

ORIGINAL ARTICLE

Spanish Flu in Kerman from 1918 to 1920

Abstract

The Spanish flu outbreak is one of the historical catastrophes in southern Iran, Kerman province, and the city of Kerman, which wiped out most of the population. The epidemic began on October 29, 1918, and continued until 1920 in several waves. Within three years, the people of Kerman, due to a Persian famine and disease, were reduced from 50,000-60,000 to around 25,000-30,000. In rural areas of Kerman province, there were up to 100% deaths. It effectively killed half the population of the city and caused severe damage to its demographic context and economic development. A rather unpleasant remnant of the epidemic is Tandarestan Cemetery in Kerman, which is the burial place of many people and celebrities, such as Nazim al-Islam Kermani (1861-1918), a famous historian, writer, and journalist. This article explores the importance of local medical history in Kerman, the effects of the flu outbreak, World War I, and the presence of the British that led to an artificial famine and malnutrition. Finally, the role played by this colonial government in amplifying the flu outbreak, the wrong prescription of opium, and the decimation of the city. This study examines the type of Spanish Flu Pandemic in Kerman, the death toll, and the treatment of British troops for the people.

Key words: History of Medicine, Spanish Flu Pandemic, Kerman, Iran, Britain

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Introduction

Spanish Flu Pandemic was among the deadliest global pandemics from 1918-1919. The coincided of Spanish flu was with World War I, which killed about 50 million people. The number of this pandemic victims was more than the total number of victims of the First and Second World Wars. Moreover, about 500 million people were infected by this epidemic. The original place and country for the appearance of the Spanish flu were never identified.

In contrast, some researchers believed that this pandemic may have originated in Asia or the United States. Kansas State has been identified as a possible source, which may be due to the pig herds or migratory birds. On the other hand, the camp where U.S. soldiers were stationed during World War I could also be cited as a source of outbreaks in other parts of the world. The main reason for this belief is that these soldiers were sent to different parts of the world, including Europe (Barry, 2004, pp. 1-2; Golshani, et al., 2022, p 71). (Figure 1)



Figure 1. On October 10, 1918, the Wisconsin State Journal headline proclaims that there were 1,000 cases of the Spanish Flu Pandemic in Madison and that all public gatherings were banned. The story goes on to say that all schools, colleges, churches, and theaters were closed indefinitely under an order by Dr. Cornelius A. Harper, the state health officer. (The headline of the Oct. 10, 1918 Wisconsin State Journal archives)

Because there were no remedies to be used as a treatment for this virus, health officials restricted patients from using chemical disinfectants and hand hygiene materials and obeying quarantine rules. Unfortunately, the flu epidemic coincided with the departure of thousands of soldiers to Europe and involvement in World War I. About one hundred soldiers were infected; during the first week, the number of infected patients significantly increased. Between April and September 1918, the disease spread to the United

States and Europe, and finally, 95,000 Americans died. It is noteworthy that the number of losses in smaller villages was very high (Byerly, 2010, p. 83; Golshani, et al., 2021, p. 78)

Due to the presence of proficient nurses in the war, the shortage of nurses causes the American Red Cross in Chicago and Illinois to request volunteer nurses. Moreover, they canceled all public gatherings and closed movie theaters to prevent the further spread of the disease (Byerly, 2010, p. 83). (Figure 2)

Any new pandemic wave was accompanied by a more recent mutation of the virus, which infected many people, and eventually caused death, and many patients died out spontaneously. However, being prepared and aware of these issues at all times is the lesson to be learned from history. This disease was known as Spanish influenza, mainly due to the lack of censorship in Spain and its neutrality in the war. While Germany, the United States, France, and the United Kingdom censored the news and information about the flu to maintain a collective spirit after the end of the war (Golshani, et al., 2021, p. 78; Golshani, and Azari Khakestar, 2021, pp. 364-365; Humphries, 2014, pp. 56-57).

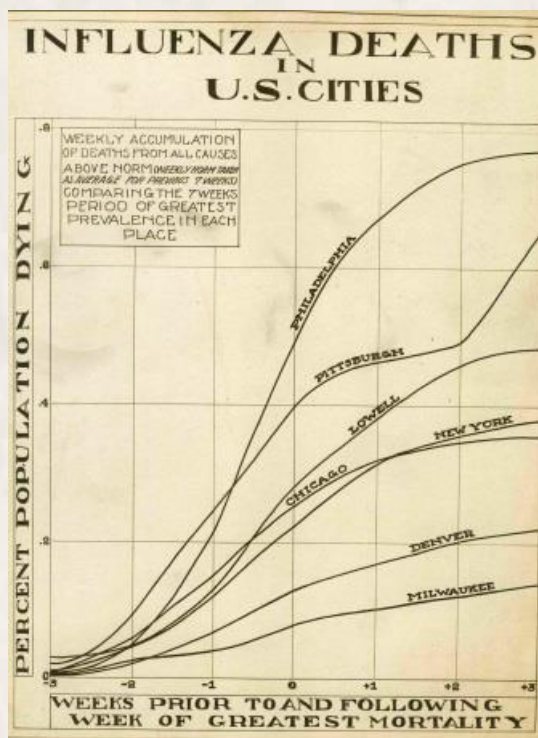


Figure 2. This is a World War I-era chart of influenza deaths in U.S. cities, showing the weekly accumulation of deaths from all causes above the norm for Philadelphia, Pittsburgh, Lowell, Chicago, New York, Denver, and Milwaukee. Historians say Milwaukee was among the nation's top cities in minimizing damage from the flu. (Chart of influenza deaths in U.S. cities)

Swiftly after the end of World War I, in 1919, in most countries, the effects of the war on global health, malnutrition, and food shortages were sensed. In Iran, for instance, about 20 -70 percent of the urban population and about 10 -100 percent of the rural pop-



ulation fell victim (Golshani, et al., 2021, p. 78; Tayyebi, 2013, p. 134). All around the world, such as in Iran, influenza has a seasonal trend. Influenza, with 1 to 3 pandemics every hundred years, affects a large number of community members every year. In the 18th century, there were two epidemics in 1729 and 1781-82. In the 19th century, there were two pandemics in 1830-33 and 1900-1898, and in the 20th century, there were two pandemics in 1918-1918 and 1957-68. In 1918, during the reign of Ahmad Shah Qajar, the Spanish Flu Pandemic affected the Iranian people and caused the death of thousands of them (Golshani, et al., 2021, p. 78; Khondabi, et al., 2017, p. 97).

The method used for this research is a library. The historical research method of this research is a descriptive-analytical study based on library sources and a review of the historical origins of the period under discussion and new analysis. With the view that has been drawn from the Annales school with the approach of local historiography of Iran, we will review the Spanish flu in Kerman from 1918 to 1920 and diagnose the clinical pathology of the disease in the Iranian environment and especially Kerman in medical and historical sources has been considered mainly by the authors, and treatment strategies have been studied.

Spanish Flu Pandemic in Kerman

Local medical history is one of the specialized topics in the field of medical historiography is paying attention to. This approach to historiography should be assessed by foreign travel writers' documents and other local historiography sources in the form of local history books and diaries. The late Mohammad Ebrahim Bastani Parizi (1925-2014), a former professor of history at the University of Tehran, was one of the experts in the local history of Kerman and the writer of historian of memoirs. His style of historiography is one of the most prominent styles of local historiography, and for the first time, he combined traditional techniques of historiography with innovation and humorous literature. He had a beautiful interpretation and said; "I mix the bitter syrup of history with the sweet nectar of the satire of literature and poetry, and I sweetly deliver this medicine needed by society (history) to the people." (Bastani Parizi, 1999, p. 198; Rezaii, Allahyari, and Jafari, 2019, pp. 70-71). His narration about the history of the Spanish flu is fascinating and, at the same time, very thought-provoking. Because although he carefully narrated the disease in most of his books, he did not mention the exact number of disease deaths so as not to depress the readers. Furthermore, he also narrated in detail different types of flu disease in another book, "Zir Chelcheragh Toye Shahcheragh" (Under the chandelier in the (shrine) of Shahcheragh), which describes the history of local medicine in Kerman. (Bastani Parizi, 2015, pp. 70-74).

The first historical narrative of the flu outbreak in Kerman appeared in 1891, and its causative factors were not mentioned in references. In 1918, the disease caused many casualties. The people in Kerman used to call influenza, Mofuk or Mofco (Tayyebi, 2013, p. 134). and in the words of Bastani Parizi, those years were called the year of "Aq Gholumrezaei." (Bastani Parizi, 2015, p. 104). It seems that western physicians selected the names for the symptoms of the disease, and their roots were obtained from the words which Iranian and Muslim physicians selected for these symptoms, such as "cough," which is one of the most common symptoms of influenza and it is similar to the word "Kokh." This word is still widely used instead of "cough" among the nomads and villag-



ers in Kerman. Although these diseases and their symptoms were known in the ancient sciences of Iranian medicine, and in 1918 the old Iranian physicians who were familiar with the traditional and ancient treatment of this disease were present in Kerman, more English physicians at Morsalin hospital were asked to control and deal with the outbreak of influenza (Malekmohammadi, 2013, pp. 1101-1102).

According to the Dutch historian Willem Floor, in Kerman, with a population of about 40 000, the Spanish Flu Pandemic was recorded as the most severe epidemic in the history of Iran, especially in this city. The disease was transmitted from Shiraz and Seyed_abad to Kerman, and the mortality rate was almost 4,000 (Floor, 2018, p. 232). This influenza spread to Seyyed_Abad and Kerman in late October and October 17, 1918, respectively. The incidence of the disease in both cities was almost 90%. The consul never heard that more than 2 or 3 patients survive among Iranians, especially in Kerman. For about three weeks, the death toll was about 100-200 cases daily, and it was indicated that septic pneumonia and bronchitis were known as the death reasons for the disease. In general, all the city's people were sick simultaneously; all the transactions were temporarily delayed. Also, it was mentioned that no Europeans died in Kerman except Capt. Carr (he died in Saidabad) (Floor, 2018, p. 232). South Persia Rifles (SPR) in Kerman had 2,500 patients; 217 (8.5%) cases died. The mortality rate was 32.6% among the south Iranian marines in Normashir. Based on the police evidence, the total number of deaths in Kerman was approximately 1,260 (Floor, 2018, p. 232; Floor, 2007, p. 27).

The epidemic was much more severe in Jiroft, Bam, Normashir, Rafsanjan, and Khabis (Shahdad). People believed this was the worst type of disease they had ever experienced. The villagers were not ready for the condition and considered it just a cold, so they continued their activities. "Finally, 25% to 40% and even more population died in these areas. Farms were not cultivated, barred animals and real estate were abandoned, and life was suspended in the province. It longed years to recover from this tragedy in these regions. The mortality rate in Kerman city and the villages was 10% and 30-40%, respectively, and 7% were related to hospital cases. Of the 13,000 people in Bam, 6,000 died. Oral symptoms associated with the disease were described as follows: "The tongue was covered with thick brown fur and its surroundings and tip were brighter than other parts. The soft palate was always covered with a blue and white fungus layer, which might be thick or thin. "Physicians considered it a diagnostic method (Floor, 2018, p. 232; Azizi, Raees Jalali, and Azizi, 2010, p. 263).

The deadly influenza epidemic in Kerman differed from other mortal epidemics in the country in previous eras. For example, at the time of the outbreak, medical and health care facilities were being set up in an organized and advanced manner by the South Persia Rifles (SPR) and British military forces in Kerman. Besides, in previous years, the Hefz Al-saheh Council, the interior ministry Office of Hefz Al-saheh, and the Sahih Al-Baladieh organization were formed in Kerman. In 1918, Dr. Mirza Abolghasem Hefz Al-Salah began his career as a physician in Kerman municipality (Malekmohammadi, 2013, pp. 1098-1099). According to the latest, most advanced, and available methods in the world, the authorities acted better and managed the outbreak of this fatal disease in Kerman. However, there were a few limitations in the early stages of the system establishment, like the deficiency of health and medical facilities and human resources. Several reports showed that according to the new organization of the Sahih Al-Baladieh,



western physicians provided some western diagnostic methods and theories to control this disease. The various documents and sources showed that none of the treatments for traditional and Iranian medicine were used, and the therapeutic and preventative methods were applied, which were common in western countries (Malekmohammadi, 2013, p. 1102). This issue is one of the reasons that caused it the brilliant history of traditional medicine in Iran during the Qajar period declined for various reasons (Asadi, Roosta, and Sabermanesh, 2020, p. 249).

“World War I in Iran” is the title of a book written by Clarmont Percival Skrine, the British Consul who was in Kerman at the time of the Spanish Flu Pandemic outbreak in 1918. In the part of this book, it was mentioned that the Allied celebrated because they won World War I. In the celebration, they prepared food for the poor in the Kerman’s consulate courtyard; a few days later, the Spanish flu outbreak became common. One of the big points was that the British consul became prone to different diseases. For example, when he first went to Kerman for one mission, he was bitten by an Anopheles mosquito in May 1917 in “Bandar Abbas” and suffered from malaria. Then Dr. Hans, a South Kerman police (SPR) physician in Kerman, prescribed a salvarsan ampoule, and he recovered. In April 1918, he was infected with typhoid fever, which lasted a month, and had a high fever; despite the severity of his illness, he survived death. The third most common disease in Kerman was cholera, and Mr. Blackman, a member of the Telegraph Office in India and Europe, was infected with the disease and died (Skrine, 1984, p. 108).

The latest disaster and illness reported by Skrine is the Spanish flu; regarding the outbreak of the Spanish Flu Pandemic epidemic, he noted that:

“The last disaster for us was the Spanish flu, which spread to Iran during the winter of 1918. The presence of the British and southern police in Iran, especially in Kerman, caused negative first; the disease did not seem so dangerous, although, in just one week, 2,000 cases died in Kerman. Consular members became sick one after another, and I eventually fell ill. I had a high fever and chest pain, and I was just in bed, there was no one to take care of me, and I did not have a phone to talk to anyone about my condition. I was in bed alone for two days; my first maid came, then the others arrived. Finally, one physician and medicine were provided to me, and I recovered in a week. All consulate members survived; however, two Iranian servants and three of their wives and children died in the city. Brigadier-General Sir Percy Molesworth Sykes (1867–1945) said that the number of casualties among southern police in Shiraz and the suburb posts was 18%, and certainly, the number of casualties was not less than this amount in Kerman” (Skrine, 1984, pp. 108-109).

As the Spanish flu was transferred to Iran, the British forces caused a great famine (Persian famine of 1917–1919) in Iran; many family members missed their friends and acquaintances. They endured poverty, starvation, and famine. People who survived the great famine their immune systems weakened, and some had other diseases (Majd, 2007, pp. 73-77). Moreover, the great famine at that time caused people to become addicted to opium. The application of opium leads to the weakening of the immune system. The British masters commissioned their forces, especially physicians, to introduce opium as a treatment for pain. Overall, there was poverty and a low number of physicians; therefore, Iranian people suffered from the disease and were addicted to opium. Furthermore, it was expressed that 25,000 of 60,000 people in Kerman were addicted in those years.



The British masters caused the three factors (the great famine, opium, and Spanish influenza) that appeared in Iran. These factors, along with the weakness and inability of the rulers and the Qajar governments, caused many casualties. The British troops were infected with the virus. They depredated food, grain, and other necessities, and provided medical equipment for them, so they did not have many casualties, and they were safe from the Spanish flu (Majd, 2007, pp. 78-79; Shakarami, 1989, p. 48; Aghajari, Dehghan-Hesampoor, and Hamani, 2012, p. 18; Dehghan-Hesampour, 2012, pp. 236-42).

Bastani Parizi stated in the "the Prophet of Thieves" book that Jafar Gholi Khan Bakhtiari (1879-1944), the ruler of Kerman, the minister of war, and a politician during the late Qajar and Pahlavi reigns, he was infected with the Spanish flu in 1918 and was cured by Dr. Sheikh Mohammad Khan Ahya al-Mulk (1865-1938). In February 1920, in the third stage of the disease, Dr. Raya Al-Molk was infected with the Spanish flu and was treated by Captain Hansney, a British physician, and Dr. Sultan Mahmoud Khan (Bastani Parizi, 2001, pp. 200-201). In this book, Dr. Bastani Parizi claims that 20 million Indian patients with the Spanish flu died, and Dr. Bastani Parizi's father, Haj Akhund Parizi, composed poetry about the outbreak of the disease:

In the year one thousand three hundred and thirty-four, influenza struck the world (Bastani Parizi, 2001, p. 201).

Dr. Bastani Parizi indicated that British physicians at Kerman Christian Hospital successfully controlled and eliminated the influenza epidemic in this city. The professor repeatedly indicated that these physicians successfully dealt with the epidemic and rescued some patients with the flu. As well, it was required to mention that Kerman municipality's physician and staff who worked at the Morsalin hospital also helped them: "... Physicians provided several services for the recovery of the patients at the Morsalin hospital in Kerman and used special research and therapeutic methods, but after the end of this epidemic, these research and methods were not recorded." In that part of his book, he underlined that "As I said, there were good physicians [especially at the Morsalin hospital] and they treated many patients with the flu, but unfortunately, these set of methods were not recorded anywhere; therefore, current physicians could not use them as guidelines" (Bastani Parizi, 2015, pp. 102-104).

Bastani Parizi also wrote that these therapeutic methods were not compared with the procedures performed by the old physicians of Kerman, so the advantages and disadvantages of each of these methods were not revealed (Bastani Parizi, 2015, p. 106).

Majid Malek Mohammadi stated that medical science affected society at that time, and the medicine of Kerman municipality and the Sahih Al-Baladieh organization in this city confirmed the success of the physicians who worked at Morsalin hospital in controlling this disease. Besides, people and physicians in Kerman paid more attention to western medicine and foreign physicians, so it caused people not to consider Iranian treatment (Malekmohammadi, 2013, p. 1102).

According to Mohammad Gholi Majd, Historian of Modern Iranian History, within three years, the population of Kerman was reduced from 50,000-60,000 to around 25,000-30,000. In rural areas of Kerman province, there were up to 100% deaths. The names of many villages in Kerman province disappeared from the history page. It effectively killed half the population of the city and caused severe damage to its demographic context (Majd, 2007, pp. 91-93).



Mirza Mohammad Nāzemoleslām Kermāni (1861-1918), a famous historian, writer, and journalist in Kerman, also was infected with the Spanish flu in December 1918 and died at the age of 57 (Nāzemoleslām Kermāni, 2005, p. 26; Najmi, 2002, pp. 550-551). (Figure 3)



Figure 3. Nāzemoleslām Kermāni Tomb; In the tomb of Seyed Alaviyeh in Kerman (Current Kerman Press Museum). (Personal archive images of Jamshid Roosta)



Tandarestan Cemetery in Kerman

A rather unpleasant remnant of the epidemic is Tandarestan Cemetery in Kerman, which is the burial place of many people. In the east of Kerman, next to Qala-e Dokhtar and the foothills of Khuzokhzo Mountain, there is a place called “Tandorostan” (Means: Health Center) in which all major religions (Islam, Christianity, Judaism, Zoroastrianism, and Hinduism) have symbols. According to Bastani Parizi, “Tandorostan” must be a word from the root of Indra, the Aryan-Indian god (Bastani Parizi, 2005, pp. 319-320; Bastani Parizi, 1999, p. 293). (Figure 4)



Figure 4. Tandarestan Cemetery in Kerman (In the east of Kerman, next to Ghaleh Dokhtar) (Personal archive images of Jamshid Roosta)

According to Sir Percy Sykes, the people of Kerman, especially the Zoroastrians, believed in this area a lot, considered this place a holy place, and made many vows in this place (Sykes, 1985, p. 223). Some locals believe that the people of Kerman came to this holy place in the late Qajar period. They thought that they might be cured and rescued from a contagious and common disease, especially the Spanish Flu Pandemic, and resorted to a sacred place, but died here and were buried in groups. Although this story has not been narrated by historians such as Bastani Parizi to prevent emotional harm to their audience, several years later, with the death of Dr. George Edward Dodson on May 9, 1937, and his burial in this cemetery, the location of the tandarestan Cemetery in Kerman is mentioned (Bastani Parizi, 2005, p. 319; Bastani Parizi, 1999, p. 292-293). According to the field report of Dr. Jamshid Roosta, Associate Professor of History, Bahonar University of Kerman, due to what is remembered by traditional natives of Kerman, forty days after Nowruz, Kermanian commemorate the dead by rituals. This celebration has been called “Jashn-e Tandorostan” (the healthy people ceremony), has a long history, and symbolizes health and luck. Now, next to this mountain, multiple cemeteries are located; Two cemeteries belong to the Jews, and the other belongs to the Christians. Although these cemeteries have been turned into green spaces in recent years, the tombstones are still present, and the names of the deceased, the time of death, and other information can be seen.

Bacteriology and treatment of the disease

Generally, there were no diagnostic requirements to detect bacteria in most areas. Several European physicians were involved in the clinical work and did not have enough time or were sick. Therefore, a few had enough time to diagnose clinical pathology; also, accurate studies were conducted in this field in Kerman. Captain Martin (C. de. C. Martin, IM S) studied bacteriology and expressed: “There are a lot of gram-negative micrococcus bacteria compared with other organisms. This micrococcus was not similar to the normal flora bacteria in the throat, so it seemed to be a possible factor for this disease. Also, he observed that Pfeiffer’s Bacillus was cultured in blood agar (Floor, 2018, pp. 232-233; Floor, 2007, p. 303).

The severity of this epidemic was different in Isfahan and Shiraz; it was interesting to note that the infection was transmitted from India to Isfahan via Mesopotamia and Tehran, while the disease was transmitted from Bushehr to Shiraz via a more direct and shorter route. Unfortunately, there were no diagnostic requirements for bacteria detection in most areas. Based on some reports, a vaccine was designed in Kerman, and physicians observed that there were significant results, four of the five cases used it, and they became safe. In some regions, the use of salicylates and aspirin was explicitly considered. Indeed, these drugs were beneficial, and all drug storage was used in several cities. Most people developed severe tracheitis (severe inflammation in the trachea) and used antimony vinyl and opium vacuum (10 drops per 4 hours) (Floor, 2018, pp. 224-225; Floor, 2007, p. 27).

The historical reports showed that the flu in Kerman has had similar clinical manifestations to viral diseases elsewhere in the world. According to historical evidence in Kerman, professor Bastani Parizi narrated that “the disease began with headaches and runny nose and led to nausea and vomiting, then the patient died”. Therefore, based on



our knowledge of viral diseases, especially influenza, it was possible to guess other common symptoms like cough, sneezing, feeling tired, bruised, body aches, gastrointestinal symptoms, etc. (Malekmohammadi, 2013, p. 1101; Bastani Parizi, 2015, pp. 102-106). In the prevention process in Kerman, Dr. George Edward Dodson fell ill in the influenza epidemic in 1918 and the later stages of this epidemic. Interestingly, when he was sick and others visited him, he realized that his teaching was performed well. Many people, even the poor, burned contaminated clothing and conducted care requirements; therefore, he became happy. Also, Dr. Dodson persuaded the ruler of Kerman (when he was ill, and Dr. Dodson cured him) to apply health and ergonomic health regulations in the carpet production process. At that time, some Iranian active political groups agreed with this practice, and similar public health measures were performed this way (Floor, 2007, p. 303).

Conclusion

If we accept the ancient saying of Bastani Parizi as a local historian, the casualties among the natives of Iran were more than the report of Floor and Sykes. It must be admitted that the British always kept secret the two causes of the great famine and opium addiction which they caused. The Spanish Flu Pandemic outbreak in southern Iran, Kerman province, and Kerman city is considered a disaster.

The British presence in Kerman should be seen from both positive and negative aspects. On one side, they sent doctors and strengthened by sending more force Morsalin hospital in Kerman to study clinical pathology, bacteriology, and treatment of the disease. However, one of the things that should be appreciated is the efforts of the western doctors of Morsalin hospital in controlling this pandemic. Moreover, their relative success in preventing the flu makes people and physicians of Kerman pay more attention to Western medicine, so the popularity of this type of medicine made Iranian treatment less critical. Some doctors, such as Dr. George Edward Dodson who adhered to ethical principles of medical ethics, treated many people in Kerman, and unfortunately, later, because of their patients' treatment, they died of typhus (Bastani Parizi, 2005, p. 319).

On the other hand, with a negative effect, the British caused some cowardly acts which could not be ignored, including addicting the people of that region, causing the Persian famine of 1917–1919 that caused malnutrition in southern Iran (especially Kerman) along with the outbreak of the Spanish flu that hit the Iranian population. The explosion of this disease on several occasions caused population losses in Kerman and damaged and prevented economic development at the end of the Qajar period. This pandemic also affected British police forces in the south and killed several British soldiers and Indian mercenaries; while equipping them with booster drugs and the presence of a doctor, and providing proper nutrition, reduced those casualties. On the other hand, the lack of options, as mentioned above, caused many deaths among the inhabitants of Kerman and the surrounding towns and villages of this town. Unfortunately, the development of cemeteries in Kerman was the only thing that was observed at that time.

Acknowledgements

It is dedicated to the late Mohammad Ebrahim Bastani Parizi, a Doctor in History and Professor at the University of Tehran.



Conflict of Interest

There is no conflict of interest to declare.

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