the issues that have been significant for researchers. As half of the effective population of society, women have always had an active presence in various aspects of social, scientific, political and cultural life and have proven their activity in human societies. In Iran before Islam, there was a discussion of health issues and their compliance by the general public in ancient Iranian sources (Kavyani Pouya, 2014). Despite the existence of male physicians in ancient times, who certainly needed the help and cooperation of women familiar with the medical profession to treat some women's diseases, despite the investigation and research in the primary sources, unfortunately, we did not come across the names of women physicians in ancient Iran. However, by means

of some direct and indirect evidence, it is possible to infer the existence of female physicians in ancient Iran and the Islamic era (Avner, 2010; Molénat, 2003).

It is possible that one of the reasons for women's underrepresentation in the medical field was due to the protection of women's safety. For example, they were not allowed to go to any place or the presence of *Mahram* men was necessary to accompany them or limitations such as being away from their families and perhaps traveling to meet patients were the reason for their low interest in the medical profession. Maybe the importance of the role of the family for women (managing the home, housekeeping, cooking, taking care of children, etc.) has caused her medical role to be seen less. In the historiographies and works of different eras, the prominent presence and privileged role of women in the treatment of diseases and healing of the wounded, ophthalmology, surgery and nursing have been less discussed and their achievements in the field of medicine have not been recorded. It seems that women's role in medical affairs was indirect and aimed at helping male physicians and men integrated women's medical activities into their work. For example, *Zahrawi* in his book, in the sections related to women's operations, *Zahrawi* did not mention any female physicians. We witness a kind of contradiction and duality in the social status of women.

On the one hand, women provided treatment and helped to improve the status of medicine and on the other hand, there is no mention of their authored or translated works in the sources. In addition to medicine, some female physicians were skilled in other sciences as well, such as *Umm al-Hassan*, the daughter of *Qazi Ahmad ibn Abdullah ibn Abdul-Moneim Abu Ja'far Tanjali*, who was also a poet and memorizer of the Qur'an but we still do not see her authorship. Female physicians may have worked in the field of medicine, but to be accepted by other physicians, they published their works under the name of a male physician. Also, many female calligraphers lived in Islamic civilization, but none of them even wrote a medical prescription.

It can be said that in some cases the role of women was less seen in real life and it is reflected in the writings of some historians. Women did not receive a fair share in history in later ages due to changing political and religious policies. Most female physicians belonged to the ruling class or the elite in one way or another. This proves that most historians were more interested in the history of famous women. Therefore, it can be said that there were certainly many women physicians whose names were not recorded in the history books because they did not belong to the upper classes but dealt with the common people. Women have demonstrated their ability, experience and expertise due to their presence and participation in various fields of treatment, from medicine and nursing and providing emergency aid to ophthalmology, surgery, treatment and midwifery, as well as their participation in public levels (Abou-Bakr & As-Saa'dy, 2021). The overall picture of women in former Muslim societies was more complex than we imagined. The moral system of Islam and its customs have not prevented women from participating in the fields of teaching as religious scholars. Most of the names of women recorded in the field of health care are related to the time of the Prophet (PBUH). By searching various books and articles, we found several other names of women in the period after Islam until the Qajar era in Iran. Also, the changes that emerged as a result of the extensive activities of intellectuals in the society, especially in the late Qajar period, along with the many problems and difficulties in the field of medicine and health in this part of the society, led to the establishment of a special hospital for women with trained female physicians and nurses. Women's Hospital was established in 1916 in Tehran to create a maternity hospital and train nurses and midwives (<https://shahrvand->

newspaper.ir/News:NoMobile/main/104186). The creation and launch of a special journal for women by an ophthalmologist named Iffat Sayah Sepanlu (Masoumeh) was also one of the other activities and the presence of women in the scientific field, especially in medicine. Since the beginning of the 20th century, most countries in the world have provided women with equal access to medical education, although not all countries guarantee equal employment opportunities and gender equality has not yet been achieved in medical specialties worldwide (Reichenbach & Brown, 2004). Studies show that in some cases, female physicians provide higher quality care than male physicians (Yusuke *et al.*, 2017; Wallis *et al.*, 2017; Roter *et al.*, 2002). Considering the strong presence of women in the pre-Islam era, we can conclude that in addition to personal and family affairs, women helped human society in the important fields of health and treatment, which respect the most valuable gift of God, which is the life and soul of man. Women have performed well and had a significant presence in the most masculine fields. According to the mentioned materials, the existing historical examples can be used to explain the appropriate patterns of women's presence in today's world.

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