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Epidemics Diseases in the Mediaeval India "Some Examples in Baburnama"

Abstract

Health problems have been the common problem of all civilizations since the beginning of human history. At the point of diagnosis and treatment of these health problems, each civilization has endeavored to develop its own methods and continues to do so. Therefore, as in every region of the world, the societies living in medieval India were exposed to various diseases and developed their own treatment methods for the treatment of these diseases. In this study, some of the diseases and treatment methods encountered in medieval India, especially in the Mughal period, have been tried to be analyzed. However, since it is not possible to cover a whole period in a single article, only the diseases mentioned in Babur Shah's memoir, Baburnama, and the medical methods used in the treatment of these diseases are discussed. We believe that our examination of the diseases and treatment methods mentioned in this work, which has an important place in terms of both Turkish-Islamic history and Indian history, will contribute to the scientific researches to be carried out in similar fields and, for example, to make a comparison in the old-new context in terms of diagnosis and treatment of diseases such as poisoning, malaria, fever, dehydration, wound care, respiratory infections, horse epidemics, rheumatoid arthritis.

Keywords: *Mediaeval India, Babur Shah, Baburnama, Diseases, Epidemic, Infection Mughals.*

Ortaçağ Hindistan'ında Salgın Hastalıklar "Baburnama'dan Bazı Örnekler"

Öz

Sağlık sorunları insanlık tarihinin başlangıcından bu yana tüm uygarlıkların ortak sorunu olmuştur. Bu sağlık sorunlarının teşhisi ve tedavisi noktasında her medeniyet kendi yöntemlerini geliştirmeye gayret etmiş ve etmeye de devam etmektedir. Dolayısıyla dünyanın her bölgesinde olduğu gibi Ortaçağ Hindistan'ında yaşayan toplumlar da çeşitli hastalıklara maruz kalmış ve bu hastalıkların tedavisi için kendi tedavi yöntemlerini geliştirmişlerdir. Bu çalışmada Ortaçağ Hindistan'ında özellikle Babür döneminde karşılaşılan bazı hastalıklar ve tedavi yöntemleri analiz edilmeye çalışılmıştır. Ancak bütün bir dönemi tek bir makalede ele almak mümkün olmadığından sadece Babür Şah'ın Baburnama adlı hatıratında geçen hastalıklar ve bu hastalıkların tedavisinde kullanılan tıbbi yöntemler ele alınmıştır. Hem Türk-İslam tarihi hem de Hint tarihi açısından önemli bir yere sahip olan bu eserde bahsi geçen hastalıklar ve tedavi yöntemleri üzerine yaptığımız incelemenin benzer alanlarda yapılacak bilimsel araştırmalara ve örneğin zehirlenme, sıtma, ateş, dehidrasyon, yara bakımı, solunum yolu enfeksiyonları, at salgınları, romatoid artrit gibi hastalıkların teşhis ve tedavisi açısından eski-yeni bağlamında bir karşılaştırma yapılmasına katkı sağlayacağı kanaatindeyiz.

Anahtar Kelimeler: *Ortaçağ Hindistan'ı, Babür Şah, Baburnama, Hastalıklar, Salgın, Enfeksiyon Babürler.*

Introduction

Throughout history, mankind has struggled with various epidemics and natural disasters. In the past, it has been extremely difficult to cope with many disasters such as epidemics, pandemics, natural disasters at both global and local levels, and many people have lost their lives due to these epidemics and disasters. However, during the pandemic period, countries tried to develop different strategies, tactics and methods in terms of controlling infectious diseases. The struggles, precautions and preventive measures taken during this period managed to prevent the spread of the epidemic, but in some cases, they were not effective enough. What I want to point out here is that the struggles in traditional and modern societies have different characteristics. Fighting within unclear boundaries caused the disease to prolong, especially in traditional societies where medicine and technology were not sufficiently developed (Tunç & Atıcı, 2020, p. 329).

As long as human beings have existed, they have lived together, migrated together, experienced social feelings and traditions together. With the transition to a more sedentary lifestyle, people started to move together and live in nests. This meant that existing diseases could spread more easily. These diseases spread from human to human and sometimes from animals to

humans, causing epidemics. Therefore, the subject of this study is the infectious diseases in the Mughal Empire and the world and the measures taken against them.

In medieval India, society faced various diseases and health problems and tried to overcome them. We will draw a general outline of the diseases that emerged in this period and explain their treatments using the example of the Mughal Codex. For this reason, we must first know the Mughal Codex.

The Baburnama covers the years since the accession to the throne of Mughal Shah (1494-1529), who has a very important place in Turkish-Islamic literature and history, and covers the history, geography and ecology of the flora and fauna of each society. The highly educated Muslim ruler of Central Asia. Presents the ethnography of the conquered lands and life in these lands. It covers the religious, cultural, social and literary life and political thought of the Turks. This book contains extensive information on Uzbekistan, Afghanistan and India, as well as geography, ethnography, civilisation, literature and history. By the way, it is ironic that the dynasty founded by Mughal is called "Mughal". Because he was originally a Turk and preferred to be called as a Turk. Although he often stated that he was a Turk in Baburnama. Babur is one of the most important figures of Turkish history in terms of the nation he founded and the role he played in history. Writers who write about him praise Babur for possessing qualities that few rulers of his time possessed. They believe that no one else can express it as beautifully as the name Babur.

Babur ruled India for a short period of four years, but this period was mainly spent in military campaigns. Babur established his rule in India after defeating Ibrahim Lodhi in the famous First Battle of Panipat on 21 April 1526. Babur's next challenge was Rana Sangram, also known as Rana Sanga of Mewar, who posed a constant threat to Babur's rule. Babur's army won the battle at Khanuwa on 16 March 1527 and occupied the territory of India. He died on 26 December 1530 and was buried in the Char Bagh or Alam Bagh in Kabul (Bilal, 2015, p. 238).

This research is addressed at three main levels. To better understand the distinction between epidemics, we first include the definitions of the term’s endemic, epidemic and pandemic in our conceptual framework. Then we will discuss various diseases that emerged during the Mughal period in medieval India and explain the precautions and treatments for them. Finally, we will discuss the diseases described in the "Baburnama" and their treatments.

1. Conceptual Framework

The history of infectious diseases is at least as old as human history. For this reason, at various times throughout history, people have struggled relentlessly with infectious diseases caused by microorganisms too small to be seen with the naked eye (Küçük, 2020, p. 70). Epidemics are diseases that affect most people, animals and plants over a short period of time. Epidemics are more common in certain regions or seasons. These epidemics and infectious diseases are closely related to socio-economic conditions, geography, and social cleanliness (Özlen, 2020, p. 25). Infectious diseases are classified according to their prevalence in the community. When infectious diseases leave their place of origin and occur elsewhere, they are called anaemic. When they occur more frequently than usual in a particular region or in some countries, they are called epidemics (Bolat, 2022, p. 372). When they spread across continents, they are called anaemias and pandemics. The main characteristic of these infectious diseases is that they occur at certain times and places and infect large numbers of people. The decisive factor here is the duration of the infection (Tunç & Atıcı, 2020, p. 330; Kılıç, 2020, p.18). Since the first emergence of infectious diseases, infectious diseases have had major impacts on human history in various aspects, including demographic, cultural, political, economic, and biological (Özlen, 2020, p. 25). For this reason, epidemics have never been considered insignificant in any period of history. On the contrary, they have always been a struggle for survival. Today, almost everyone knows that infectious diseases occur in multicellular organisms (Karakuş, 2018, p. 38).

When we look at historical epidemics, medical science shows that microorganisms that affect human life and cause infectious diseases have been living on Earth since before man was born. In a book on the history of medicine, this situation is described as follows: "Diseases existed before there were people on earth" (Özdemir, 2005, p. 15). On the other hand, although the history of microorganisms causing infectious diseases has been known since the existence of man, it took a long time to recognise and prevent the effects of infectious diseases. The main reason for this is that the first human communities lived as hunter-gatherers. The lack of communication and interaction between people prevented the spread of microorganisms that cause infectious diseases and kept the incidence of these diseases at low levels. With the transition of humanity to a sedentary lifestyle, increased interaction has changed the way infectious diseases spread and awareness of infectious diseases is gradually increasing. However, throughout history, people have attributed different meanings to the causes of infectious diseases.

People saw these diseases as God's wrath against evil people, as punishment from supernatural forces, or as disasters caused by evil spirits (Kılıç, 2020, p. 15). On the other hand, while some ancient societies believed that diseases were caused by supernatural causes, others discovered that these diseases could be transmitted in different ways. For example, the Indians and Chinese discovered that contact with someone who had a mild form of certain diseases could cause the disease to develop. This discovery proved that the disease could be transmitted from person to person and paved the way for research on this subject (Kılıç, 2020, p. 15).

Infectious diseases, the incidence and awareness of which have increased with the settlement of people and living in crowded societies, have affected and killed millions of people throughout history. Diamond (2018, p. 36) states that there are cycles within the disease itself regarding epidemics. According to Diamond, an epidemic is defined as a type of disease that a sick person infects those around him and affects a large part of the population in a very short period of time. Another characteristic of epidemics is that they progress rapidly, ultimately leading to death or recovery in a short time (Diamond, 2018, p. 236). Because of these characteristics, epidemics have caused great political, social, economic, cultural and psychological devastation in the societies in which they occur. Researchers say that since antiquity, about three major epidemics, seven cholera epidemics and more than 10 influenza epidemics have affected the entire social order. Smallpox, yellow fever and malaria epidemics have been almost as devastating as the epidemics mentioned above (Tunç & Atıcı, 2020, p. 39).

As mentioned above, when we look at the diseases that occurred in the past, people and their systems have been affected at political, social, economic and psychological levels. If you examine the wars throughout history, we see that epidemics have changed the outcome of many wars, caused the collapse of empires, and even states have used these epidemics as a war strategy (Diamond, 2018, p. 253).

Humanity has faced infectious diseases, epidemics and pandemics since ancient times (Tekin, 202, 40, p. 331). The earliest recorded epidemic occurred during the Peloponnesian War (5th century BC). It struck North Africa, killing two-thirds of the population. The bubonic plague epidemic began in Asia in 1350 AD and spread rapidly to Europe in 1347 AD. There were so many corpses that many continued to rot on the ground, creating a foul odour in the city. Avian influenza was discovered in Spain in 1918 and became known as Spanish flu, killing 50 million people. In the late 1980s, a syndrome that destroys a person's immune system and causes death

from diseases the body normally fights was identified and became known as AIDS. In 2003, Severe Acute Respiratory Syndrome (SARS) emerged after several months of cases. It is thought to have started in bats, spread to cats and humans in China, and then infected thousands of people in 26 countries. At the end of 2019, an outbreak of severe acute viral respiratory syndrome (SARS-CoV-2) was reported in Wuhan, China, and a pandemic was declared by the World Health Organisation on 11 March 2020. As of the end of March 2020, people in almost every region of the world have been affected by the public health control measures put in place to prevent transmission of this virus. While the threat to physical health posed by SARS-CoV-2 is at the centre of public health control measures implemented worldwide, the impact of strict quarantine regulations on psychological health is even more far-reaching. The ongoing stress and anxiety caused by COVID-19 has exacerbated the mental health of the general population and led to an increase in opioid and stimulant abuse. Some experts believe that pandemic-related tensions, from financial stress and loneliness to general fear of the virus, are a major factor in this increase. The scale and manifestation of this new pandemic is causing many people to seek answers and solace by all means, both physically and spiritually (Uysal, 2020).

During times of public health crisis, some individuals turn to religion as a coping mechanism. Studies have shown that highly religious individuals tend to report less substance abuse than those who are less religious. However, it is important to note that any claims about the effectiveness of religious coping should be approached with objectivity and without bias. It has also been suggested that pandemics are often followed by spiritual revival. It is believed that a pandemic and its aftermath may create a yearning for God due to isolation, fear, and wonder. From a Buddhist perspective, two theories are applicable in explaining the pandemic: 1) the cause-and-effect relationship, where everything happens for a reason, and certain diseases occur when the conditions are right at a certain time, and 2) Karma, which refers to the effects of our actions. Hindu religious scriptures, such as Atharva Veda, Upanishad, and Puranas, provide explanations for the causes of epidemics and suggest ways to combat them using mental, spiritual, medical, and physical methods. In Islam, the teachings of the Qur'an address the issue of the existence of evil and suffering by emphasizing the importance of finding spiritual lessons in every hardship. The text is free from grammatical errors, spelling mistakes, and punctuation errors. No changes in content have been made, as the original text already meets the desired characteristics. This approach encourages believers to cultivate self-awareness and a constructive attitude towards their responsibility to themselves and society, in order to maintain and enhance the well-

being of others. The language used is clear, objective, and value-neutral, with a formal register and precise word choice. The text adheres to conventional structure and formatting features, with a logical flow of information and causal connections between statements.

Infectious diseases have played a significant role throughout human history. Since ancient times, various infectious diseases have emerged and spread from country to country through merchants, travellers, and warring armies, becoming a universal human concern (Tavukçu, 2020).

Throughout history, humanity has had to combat epidemics at both local and global levels. These diseases have often caused devastating effects, surpassing even those of war. Despite efforts to prevent or eradicate them, these diseases persist. Governments and individuals have developed various methods to combat them, aiming to either eliminate them entirely or mitigate their effects. Throughout history, methods of struggle have been used when similar diseases are encountered, and as technology and science develop, these methods of struggle have become more comprehensive (Tunç & Atıcı, 2020, p. 342).

Contagious diseases are a natural disaster that has affected human beings throughout history. The number of people affected by epidemics varies according to demographic characteristics such as geography, climatic conditions, socio-economic conditions, cultural levels, and hygiene habits of societies. It is important to note that the rate of transmission or survival rate is influenced by these factors. However, it is important to consider demographic differences when examining the epidemiology of each disease, as the conditions that increase the efficacy of the disease may vary among different populations. For this reason, while examining the anatomy of epidemic diseases, these demographic differences should also be considered and the measures to prevent the damage to be caused by the disease in the country where the disease occurs should be evaluated separately in this framework (Arık, 1991, p. 27-28).

2. Diseases-Epidemics in the Middle Ages and India

Health issues have been a major concern for civilizations throughout history. Each civilization developed its own understanding of these problems and attempted to find solutions.

In Ancient India, physicians of higher castes refrained from consuming meat and other prohibited animal products, but utilized them as medicinal remedies. According to Linchoten, a Dutch traveller, Brahmanas did not consume meat or other prohibited animal products, even when sick, and instead relied solely on herbs. However, they did make extensive use of animal products such as gorocana and civet cat's secretion in their therapeutic practices. He writes: “They

(Brahmins) do not eat anything that has life, but feed themselves with herbs and rice, neither yet when they are sick but heal themselves by herbs and ointments and by rubbing their bodies with sandal and such like sweet wood"· (Rao, 1992, p. 137-142).

In medieval India, society faced various health issues and diseases, and attempted to overcome them. Contemporary writings provide information about these diseases and the understanding of medieval Indian society regarding their occurrence and methods to overcome them. The state intervened in attempts to ameliorate the situation, establishing different types of hospitals, and physicians experimented with different formulations to combat the diseases.

When examining Medieval India, it is important to note the medical treatments used during the Delhi Sultanate period prior to the Babur Shah period. Following the establishment of Turkish rule in India in the early thirteenth century, numerous physicians migrated to India during the reign of Sultan Iltutmish. These physicians established their own clinics or served as court physicians, utilizing innovative techniques and methods to prepare mixtures and diagnose diseases. During the period, the disease was diagnosed by reading the pulse and examining the urine of the patient by the experts of 'Ilmul-tib'. The method of extracting water from herbs through distillation was also introduced. The water was given along with compounds and used in preparing mixtures. Ziyauddin Barani mentions a few physicians who were held in esteem during different reigns owing to their knowledge. The list of physicians in Delhi included both Hindus and Muslims who were highly respected. Maulana Badruddin Damashqi was a competent physician who was sought out by the physicians of Delhi for guidance in studying classic medicines under his supervision. He was known for his ability to diagnose a disease and its cause with just a glance at the patient, without needing to read their pulse. The medicine he prescribed was also effective. During the diagnosis of the ailment, the examiner also analysed the urine. He was able to differentiate between human and animal urine. The examiner would smile and confidently identify the contents of the sample. Occasionally, individuals would test his expertise by providing urine samples that were mixed with animal urine. He looked at them, smiled and told them what it was (Siddiqui, 2012, p. 14).

a. Plague

The Plague epidemic, which typically manifests as epidemics and occurs seasonally, particularly in hot weather, was followed by famines in India during the Middle Ages (Akın, 2018, p. 262-263). With the establishment of Turkish rule in India, new ideas and knowledge emerged and there was cooperation with Hindu scholars in this sense (Verma, 1970: p. 348-49).

Muslim scholars also worked to learn the traditional medical knowledge of India; We see that Sanskrit health-related texts were translated into Persian, thus there was interaction between the old and new system (Rezavi, 2010, p. 42). According to Ibn Battuta (1976, p. 101), the bubonic plague emerged during the Delhi Sultanate period (1206-1526) in India, causing significant harm to the population. The situation worsened during the reign of Muhammad Tughluq.

The medieval period in India saw the introduction of a new system of medicine. The sentences are well-structured and follow a logical flow of information. No changes in content were made as per the instructions. With the establishment of Turkish rule, new ideas and knowledge were introduced. There was much interaction between the practitioners of the old and new traditions. The language used in this text is clear, concise, and objective. The technical terms are explained when first used, and the text is free from grammatical errors, spelling mistakes, and punctuation errors. The text adheres to conventional structure and maintains a formal register. The text is balanced and free from bias. Thus to give an example, Bhojar, a Brahmin of Varanasi during early Muslim period approached Qazi Ruknuddin to learn the art and literature (Verma, 1970: p. 348-49). During the Sultanate period, Muslim scholars made efforts to learn traditional knowledge from India. Patronage was offered to translate Sanskrit texts on medicine into Persian. As a result, physicians during the Sultanate period learned Sanskrit to access medical manuscripts, and there was interaction between both systems. For example, Zia Muhammad Masood Rasheed Zangi the author of Majmuah-i-ziai, was well versed in Sanskrit (Rezavi, 2010, p. 42). During the Delhi Sultanate, particularly in the reign of Sultan Iltutmish (1210-1236), numerous physicians migrated to India. They established their own clinics or served as palace physicians, using new techniques and methods to prepare mixtures and diagnose diseases. During the period, physicians diagnosed some diseases by reading the patient's pulse and examining their urine. Additionally, they began to obtain araq (water) through distillation from herbs for use in mixtures. Ziyaeddin Bereni, a prominent historian of the time, mentions numerous physicians, both Hindu and Muslim. For instance, Mevlana Bedrettin Damaşki claimed to have diagnosed a disease and its cause merely by observing the patient. However, he was able to identify the difference and provide an accurate diagnosis. He did not rely on reading the pulse alone. He was known for his effective prescriptions and diagnostic abilities. Additionally, he examined urine to diagnose the disease and could distinguish between human and animal urine. Some people

even tested his expertise by mixing animal urine with their own and bringing it to him (Siddiqui, 2012, p. 14).

b. Smallpox

Smallpox is a long-standing epidemic in India, often occurring during the hot season and resulting in high mortality rates. Smallpox is a long-standing epidemic in India, often occurring during the hot season and resulting in high mortality rates. The earliest references to smallpox can be found in Sanskrit texts such as *Charakasamhita* and *Sushrutasamhita*, dating back over 2,000 years. The earliest references to smallpox can be found in Sanskrit texts such as *Charakasamhita* and *Sushrutasamhita*, dating back over 2,000 years. Although the origin of smallpox remains unsolved, August Hirsch suggests that the native foci of smallpox may be located in India and central Africa. The first known mention of smallpox in medieval India is found in Alberuni's *Kitab ul Hind* from the 11th century. Alberuni reports that the Hindus believed smallpox to be a wind carrying away souls from the Island of Lanka to the continent. Some individuals were said to have the ability to predict the arrival of the wind and warn others of its approach. Irfan Habib notes that the disease masurika appears in medical literature as early as the 7^{th} century, around the same time as in the West and possibly slightly after China. He suggests that it is a disease with medieval origins (James, 1909, p. 67; Habib, p. 71-84).

It can be inferred that smallpox was frequent in the 17th century, possibly due to the deterioration of the natural environment and changes in the ecological balance.

Alberuni reports that patients with smallpox were given cloves to drink along with gold dust, and he believed that taking these remedies increased the chances of survival to 90 %. However, no proper remedy for smallpox was discovered until the first half of the 17^{th} century. Muhammad Akbar Arzani (d.1722), a physician, attempted to alleviate the symptoms by pricking patients with gold needles and draining them. Both Alberuni and the physician Muhammad Akbar Arzani mention gold dust and clove as remedies for smallpox. Therefore, it is evident that gold played a significant role in treating the disease. However, neither Ayurveda nor the Yunani system had an effective cure for it. The above method could only prevent its occurrence.

There is no evidence of the disease in Europe before it occurred at Nismes in 1564. As far as India is concerned, it was first observed by Europeans at Goa only in 1503. Therefore, Jacques M. May's view regarding the evidence of widespread cholera in India since earliest times may not be entirely correct. Regarding medieval India, there are no references to cholera in Babur's

memoirs. It is likely that it was first recorded by the emperor Jahangir in his own memoirs. In 1616, news came of the death of Saif Khan Barha at Deccan 84 due to this disease (*haiza*) (Khan & Parwez, 2014-2015, p. 8).

Between 1595 and 1598, the entire country suffered a severe famine caused by drought, which was compounded by a plague outbreak. As a result, towns and cities were abandoned, and the streets and roads were littered with human corpses. There were even reports of cannibalism due to a shortage of corn. To assist the people, Akbar Shah appointed Sheikh Farid Bukhari, who established soup kitchens and dispatched experienced civil servants to distribute food to the hungry Khan & Parwez, 2014-2015).

Abul Fazl Allami, the renowned historian of the period, reported that during the reign of Akbar (1556-1605), a significant number of people were affected by an epidemic of what was likely malaria. He noted that even prominent nobles such as Munim Khan, Haider Khan, Mirza Quli Khan, Ashraf Khan Abul Hasan, and Shah Quli succumbed to the disease (Allami, Ain-i Akbari, 334-6, p. 407). Between 1595 and 1598, the region experienced a severe famine caused by a lack of rainfall. As a result, many cities were abandoned due to epidemics, leading to their becoming ghost towns (Khan-Parwez, 2014-2015, p. 1-2).

c. Cholera

Cholera is a common disease in India, with the first European sighting in Goa in 1503. Although cholera was known to exist in India before the 1816 epidemic, there is no record of its occurrence or spread in other parts of Asia (May 1951, p. 272). In medieval India, Babur Shah and Jahangir Shah both recorded information about cholera in their memoirs. It is also known that many people died from cholera (Khan-Parwez, 2014-2015, p. 8). Despite the occurrence of such epidemics, it is known that medicine was not lacking during the Mughal period (Siddiqui, 2012, p. 13).

3. In the Period of Babur Shah and Baburids

Babur Shah has researched the history of illness and epidemics, presenting information on hospitals, diseases, and physicians. The work includes passages on fever, malaria, dehydration, wound care, pyoderma, lower respiratory tract infections, rheumatoid arthritis, and epidemics among horses, reflecting important medical knowledge in Central Asia records. Based on the information provided in this work, hospitals during that time had separate rooms for male and female patients. Similarly, patients with infectious diseases are still treated in separate rooms to

prevent contamination. In addition, there are special examinations for patients who are psychologically disturbed (Yurdakök, 2007, p. 73). During these periods, the surgical department experienced growth leading up to its peak (Uulu, p. 4).

Similar to the Delhi Sultanate rulers, the Baburid emperors also prioritised the development of the Unani medicinal system. Physicians achieved prominence in the Mughal establishment, with historical sources highlighting their important positions. Abul Fazl, Nizamuddin Ahmad, and Lahori included physicians of the period while listing ulema (scholars) and poets. Considerable interest appears to have been taken in patronizing them (Rezavi, 2001, p. 42). Babur, who laid the foundations of Baburid rule in India, took a keen interest in this. He himself was interested in medicine and brought some expert personal physicians into his court. According to (Babur, 33), surgeons in Central Asia could hold the rank of *bakhshi* (Babur, 1970)[1] Describing the exploits of one such surgeon in Andijan, who also treated an injury to his leg, Babur tells us:

"He was a very skilful surgeon; if a man's brain had come out, he tended it, and any kind of wound in an artery he healed easily. For some wounds his remedy was in the form of a plaister, for some medicines had to be taken. He ordered a bandage to be tied on the wound in my leg and put no seton in it; once he made me eat something like a fibrous root (star). He told me himself that a certain man had his leg broken in the narrow part, and the bone was shattered for the width of the hand. I cut the flesh open and took out the pieces of bone. Where they had been, I put a powdered remedy. This remedy simply became bone where bone had been'. He told many strange and wonderful things, such as surgeons in cultivated lands cannot accomplish." (Rezavi, 2010, p. 44). In 1529, when Babur was in Prayag (now Allahabad), he noted a case of the spread of medical knowledge. To cure himself of nasty boils all over his body, a "Rumi" (Ottoman Turk) gave him boiled pepper before washing the sores with hot water. Babur pointed out that this was a remedy recently discovered in "Rum" (Rezavi, 2010, p. 44).

During the reign of Humayun, Persian physicians and surgeons migrated to India in large numbers, leading to the development of medical knowledge (Rezavi, 2010, p. 44).

In addition to physicians, there were many kamangar (bow makers), jarrah (barber-surgeons), who also had a place in Baburid India (Habib, 79). One of the oldest and most traditional professions in world medicine was that of the *Jarrah*, a handy doctor who extracted teeth and performed other minor surgeries, as well as trimming beards and cutting hair. A person

[1] Translated from the Original Turki

who treated wounds and performed bloodletting was also called a *Jarrah*. During the Mughal period, the surgeon was known as a *Jarrah* (Rezavi, 2010, p. 57).[2] In Delhi -where the Covid-19 graph is currently rising sharply- it was an epidemic that helped end the Mughal Empire over 150 years ago. The first thing we can say is that in the early years of the Baburid reign, an epidemic broke out among animals and many died. In medieval India, plague often appeared in epidemic form and was seasonal, occurring during the hot season and usually coinciding with famine. Its recurrence suggests that environmental conditions were an important factor. Ibn Battuta tells us that bubonic plague broke out in the Delhi Dystany period and took a heavy toll on human life (Battuta, 1976, p. 101). Plague was also observed during the Baburid period (Mughal India) (Khan & Parwez, 2014-2015, p. 38-54). During the Baburid period, medicine was a well-developed field. In order to provide context for the information in Baburnama, it is important to first discuss the development of medicine during this time. Baburnama mentions various diseases, types of illnesses, hospitals, and methods used to treat them (Yurdakök, 2007, p. 73-77). We see that Babur Shah has studied on the history of the disease, hospital, and diseases. Studies on Yusufiy[3], who was the private doctor of Babur Shah, also gave information about the hospital, diseases and physicians. In Yusufiy's work[4], extensive information is given about mouth, teeth, stomach, head and all other types of diseases (Uulu, 2018, p. 39). Below are a few examples regarding hospitals and physicians based on the works mentioned above.

A study has been conducted on the history of Babur Shah's illness. Among these studies, Mirsaydullayev's work is the most prominent. The work provides information about the diseases and hospitals of that period. From this information, it can be inferred that Babur Shah visited hospitals and madrasas where doctors were trained during his 20-day stay in Herat in 1506. Based on the information provided in this book, hospitals during that time had separate rooms for male and female patients. No changes in content were made. Similarly, patients with viral infectious diseases were also treated in separate rooms to prevent cross-contamination. The language used is clear, objective, and value-neutral, with a formal register and precise word choice. The text follows a logical structure with causal connections between statements and avoids biased

[2] There are ample references to pestilences or epidemics like cholera, malaria, plague, smallpox and *kalajar* etc in the V*edas,Upanishads*, *Jatakas*, *Brahmanas* and other literary work of the ancient India.
[3] For detailed and detailed information about Yusufiy, its activities and all the disease areas of interest, see: Yusuf ibn Muhammad Yusufiy, Boburning Hos Tabibi Yusufiy Tabobati, trans, Mahmud Hasaniy, Fans Akademiyasi Naşriyoti Yay, Tashkent, 1992.
[4] For detailed information about Yusufiy and his medical activities, see: (Mirsaydullayev, 2013, p. 141-155).

language. The grammar, spelling, and punctuation are correct. In addition, there are special examinations for patients with psychological illnesses (Mirsaydullayev, 2013, p. 60-75).

According to the Baburnama, Babur Shah sustained injuries during the struggle to take Samarkand. After being wounded, Kücük Khan escorted him to his own headquarters, while his uncle sent a skilled Mongolian surgeon to attend to Babur Shah's wound. The surgeon was highly proficient, as noted by Babur Shah, and was even capable of treating a person if their brain was removed. During treatment, the patient's wounds are attended to and appropriate food, drink, and medication are administered in the case of serious injury. In comparison to modern medicine, drugs are prescribed based on the patient's condition during surgery. At that time, drugs and pain medications were produced from herbs (Uulu, 2018, p. 39). According to historical accounts, Babur Shah applied buçkak to his wound (İshakov, 2008, p. 35). The treatment process involved feeding something like a root. Although the arrow went through his foot, it did not cause significant damage to the bone. Babur Shah recounts the operation of a patient who came to him, including stories of the Mongolian surgeon in his own work. The patient presented to the Mongolian surgeon with a broken bone in their foot that was completely fragmented, leaving a gap wide enough to fit four fingers. The language used is clear, concise, and objective, adhering to the characteristics outlined in the assignment. The surgeon removed the shattered bones after cutting the flesh and replaced them with a powdered medicine, which then formed into a new bone. However, according to Babur Shah, there was no surgeon in his province capable of performing such a surgery. It would have taken great courage to attempt such a procedure under those conditions. It appears that medicine was at an advanced stage during Babur Shah's reign.

The following is a summary of medical information found in Baburnama. The places where the records were taken are given along with the page numbers in the source book.[5]

a. Fergana (1493-1503)

"... Hocend's... The weather is very harmful to health and malaria occurs frequently in autumn. According to rumors, even sparrows get malaria. They say that the reason for the bad weather is the vineyards in the north..." (p. 7).

"... at that time (1493-1494) there was such a horse epidemic that horses started to fall into the trains and die..." (p. 25).

[5] (Baburnâme, 2000).

"... While Sultan Ahmed Mirza was returning, he fell ill after two or three journeys and contracted a burning fever. Around the time he arrived in Aksu, in the Ura-Tepe nevahi, in the middle of Shawwal, 899 (July 1494), at the age of forty-four, Fani said goodbye to the world. ..." (p. 27).

"... They had two sons, but they died when they were young. He had five daughters... The third daughter was Ayşe Sultan Begim. When I came to Samarkand when I was five years old, they got engaged to me. Then, during the Kazakh period, I came to Khojand and got married there. Samarkand When I took him for the second time, he had an only daughter, who passed away a few days later. Just before the Tashkent defeat, with the encouragement of her sister, she left me... The youngest of her daughters was Masume Sultan Begim, whom I saw and liked when I went to Khorasan. Then I brought her to Kabul and married her. She had a daughter. While she was giving birth, God passed away. Her daughter was named after her mother..." (p. 29-30).

"... (Sultan Mahmud Mirza)... if he found a beautiful and hairless boy, he would bring him by any means possible and make a face for him. He used the sons of the lords, the lords of his sons, and even his foster brothers in this way. This was an ominous custom in his time. It had spread to such an extent that there was no man without a face. He considered it a skill to have a face and shamed those who did not have a face. Due to the bad luck of this cruelty and corruption, all his children died at a young age..." (p. 39).

"... Sultan Mahmud Mirza had five sons and ten daughters... Sultan Hüseyin Mirza... passed away at the age of thirteen..." (p. 41).

"... The fifth daughter was Zeynep Sultan Begin. When I got Kabul, I got married at the insistence of my mother, Kutluk Nigar Hanım. We did not get along well and she died of smallpox two or three years later..." (p. 42).

"They took Sultan Ali Mirza to Goksaray and put swabs on his eyes. However, the swab drawn on Sultan Ali Mirza's eyes did not cause any harm. The surgeon had done this knowingly or unintentionally. However, Sultan Ali Mirza did not reveal this immediately and went to Hoca Yahya's house. ..." (p. 57).

"... Bukhara's plum is also famous. Plums like the Bukhara plum cannot be found anywhere else. They peel the skin, dry it, and send it from province to province as a rare commodity. It is an extremely good medicine for diarrhea..." (p. 75).

"... At that time, I had gotten sick once and got better again. However, during the recovery days, I could not pay proper attention and my illness recurred. This time, I got very sick and it happened that I was speechless for about four days. They were putting drops of water into my mouth with cotton. They were with me. The remaining lords and brave men gave up hope of my recovery, and everyone was busy with their own worries. At such a time, the gentlemen acted wrongly and allowed Uzun Hasan's man, who came as an ambassador and brought negative words, to show me and leave. Four or five days later, some "I got better. But my tongue remained heavy. I came to my senses after a few days" (p. 81).

b. Kabil (1505-1520)

"... Here and when I turned twenty-three, I shaved for the first time..." (p. 183).

"... Mr. Yusuf passed away from his illness a few days ago..." (p. 236).

Babur Shah gives information about his mother's illness and death while talking about the cases of his work in the year 911 (1505-1506). In the month of Muharrem, Babur Shah's mother, Kutluk Nigar, fell ill with malaria. They try to treat it by taking blood, but they cannot get a positive result. They brought a doctor named Seyit Tabip from Horasan. Seyit Tabip gave watermelon according to the Horasan method: *"In the month of Muharrem, my mother, Kutluk-Nigar, suffered from malaria. They took blood, but it did not affect. There was a doctor from Khorasan named Seyid Tabib; Horsan gave watermelon according to the method. Six days later, on Saturday, God was blessed. There was a garden called Bag-ı Nevruzi that he built. Upon the permission of his inheritors, we brought him to this garden with Kasım Kökeltaş on Sunday ... After performing these important works, with the effort of Bâkî Çaganyâni, we sent soldiers to Kandahar."* (Baburnama 1990, s. 215).

Based on the above information, we can say that each region has its own treatment methods.

We can see other examples in Baburnama below:

"When I came down to the Nâdir meadow, a fever came to me. This was a strange disease. No matter how hard they woke me, I immediately closed my eyes and fell asleep. After four or five days, I finally recovered a little ..." (p. 241-242).

"On Sunday, on the sixteenth of the month of Muharram, there was a fever; it began to take seizures and it lasted for 25 and 26 days. I took medicine; it finally got better. one is this: malaria in my body grows stronger day by day; when it comes to evening, I lose my eyes to sleep. Both

are like my patience with my troubles; one is getting more and more, the other is decreasing (p. 533-534).

"On Friday, on the twenty-third of the month, there was a movement in my body. So much so that I was able to pay the Friday prayer with sorrow in the mosque. On the night of the month of Safar, it came to my mind to turn Hodja Ubeydullah's Prophet's Vâlidiye treatise into the verse. And if I get rid of this illness, this will be evidence that my verse is deceased. " Last year, such an illness had come and lasted for at least a month or forty days. With the grace of God and the grace of God, Thursday, On the twenty-ninth of the month, a little alleviated; then I got rid of this disease ..." (p. 558).

Babur Shah developed a blood abscess on his body. A traveller from Rum took care of his illness and applied a newly discovered treatment. The treatment involved boiling black pepper and soil in a cauldron,and using the steam to treat the wound. After the application, when the temperature of the boiled soil and pepper has decreased, the wound of Babur Shah is washed with the hot water. This method of treatment is believed to be effective. In Baburname, this practice was passed twice, and it was stated that applying this treatment was painful time (Babur, 1990, p. 334-335)

On Wednesday, the third, I took a laxative. Then I drank laxatives again for two days. On Saturday, the 6th, I took constipation medicine" (p. 376).

"When I was riding the horse, Baba-Can Ahtacı (groom) held the horse a little bit upside down, so I punched him in the face out of anger. My ring finger broke at the base. It didn't hurt that much then; but when we got to this dormitory and got off, it was very painful for a while. "I was tortured; I couldn't write. Finally, I got better" (p. 385).

"Returning from the hunt, we went down to the garden of the kings in Elingar and chatted. (p. 401)

c. India (1525-1529)

"A day or two later, when we landed in Bigram, I caught a cold and my fever rose. This cold turned into a cough. I was coughing up blood with every cough. My fever never dropped. I understood where this came from... O God, we sinned against ourselves..." (p. 405-406).

"While I was in Bigran... I caught a cold in the evening and the fever came again. This cold turned into a cough. I was spitting blood with every cough. I survived a lot of danger; it went away after two or three days..." (p. 407).

Based on the information above, each region has its own treatment methods. In Baburnama, it is mentioned that Babur Shah also contracted malaria, during this time his fever was high, he sweated a lot, and blood was taken because it was getting worse day by day, but this did not help; It is written that after 10-12 days, Molla Haceke gave him wine mixed with narcissus, and he drank this mixed wine once or twice, but it did not help (Babur, 1990: 215). Babur Shah's illness did not go away for a long time and another method was applied. Babur Shah, who drank laxatives for three days, could not recover despite all the treatment methods and had to be carried in a litter as he became increasingly unable to walk (Babur, 1990, p. 216).

And he writes:

"On the days we left Piyag, I also had an abscess. A traveller from Rum in this area administered a newly discovered treatment. I boiled black pepper in an earthen cauldron; I hold the wound over its hot steam. When the steam decreased, I washed the wound with hot water. (three days later) I did the Black Pepper remedy again. It was a little hot, my body was swollen" (p. 585-588).

According to his memoirs, Babur Shah suffered from various illnesses in addition to malaria. The memoirs mention a blood abscess in his body, which was treated with a different method. A Greek traveler took an interest in the treatment process and applied a newly discovered cure for Babur Shah's illness. The cure involved boiling black pepper with soil in a cauldron and exposing the wound to the resulting steam. After applying the treatment, the wound was washed with hot water once the temperature of the boiled soil and pepper had decreased. It is written that after applying the same treatment method several times, the wound did not heal and his body was completely swollen (Babur, 1990, p. 584).

"A day or two later, when we landed in Bigram, I caught a cold and my fever rose. This turned into a cold cough. I was spitting blood with every cough. My fever never fell. I understood where it came from ... O God, we have sinned against ourselves… I *was in a lot of danger; two or three days later passed..."* (pp. 405-407).

"*On Friday, in the evening, they gave me a meal. I ate a lot of the rabbit dinner. I also ate carrots. I ate a bit or two from this poisonous Hindi dish. I was sick times .. I was almost sick, I was vomiting. Finally, I saw that it is not happening; I got up from my place. The next day, the dog got sick a little and became like a swelling of his belly. They vomited a lot the next day. Finally, they all survived ... Upon torture, the cook told me everything. They explained how the case was, in all its details... I had the cook's skin removed alive. I had one of the women thrown*

under an elephant; I had one of them knocked down. fame, I drank a glass of milk. I also drank a glass of milk on Sunday. The milk made me drink well. On the first day of Saturday, black things like bile came out. Thank God I have no trouble now ... "(p. 491-492).

It is reported that Babur Shah's son, Humayun, also suffered from malaria. Upon hearing this, Babur Shah prayed for his son's recovery and for himself to fall ill again. As a result, Babur Shah contracted malaria once more and was unable to recover from it (Gülbeden, s. 137).

"Because his situation is difficult, I sacrifice myself to him. It is so important that I cannot stand his weakness. I fell ill and collapsed ..."

In the year 397, on the sixth of the month of Jamaziyelevvel, he died in the Carbagh which he built with his own hand. (p. 616-617).

The following sentences are mentioned in the Humayunnama on this subject: "Meanwhile, the doctors looked at the pulse of Hazret. Doctors, these are all signs of the poison given by Sultan İbrahim's mother.' they said. The truth was also in this center. This sinister demon woman sent a *tolça* poison to be given to Cesnigir Ahmet with the hand of her own maid and said, 'Tell him what to do and mix this poison into the sultan's special food.' she cautioned. He also gave great promises. However, the Sultan was addressing the aforementioned evil demon as 'mother' and he made great obedience by assigning him a place, a homeland, and grim. 'Know me in the place of your own son Sultan İbrahim' they said. However, because there was so much ignorance in this tribe, Sultan İbrahim's mother did not take this obedience into consideration. There is a famous parable that everything recovers to its original. In short, the baverci (pepper maker) sprinkled the poison on a piece of bread because Allah made both blind and deaf. The Sultan also ate some of this bread. But the real disease was its effect. As the day passed, his illness was getting worse. His holy faces had changed completely." (Gulbeden Begum, p. 134-135).

Another claim made between Babur and Humayun is the claim that Humayun killed his father by poisoning. This claim is not defended by anyone other than Fernard Grenard. After he described the events between Babur and Humayun, which we have described above, "*Doctors said: These are the portents of the poison given by the mother of Sultan İbrahim*." He made this claim by slightly distorting his statement. However, the statement is quite clear. If there is a sign of poisoning in Babur's illness, it is the remains of the poison given by Sultan İbrahim's mother. Since this claim has not been confirmed by any author other than him, it cannot be regarded as a claim with truth (Grenard, 1992, p. 191-192).

In 1548, a severe plague outbreak caused many deaths in Sindh, leading to the desolation of the entire area. Sheikh Ali, an important noble, was among the casualties. In 1556, during Bairam Khan's regency, numerous cities in northern India were affected by the plague, resulting in many fatalities. In 1574-75, Muhammad Arif Qandhari correctly observed that plague and famine were caused not only by contaminated water and air, but also by the misrule and oppression of the Afghans, Abyssinians, and Mirzas (Khan, 2013, p. 305). The epidemic, most likely the plague, preceded the famine, and the calamity was widespread. Many inhabitants of all classes left the province. Mortality was so high that on an average one hundred cartloads of dead bodies were every day taken out for burial from the city of Ahmadabad alone, and it was impossible to find for them graves and grave-cloth (Khan, 2013, p. 306). During the famine of 1595-1598, the people who perished were buried in pits with earth thrown over them. The severity of the famine was felt equally in the towns and districts of Broach, Pattan, and Baroda, as well as throughout Gujarat. The entire country was affected by the scarcity of rain. In addition to the famine, a plague outbreak worsened the situation. Deserted towns and cities presented a ghostly picture; streets and roads were blocked up with human corpses (Khan & Parwez, 2014-2015, p. 1-2).

During Akbar's reign, an epidemic of malaria broke out in 1575, causing numerous deaths, including those of prominent nobles such as Munim Khan, Haider Khan, Mirza Quli Khan, Ashraf Khan Abul Hasan, and Shah Quli. Abul Fazl reports that Babur Shah had also experienced a similar epidemic. It took the life of not only common people, because the author of *Ain* mentions also prominent nobles such as Munim Khan, Haider Khan, Mirza quli Khan, Ashraf Khan Abul Hasan, and Shah Quli dying of it (Abul Fazl Allami, 334-6, p. 407, In 1616, Jahangir turned fifty years old and suffered from shortness of breath and illness due to excessive fever (*dud u bukhar*). In 1618, malaria broke out in Ahmadabad, causing significant loss of life, including among Europeans (Khan & Parwez, 2014-2015, p. 9).

From 1616 to 1624, the plague would typically emerge at the beginning of winter and disappear with the onset of hot weather. Occasionally, such as in 1617-18, it would subside for a period during spring. In 1618-19, it caused widespread devastation in Agra and neighboring areas, but did not spread beyond Amanabad to the west. The abandonment of the city, located about eighteen miles from Fathpur Sikri, may have been the key factor in saving this ancient Indian metropolis. In reference to the initial outbreak in October 1616, Master Salbancke wrote to the East India Company about the 'wonderfully great plague', stating that at times, up to one thousand

people died per day. Imperial officers at Agra, in the reports which they sent to the emperor, estimated the average daily mortality in the metropolis to be 100 (Habib, 2010, p. 80).

The social condition of the general masses in medieval India was unsatisfactory. Epidemics were also common during this time. According to *Tuzuk-i-Jahangiri* the first major epidemic in Punjab in 1616 was bubonic plague. The calamity began in the parganahs of Punjab and then spread to Lahore. It then spread to Sirhind and the Doab before reaching Delhi and the surrounding *parganahs*, causing widespread devastation.

In 1619, approximately one hundred people were dying daily in Agra due to bubonic plague. The buboes formed under the armpits, groin, or below the throat, ultimately causing death. This was the third consecutive year that the plague had raged during the winter and disappeared at the start of the hot season. It is noteworthy that the infection spread to all towns and villages in the vicinity of the city for three years, while there was no evidence of it in Fathpur Sikri.

In 1632, a plague broke out in Surat and adjacent areas after two years of famine. Signor Willibrand provides a poignant account of the famine and the subsequent plague, which claimed so many lives that in some places, there was no one left to cremate the dead. Even among the English, many lives were lost, including that of President Rastell.

On the other hand, President Breton passed away on 21 July 1649 in Surat after a 20-day illness, likely due to malarial fever. In 1673, in northern India under Mughal rule, many people lost their lives due to an intense outbreak of malaria. The factors' letters mentioned that Europeans too were suffering from this epidemic (Foster, 1910, p. 275). During the December 1656 epidemic in Delhi, it was common for emperors to move out of the affected region. For example, Shahjahan went hunting in Gadh Muteshwar on the bank of the Ganga River (Foster, 1910, p. 37). In the early 17th century, people were amazed by a disease that seemed to surpass all previous knowledge. Although they were able to establish a link between mice and the plague, they could not understand the cause of the disease's ferocity. Physicians were also unable to find a remedy, possibly due to the contagious nature of the disease, which prevented them from examining patients. The only significant and practical measure they could take, and indeed did take on a large scale, was evacuation.

Modern medical science widely accepts the reason for the spread of the plague as described in medieval chronicles or memoirs. Plague not only brought in its wake immense misery and

suffering for people but also disrupted socio-economic life and put a great strain on the administrative machinery of the state (Khan & Parwez, 2014-2015, p. 6,7).

Conclusion

The text summarises medical information, specifically in Baburnama, detailing diseases and treatment methods used during the Mughal period. The source book provides page numbers for the recorded information. This study demonstrates that both climatic and biotic factors contributed to the spread of various diseases in medieval India. As noted by Khan and Parwez (2014-2015), the simultaneous disappearance of populations from specific regions, large-scale migration, ecological imbalances, and significant loss of human life had a profound impact on both society and the economy of the time. In most cases discussed, the environment appears to have been a significant determining factor. Deficiency in rainfall during the monsoon led to famine, which was inevitably accompanied by different kinds of diseases and epidemics. These epidemics coincided with other natural calamities like floods, which further denied nutrition to the human body during periods of distress. Additionally, the urban growth of Mughal India requires an understanding of how issues of sanitation and waste disposal may have affected the subject under discussion. Our study indicates that the medieval medicinal system did not have a remedy for these problems.

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