Medicine in philately: Pandemics from past to present

Filateli'de tıp: Geçmişten günümüze pandemiler

Mehtap Pekesen[1], Ahmet Dogan Ataman[2], Ahmet Ozdinc[3]

[1] Vocational School of Health Services, Akdeniz University

[2] Dentist & Medical Philatelist

[3] Department Of Medical History and Ethics, Cerrahpasa Faculty of Medicine, Istanbul University-Cerrahpaşa

Abstract

Aim: There have been many pandemics that have left deep traces in human history. Many pandemics have caused crises in societies and negative consequences on health, the economy, social, and global security. Pandemics are foreseen to exist in the future as they have in the past and present. Therefore, examining past pandemics can serve to better understand, analyze and manage future pandemic processes. From this point of view, this article aims to emphasize past pandemics through philately medicine, draw attention to possible pandemics in the future, and raise awareness about the precautions to be taken.

Methods: This article aims to describe the discovery and development of pandemics around the world through historical stamps, postal history, and other related items. Philately is the study of stamps, postal history, and other related items. But philately is much more than stamp collecting. Philately involves the study of the design and educational impact of the material. This article presents the history of medicine stamps produced worldwide from the past to the present to highlight the history of the pandemic. The stamp captions are based on a scan of the 6-volume Scott Catalog of Standard Postage Stamps (2017). The copyright of the stamps used in the article belongs to the philatelist author

Results: This article presents pandemic stamps produced worldwide between 1962 and 2020. In the article, a total of 17 philatelic materials (historical stamps) are presented on the subject of describing the prehistoric life of people, infectious diseases that cause pandemics, transmission routes of epidemics, prevention, treatment approaches, losses in pandemics and struggles against pandemics.

Conclusion: This research provides an overview of the development and history of pandemics around the world, using philatelic medicine materials produced worldwide during pandemics from the past to the present.

Keywords: COVID-19; coronavirus; pandemics; philately

Öz

Amaç: İnsanlık tarihinde derin izler bırakan birçok pandemi kaydedilmiştir. Yaşanan birçok pandemi toplumlarda krizlere, sağlık, ekonomi, sosyal ve küresel güvenlik üzerinde olumsuz sonuçlara neden olmuştur. Pandemiler geçmişte ve bugün olduğu gibi gelecekte de var olmaya devam edecek süreçler olarak öngörülmektedir. Bu nedenle geçmiş pandemilerin incelenmesi, gelecekteki pandemi süreçlerinin daha iyi anlaşılmasına, analiz edilmesine ve yönetilmesine hizmet edebilir. Bu bakış açısından hareketle bu makale, filateli tıbbı üzerinden geçmiş pandemilere vurgu yapmayı, gelecekte yaşanması muhtemel pandemilere dikkat çekmeyi ve alınması gereken önlemler konusunda farkındalık yaratmayı amaçlamaktadır.

Yöntemler: Bu makale, dünyadaki pandemilerin keşfi ve gelişimini tarihi pullar, posta tarihi ve diğer ilgili öğeler ile anlatmaya odaklanmaktadır. Filateli; pullar, posta tarihi ve diğer ilgili öğelerin incelenmesidir. Ancak filateli, pul koleksiyonculuğundan çok daha fazlasını içermektedir. Filateli bir materyalin tasarımı ve eğitimsel etkisinin incelenmesini içermektedir. Bu makalede pandemi tarihini vurgulamak için geçmişten günümüze dünya çapında üretilen tıbbi tarihi pullar sunulmuştur. Pul alt yazıları 6 ciltten oluşan Scott Standart Posta Pulları Kataloğu (2017) taranarak oluşturulmuştur.

Bulgular: Bu makalede, dünya çapında 1962-2020 tarihleri arasında üretilen pandemi pulları sunulmaktadır. Makalede insanların tarih öncesi yaşamını betimleme, pandemiye neden olan bulaşıcı hastalıklar, salgın hastalıkların bulaşma yolları, önlenmesi, tedavi yaklaşımları, pandemilerde yaşanan kayıplar ve pandemilere karşı verilen mücadeleleri konu alan toplamda 17 filatelik materyal (tarihi pullar) sunulmuştur.

Sonuç: Bu malake, geçmişten günümüze pandemiler sırasında dünya çapında üretilen filatelik tıbbı materyalleri kullanılarak, dünyadaki pandemilerin gelişimine ve tarihine genel bir bakış sunmaktadır.

Anahtar Sözcükler: COVID-19; filateli; koronavirüs; pandemik

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Corresponding author/*Yazışma yazarı*

Ahmet Özdinç

Istanbul University-Cerrahpasa, Cerrahpasa Faculty of Medicine, Department of Medical History and Ethics, İstanbul, Türkiye
E-mail: ahmet.ozdinc@iuc.edu.tr

ORCID

Mehtap Pekesen: 0000-0003-2193-1675
Ahmet D. Ataman: 0000-0003-3416-8648
Ahmet Özdinç: 0000-0002-0012-6637

INTRODUCTION

The concept of the pandemic is defined as the spread of outbreaks that is epidemics that cannot be controlled to very large geographies, sometimes to a continent or even to the whole globe, and causing diseases and deaths in humans or animals (1). The term pandemic (pan: all + demos: people from ancient Greek) is defined as the general name for the epidemic diseases that spread and show their effects over a wide area such as a continent or even the whole world's surface (1). An outbreak of a disease that occurs in excessively large numbers of people in a particular society or region is defined as an epidemic. When an epidemic uncontrollably starts spreading (characteristically via human-to-human or animal-to-human contact) to larger areas and crosses countries and even continents, it is called a pandemic (2).

Pandemics are seen as an important part of historical changes and developments. Epidemics/pandemics, which are as old as human history, are accepted as global crises leading to great losses and causing economic, political, social, and public effects. Epidemics, known to have emerged and been recorded during the Morean War in 430 BC, have affected many civilizations throughout human history (3).

Although the history of pandemics dates back to the times when humankind domesticated plants and animals, they are assessed from multiple perspectives in terms of their spread processes and results (4). Epidemics and pandemics have been accompanied by intertwined economic, political and social processes in terms of the mutation of the viruses, their transmission between hosts, and the effects of viruses on living organisms (5). As hunter-gatherer societies started agriculture and settled and domesticated animals, animal pathogens reached people through milk, meat, saliva, and excrement. Through the mutations of these pathogens on the host they reached, the transmission of pathogens from human to human has become easier, and disease-causing pathogens have become contagious. These diseases prepared an environment for epidemics and pandemics through wars, new trade routes, or discoveries (4, 5). The living conditions that paved the way for pandemics in primitive societies were emphasized with philatelic materials (Figure 1,2,3).

Since human beings could not understand the cause of epidemic diseases in ancient times, they were

Figure 1,2,3. The prehistoric life of people was shown on stamps

desperate against these diseases. For this reason, they perceived deaths due to epidemics as completely supernatural forces. They defined the causes of the epidemic resulting in mass deaths and suffering as magic, gods, or evil spirits. To prevent these disasters, they tried to take measures by praying to their gods and giving sacrifices in temples (6). However, today, the cause of epidemics is accepted as the reactions of pathogens to events in nature such as population increase, earthquakes, floods, storms, famine, agricultural practices, climate anomalies and environmental pollution, and human activities that usually disturb the ecosystem (7).

Although facing epidemic diseases experienced great losses during the historical process, the epidemic could not be permanent or destroy the entire human race. Microorganisms causing epidemics were sometimes prevented by scientific studies and sometimes these organisms have become safe by themselves through natural ways. The microorganism causing epidemic disease can be a virus and sometimes a bacterium. Since these microorganisms tend to use the living beings they infect as hosts, they mutate in a way that does not kill the host in the long term. As a result, the death rate in epidemics decreases over time (2).

The pandemics, horsemen of death, have collapsed empires, defeated armies, changed our lifestyles, and

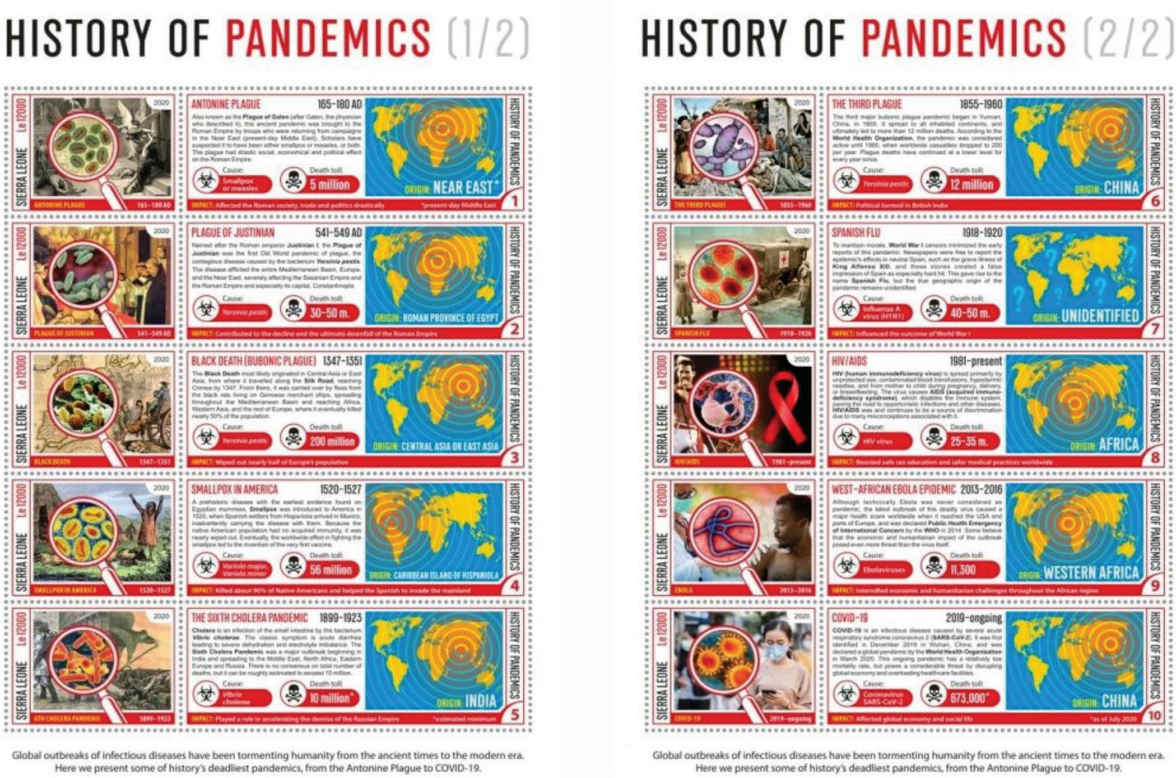

Figure 4. History of pandemics from Sierra Leone on two sheets in 2020

have continued to change. When we examine the pandemic process experienced in different periods since the 14th century, it is possible to mention different sources of epidemic diseases. The medical philatelic material designed as two pages to emphasize the microorganisms and different sources that caused epidemics in the historical process is given below (Figure 4).

It is believed that examining past pandemics can help us better understand, interpret and consciously manage the current pandemic process. This article focuses on describing the discovery and development of pandemics around the world through historical stamps, postal history, and other related items. Philately is the study of stamps, postal history, and other related items. But philately is much more than stamp collecting. Philately involves the study of the design and educational impact of the material. Throughout history, pandemics around the world have caused such devastating consequences that many philatelic materials have been issued from different countries to draw public attention to the importance and seriousness of epidemics. The collection and study of philatelic materials related to medicine, such as historical stamps, First Day Covers (FDCs), registrations, and cancellations, are frequently included in medical philately (8). The article on past pandemics can help us to understand, analyze and manage future pandemics much better. From this perspective, this article aims to emphasize past pandemics through philately, draw attention to possible future pandemics and raise awareness about the measures to be taken. Therefore, the article aimed to present the history of the pandemics through philately. In this article, the main sources of epidemics in history and the losses they caused are examined respectively.

MATERIALS AND METHODS

This article includes 8 epidemics and pandemics dating from the 14th century to the present day. These are examined under the titles of Plague Pandemics (Plague of Athens, Antonine Plague, Plague of Justinian, Black Death/Plague, Third Plague), Syphilis, Malaria, New World Smallpox Outbreak, Cholera, Influenza (Spanish Flu), HIV - AIDS Pandemic, Various Respiratory Syndromes.

The captions and descriptions of the stamps are based on the results of a search of the 6-volume Scott Catalog of Standard Postage Stamps (2017). The copyright of the stamps used in the article belongs to the author, who is a philatelic collector and philatelist. These stamps belong to a valuable collection that the author has acquired after many years of meticulous research. In addition, major databases such as MEDLINE (PubMed), Web of Science, Science Direct, ULAKBIM, and other primary literature sources were searched to provide literature support for epidemics.

RESULTS

In the article, 17 medical pandemic history stamps were presented on the description of the prehistoric life of people, infectious diseases that cause pandemics, transmission routes of epidemics, prevention, treatment approaches, losses in pandemics, and struggles against pandemics. The Philatelic Table of Pandemic History through Philately is given below (Table 1).

1. Plague Pandemics

One of the oldest reference points in the history of pandemics is the pandemic plague in the 14th century. It is described as the worst disaster that Europe has ever seen. This pandemic became more than a medical problem due to the political transformations caused socially and culturally and it became a social phenomenon affecting the entire European mainland (9,10). In the medical philately material about the fight against the plague epidemic, it is emphasized that people burned their living spaces to get rid of the epidemic (Figure 5).

Figure 5. People burn their village because of the outbreak

There have been three major plague pandemics in the world, recorded in 541, 1347, and 1894, each time causing high mortality. These are the Plague of Justinian (541-542), Black Death/Plague (1347-1351), and Third Plague Pandemic (1894), respectively (1). However, apart from these pandemics, the Plague of Athens, the Antonine Plague, and the Plague of Cyprian (Rome, 252-256), which went down as epidemics in history, are among the epidemics with severe effects on human history. It is mentioned that all plague epidemics have different spreading ways and geographical sources. It is

Table 1. Philatelic table of the history of pandemic through philately*

No	Name of serial	Date	Country	Michel Cat. No
1	Prehistoric People	2013	Burundi	3253
2	Prehistoric People	2010	Comoros	2722-2725
3	Prehistoric People	2013	Central Africa	4279
4	History of pandemics	2020	Sierra Leone	-
5	Leaving the Sutu	1979	Transkei	51
6	Black Death	2000	Dominica	2988
7	Bubonic Plague	2000	Nevis	1465
8	Syphilis	2014	Central Africa	5176
9	Protozoology	1985	Kenya	330
10	Malaria	1962	Mozambique	483
11	E.Jenner	2010	G.Britain	2891
12	WHO, E.Jenner	1973	Liberia	882
14	Flu	2007	N.Korea	-
15	World AIDS Day	2004	St.Lucia	1221
16	AIDS	2000	Uruguay	2566-2567
17	SARS	2003	China	3447

* This table is based on the Scott Standard Postage Stamps Catalogue (2017), consisting of 6 volumes (WHO: World Health Organization, AIDS: Acquired immunodeficiency syndrome, SARS: Severe acute respiratory syndrome)

known that Yersinia pestis bacteria, which is the causative agent of the disease, is transmitted to humans by fleas or spread from other infected people (1,9,10).

Plague of Athens (Typhoid Fever) (430 BC)

The plague of Athens (430 - 425 BC) is perhaps the first registered epidemic in history. Although the cause of the plague of Athens was not determined (anthrax, bubonic/pneumonic plague, smallpox, and typhus are candidates), it is the first disease to be investigated and identified using clinical and epidemiological approaches (4). The following figure highlights the mode of transmission of the plague of Athens. (Figure 6)

The plague of Athens, which started in Ethiopia, spread to Egypt, Libya, and Iran and from there to the Greek world. The plague of Athens occurred in the second year of the Peloponnesian War (430 BC) between the Athens City State and the Spartans in Ancient Greece. It is known that a quarter of the civilian population and many doctors died during the epidemic that lasted for about four years. It is known as an epidemic in which mass deaths occurred not only in humans but also in animals that were contacted with the countless unburied corpses (6). The change in the course of the Peloponnesian War with the plague of Athens led to serious consequences such as the decrease in the belief in laws and religions in the people of Athens. Therefore, with stricter laws, democracy was weakened, and then the seeds that would destroy democracy were planted. This epidemic, in which about 100 thousand people died and which had serious effects on the whole world, deeply affected people (11).

Antonine plague (165-180)

Although it is believed that the Antonine plague was caused by smallpox or measles, its real cause remains unclear. It is estimated that the epidemic was brought to the Roman Empire by the soldier returning from the Eastern expeditions. Antonine plague is also known as the "Plague of Galen". It is estimated that the number of people who died from the Antonine plague in the Italian peninsula was around 5 million. While the Antonine plague caused the Roman Empire to lose its power significantly, it is thought to shape world history seriously. It is seen that information about the

Figure 6. The plague is transmitted by mice

epidemic was given by Galen (129-216), one of the world-renowned physicians, in his work "Methodius Medendi" and in the writings of the famous Roman Emperor Marcus Aurelius (11).

Plague of Justinian (541-542)

The plague of Justinian started in 541 in Egypt. Since the pandemic caused the Byzantine Empire to weaken in many aspects such as economic, religious, military, and social fields, it was named the "Plague of Justinian" after the Emperor (1). Emperor Justinian (482-565), expanded the empire to its greatest dimension from the Middle East to Western Europe. However, with this epidemic, the decline of the Byzantine Empire began. The process of unification between the Byzantium and Western Roman Empire, which conquered the whole of Italy and the Western Mediterranean before the epidemic, resulted in the invasion of Northern Italy in 568 by Lombards with the Plague of Justinian. It is also known that Emperor Justinian also got this disease, but Empress Theodora personally took care of him and he recovered within a few months. The plague pandemic was estimated to have wiped out 10% of the world's population (25-100 million people). It was recorded that 50-60% of the population of North Africa, Europe, Central, and South Asia was lost and 10,000 people died per day at the peak point in Constantinople (2, 11).

Black death/plague (1347-1351)

Although this pandemic was called "The Great Death" in the 14th century, it is referred to as the "Black Death" since it causes black swellings (abscess and LAP) in

humans. The change in the world climate in the 1330s destroyed the lives of rodents in the steppes and hot and dry winds drove bacteria and animals from the deserts to the settlements of the Mongols[1]. The Black Death followed the trade routes from the territories, that are today Mongolia and China, across Asia and to Europe (between 1347 and 1348) (4). With the trade route, the disease spread to other continents and spread from Egypt to Palestine and from there to the whole world. Europe where the pandemic was seen severely was affected after 1348 as though it had lived through several nuclear wars (1). In Europe, all diseases were considered the wrath of God at that time and it was thought that God punished people with the black plague because of their great sins. It is even known that in medieval society, "Flagellants" whipped and physically punished patients with plague, whom they regarded as sinners (11)

The pandemic resulted in the deaths of approximately 75 million people, including the Middle East, India, and China. In the 2nd plague pandemic that caused a worldwide pandemic, approximately a third of the European population passed away. It is stated that doctors treating plague wore protective clothing consisting of a polished fabric coat, a beak-shaped mouthpiece usually filled with grass, straw, and spices, and a mask with a glass eye section to protect themselves from the disease. Doctors at that period conducted works on blood draw, and frog or leech therapy in the treatment of plague. In the famous painting by Pieter Bruegel named "Triumph of Death" depicting the "Black Death"; the theme that "none one can escape from their fate and everyone will lose against death" is presented. After the death of many people after the black death pandemic, it became difficult to find cheap labor and thus the wages and welfare of the working class increased. The lack of cheap labor experienced during that period led to the need for technological innovation and an increase in studies on this subject. The black death plague pandemic changed life in medieval society in every aspect and completely changed feudalism (2, 11). (Figure 7).

Third Plague (the 1800s)

It is estimated that the Third Plague Pandemic started in China in 1855 and spread to several continents. The

Figure 7. The plague is transmitted to people by fleas and rats Physicians carry a beak-shaped mask to prevent contamination

number of people lost in India alone during the pandemic (1898 to 1918) in ten years was 12.5 million. The plague epidemics, which caused great losses and devastating effects on human societies, could be slowed down with preventive medicine measures and the use of antibiotics after the 1950s (12).

2. Syphilis

The syphilis disease, which dates back to prehistoric times according to archaeological findings, began to appear in texts at the end of the 15th century and caused serious epidemics until the mid-19th century (4). The causative organism of syphilis (Spirochaeta Pallida-Treponema Pallidum), was discovered by Fritz Schaudinn in 1905 (Figure 8).

Syphilis spirochete is a disease that does not survive outside the human body and is transmitted from person to person by sexual contact and kissing. Therefore, although Syphilis is a disease, it also includes social discrimination terminologically (13). It was recorded that countries named this disease with the name of another country to avoid this cultural embarrassment. This disease was named "Neapolitan disease" by the French, "French disease" by the British and the Germans, "Polish disease" by Russians, "German disease" by Polish people, "Spanish-Castilian disease" by Dutches, Netherlanders, Portuguese, "Chinese ulcer" by the Japanese and "Ferengi (Syphilis)", meaning that it belongs to the Europeans, by Ottomans (13).

Three hypotheses have been developed to explain the origin and spread of syphilis to the world. All three

Figure 8. A spirochaete bacterium treponema pallidum causes the diseases syphilis

Figure 9,10. Anopheles mosquito carrying malaria

hypotheses are associated with the geographical discoveries of Christopher Columbus. According to the first hypothesis, Syphilis disease, which emerged in America, was carried to Europe by Columbus's team in 1493. With this start, the syphilis epidemic occurred in Europe in 1500, among a population that was not previously exposed to this disease and was not immune. The proponents of the second hypothesis claimed that venereal syphilis existed in Europe before Columbus's journey but it could not be distinguished from "leprosy". The third hypothesis is based on the assumption that the syphilis agent evolved with a human population that was present in both the Old and New World at the time of Columbus's discovery. Syphilis disease is mentioned in tablets, papyri, and inscriptions, and traces of syphilis are found in Europe, America, Anatolia, Mesopotamia, and Egypt. Therefore, it can be said that the third thesis about the syphilis hypothesis is stronger (13). Syphilis has affected the politics, war, literature, and sexual life of the civilized world for five centuries (12).

3. Malaria

Malaria, seen very commonly all over the world, especially in tropical countries, is a parasitic disease that has been known since ancient times and threatens public health in every period (14). Malaria played a role in the fall of civilizations such as Mesopotamia, the Hittites, and the Greeks. The traces of malaria, known to be the earliest in human history are found on the Ebers papyrus (1500 BC) and clay tablets in the library of Ashurbanipal (600 BC). It was also recorded that the typical characteristics of the disease (large spleen, periodic fevers, headache, chills-shaking due to fever) are mentioned in the classical Chinese medicine text and the records in Nei Jing (Figure 9). Malaria defined as repeated fever and splenomegaly was reported in the 5th century BC by Hippocrates as "those who drink marsh, stagnant and polluted waters will have a swollen abdomen, their spleen will grow and they will have fever attacks"(12).

The malaria parasite generally avoids sudden deaths and becomes discriminative due to its nature. Plasmodium swims and multiplies in the human body (12) (Figure 10).

Malaria, known to be transmitted to humans by Anopheles mosquitoes, is composed of four Plasmodium species; p.falciparum, p.vivax, p.ovale, and p.malariae. Plasmodium ovale only causes disease in West Africa and Pacific natives while it is not a risk to other parts of the world since other races are naturally immune to this species. The species forming the most malaria in the world and Turkey is Plasmodium vivax (14).

Alexander the Great died from malaria in 323 BC when he was 33 years old. It is estimated that people more than those who died due to wars, famines, and other epidemic diseases died due to malaria in the history of humanity, in this context, half of all deaths on earth were caused by malaria until the Second World War. Malaria was one of the reasons for the Papacy to move to Avignon. Unfortunately, the malaria epidemic continues and one in three children in Africa dies from malaria (12).

4. New World Smallpox Outbreak (1520-1902)

Smallpox outbreaks started in Mexico in 1520 and continued periodically until 1902, the Boston, Mas-

sachusetts epidemic (11). Smallpox is an infectious disease with the widest spread and the most deaths in history. Smallpox disease is believed to cause the loss of 300-500 million people with a series of small epidemics from the 16th century to the 19th century (1, 2).

It was recorded that when the Europeans came from the Old World to the New World (15th century), they brought a series of new diseases with them. The local people who were not immune to these diseases were infected with epidemics transmitted by Europeans and the population of the region decreased from 60 million to 5-6 million. As a result of the epidemic, the Europeans colonized the newly vacated areas, and historical processes that would cause the change in the global economy occurred. The invaders had to bring millions of black slaves to replace the deceased Indians to sustain the economy of the hemisphere. In addition, as a result of the deaths due to the epidemic, the forest areas have increased and CO2 levels decreased significantly with enormous growth in plants and trees. This situation caused temperature drops in large parts of the world and caused the initiation of the period called the "Little Ice Age" (4, 9, 11).

The disease which seriously shaped the historical process of the American continent and the whole world caused serious losses all over the world until Edward Jenner (1749- 1823) developed its vaccine in 1796. The smallpox vaccine, having the title of the first vaccine in history, is the only disease in the world that has been eradicated approximately two centuries after its discovery by today's evidence (1, 11) (Figure 11,12).

Figure 11,12. E.Jenner on stamps

5. Cholera (1817-1975)

The first known cholera pandemic emerged in 1817 and became the most deadly disease of the 19th century. In terms of a historical perspective, it is seen that seven major cholera pandemics (1817 – 1975) affected the whole world and all of them originated in Asia and India. It spread to the whole region with the overflow of the Ganges River and the spread of waste water due to the monsoons. After the cholera epidemic, it was spread all over the world with the expeditions of British military units that came to Calcutta and British commercial activities. Cholera, which is one of the waterborne diseases, is an infection caused by the bacteria called Vibrio Cholerae and is seen with acute and severe diarrhea, causing the body to lose a large amount of water in a short time. Therefore, it can lead to mass infections when hygiene conditions are poor and pollution increases in city waters (10). A British doctor, John Snow, followed cases of cholera and identified contaminated water as the way of transmission of the disease while working in a poor area in London (1, 12).

The Cholera epidemics, causing periodic pandemics with their spread in large masses, have caused the death of millions of people (11). The fear and horror caused by cholera epidemics have led to the establishment of the public health system in many countries and the development of oral fluid treatment and the nursing profession (12) (Figure 13).

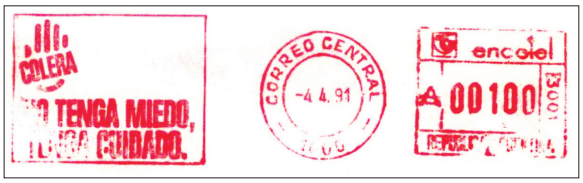

Figure 13. Slogan cancellation of cholera

In cholera, which can still cause epidemics from time to time today, a total of 2.260.389 cases were seen between 2004 and 2014 and 45.543 people passed away (1).

6. Influenza

It is stated that epidemic diseases similar to influenza have been recorded in many countries during the past 400 years. In 412 BC, Hippocrates described an epidemic that is believed to be influenza by modern physicians. The epidemics in the periods as early as the 16th century in England and the 18th century in the USA are defined as "influenza" although their causative agents are not precisely known. Many influenza pandemics have occurred since that date. A severe epidemic occurred in 1580, possibly the first global

spread of influenza. The epidemic started in Asia and spread to Africa, Europe, and the USA. It was recorded that almost all of Europe was affected within six weeks and only one in every 20 people recovered from the disease (15).

Despite many medical advances, influenza viruses remain a danger to humans. This epidemiological success of viruses is attributed to the constant mutation they undergo and their continuing evolution (11). Enveloped single-stranded RNA, the infection agent of influenza, is composed of influenza A, B, and C types in the family Orthomyxoviridae. Influenza A and B can cause epidemics every year and while type A can also cause pandemics, type C only causes mild diseases. Russian Flu (1889-1890), one of the most important subtypes of the influenza pandemic, caused the deaths of approximately 1 million people in Uzbekistan and some parts of North America (1).

Spanish Flu (Influenza Flu) (1918-1920)

In the 20th century, influenza pandemics occurred within the last few decades and the most severe of which was the "Spanish Flu" in 1918 – 1919 (Figure 14). A new influenza virus subtype (H1N1 virus) emerged and spread throughout the whole world in various waves for two years. This pandemic, known as the greatest influenza pandemic in history, started in 1918 during World War I and became a pandemic due to the constant movement of military camps (16).

Figure 14. Proof of flu from 1977

The flu, which started in Europe and spread to Spain, France, England, and Italy, spread all over the world in a short time and lasted until the early 1920s. With the negative effects of the ongoing war such as poor housing conditions, insufficient sanitation services, and disruption of health services, the damage caused by the pandemic has reached a very serious level (9, 16). The pandemic was concealed and censored in many countries with the concern that it would decrease the motivation for war. As a result, since there was no public awareness, the pandemic spread to very large masses in all three large waves and caused the deaths of 500 million people (11).

The reason why the disease was named "Spanish flu" is that Spain remained neutral during World War I and the news about the rapid spread of the pandemic was mentioned a lot in the Spanish media while they were widely censored in other countries. The first news at the national level in the world press appeared in the Spanish ABC newspaper on May 22, 1918. Although the region of the first patients in the pandemic is a speculative issue, the USA is generally accepted as the place where the 1918 influenza occurred as pointed out by the documents. Although the first documented cases were seen in military bases in the USA (Kansas) as of March 11, 1918, it is also possible that the virus has been transported to the USA by migrant workers. Therefore, it is not possible to say precisely where and when the virus responsible for the 1918 pandemic occurred (17).

The most important effect of the Spanish flu has been observed in the health systems and services of the countries. Healthcare services in many countries were reorganized and public health strategies were regulated (10). During that period, concepts like public health, health education, isolation, hygiene, and preventive medicine came to the fore and serious developments were established (11). The sense of providing free healthcare services to everyone in need also became valid in this period (10).

The Spanish Flu pandemic encouraged scientists to study influenza in the years after it had seriously damaged the world. An early influenza vaccine was developed in the 1930s and an anti-viral drug was developed in the 1960s. Although modern technologies allow us to better understand the influenza virus, global prevention, and control of influenza is still a challenge today. 100 years later, the possible epidemics seem inevitable due to the complex host range and frequent influenza virus mutations (18). In addition, when it was realized that the disease, which was thought to be transmitted from animals to humans, was transmitted by air, the importance of using masks (white cotton masks) for protection was understood (1).

After the pandemic, a great loss of workforce occurred and the need for women to take an active role

in business life increased. With the regulations made in parallel to this requirement, important steps regarding women's rights have been taken. As can be seen, with the Spanish flu pandemic seen 100 years ago, very serious changes have been made in our world that will direct history (11).

7. HIV – AIDS Pandemic (1981-Present)

AIDS is an infectious disease with the causative agent of the human immunodeficiency virus (HIV) causing Acquired Immune Deficiency Syndrome (AIDS) with the collapse of the immune system in humans. A virus genetically very similar to the HIV (Simian Immunodeficiency Virus [SIV]) was detected in chimpanzees and gorillas living in Africa near the equator. Although the contamination occurs through the direct transfer of body fluids (blood, semen, sexual secretions, breast milk, placenta, etc.), the main way of its transmission worldwide is stated as sexual intercourse.

The first transmission of AIDS to humans is thought to occur in the late 19th or early 20th century during the hunting and consumption of monkeys in Cameroon, Africa. When the historical process of HIV/AIDS (1981-Present) is examined, it was defined as Gay-Related Immune Deficiency (GRID) since it was first seen isolated in homosexual men. Later, it was understood that the disease was not specific to homosexual men when it was also seen in intravenous drug addicts and sex workers, and the disease was defined for the first time with the AIDS term in 1982 by the Centers for Disease Control and Prevention (CDC) (11,12).

AIDS, which is a zoonotic infection, caused the loss of approximately 35-40 million people since 1981 when it was accepted as a pandemic. According to the data of WHO, it was reported that 37.9 million people lived with HIV including 1.7 million new cases as of 2018 and 770 thousand people died due to HIV in the same year. Because of the retroviral agents produced as a result of increasing awareness and scientific developments, decreases in the mortality rate of the disease have been recorded in recent years (11) AIDS stamps produced around the world to highlight the history of AIDS and its harmful consequences are presented below (Figure 15,16).

However, AIDS continues to be one of the infectious diseases deserving attention since it is one of the top five causes of death in the whole world. Although Turkey is among the countries with low prevalence, it is stated that there is an increase in the number of infected people (12).

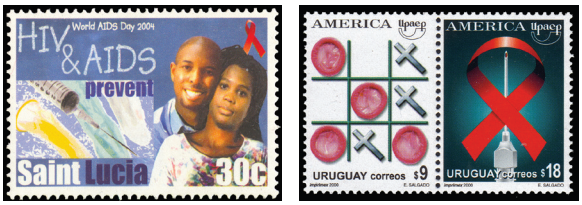

Figure 15,16. Prevention from AIDS on stamps (AIDS; Acquired immunodeficiency syndrome)

8. Various Respiratory Syndromes (The Family Coronaviridae)

Human coronaviruses were first described in the 1960s. There are six human coronaviruses known so far. Four of these coronaviruses are more common in the community and less pathogenic. They usually cause mild respiratory symptoms similar to the common cold[3]. The other two coronaviruses are also called Severe Acute Respiratory Syndrome coronavirus (SARS-CoV) and the Middle East Respiratory Syndrome coronavirus (MERS-CoV). These viruses can cause serious respiratory diseases. The new coronavirus (COVID-19) pandemic, which still keeps up-to-date, was identified as a virus-causing pneumonia epidemic in humans in the Wuhan province of China in December 2019 (7). The disease, which was first expressed as 2019-nCoV, was named COVID-19 (SARS-CoV-2) inspired by "Corona" which means crown in Latin. It was reported that COVID-19 was caused by (SARS-CoV-2), 2002 (SARS-CoV) and 2012 (MERS) coronaviruses (10). After the emergence of the COVID-19 pandemic in China, it affected the whole world in a short time like three months. The COVID-19 pandemic was declared a pandemic by the World Health Organization (WHO) on March 11, 2020 (10). Now according to WHO, there have been 528.816.317 confirmed cases of COVID-19, including 6.294.969 deaths, reported. As of 31 May 2022, a total of 11.947.644.522 vaccine doses have been administered (19). Below is medical philatelic material highlighting the People's Republic of China's fight against SARS and the campaign launched in 2003 (Figure 17).

DISCUSSION AND CONCLUSIONS

This research provides an overview of the development and history of pandemics around the world through philatelic materials (historical stamps) produced worldwide during pandemics from the past to the present. When the history of humanity is examined, we see that microorganisms and people came into contact with each other more during the transition to settled life after the agricultural revolution. Over time, human communities that have settled down have met with epidemics by transmitting many microorganisms from animals to each other. Pandemics, which were observed in parallel with the formation of humanity, have been experienced periodically at different time intervals in the history of the world, shaping humanity and the whole world in many ways. Pandemics, which are the horsemen of death, destroying empires and defeating armies, have constantly changed and continue to change our lifestyles (20).

Figure 17. FDC from China in 2003 The people's Republic of China published in 2003 "The Fight Against stamp. Campaign to combat the epidemic of SARS (FDC; First Day Covers, SARS; Severe Acute Respiratory Syndrome)

In the early ages, since mankind could not understand the cause of epidemics, they defined the cause of epidemics, which caused mass deaths and suffering, as spells or the punishment of evil spirits. Perceiving epidemics as supernatural forces, early societies tried to take precautions and protect themselves from the epidemic by praying to their gods in temples and making sacrifices to prevent these disasters. Today, the cause of epidemics is accepted as the reactions of microorganisms to major events in nature such as war, population growth, earthquakes, floods, storms, famine, climate anomalies, homelessness, environmental pollution, and human disruption of the ecological balance (7).

The COVID-19 pandemic we are experiencing has revealed that countries with strong health systems and acting with the understanding of equal health services to all segments of society manage this process with the least loss (3). In addition, even in our age of modern medicine and vaccination, it should not be forgotten that the most important steps in controlling pandemics are taking protective and preventive measures as well as raising public awareness. The current pandemic reveals the desperation for infection-specific drugs and vaccines. Moreover, international and national organizations and entities, including the WHO, have shown their inadequacy when they are most needed in a crisis environment. The COVID-19 pandemic seems to have the potential to trigger social, economic, political, and cultural transformations and changes, as its predecessors have observed throughout history.

Conflict-of-interest and financial disclosure

The authors declares that they have no conflict of interest to disclose. The authors also declare that they did not receive any financial support for the study

REFERENCES

1. Atac A, Ucar M. Onemli Bulaşıcı Hastalıklar ve Yaşam Surecine Etkileri. Bilim Tarihi Araştırmaları. 2006;(2):33-42.
2. Porta M. A dictionary of epidemiology. 6th ed. New York, NY: Oxford University Press; 2014.
3. Özlü A, Öztaş D. Yeni corona pandemisi (COVID-19) ile mücadelede geçmişten ders çıkartmak. Ankara Medical Journal. 2020;20(2):468-81.
4. Morens DM, Daszak P, Markel H, Taubenberger JK. Pandemic COVID-19 Joins History's Pandemic Legion. mBio. 2020;11(3):e00812-20.
5. Beyaz Z. Kapitalizmin pandemik sömürüsü bağlamında salgın hastalıklara bir bakış. Çalışma ve Toplum. 2021;1:181-204.
6. Yumul A. Yine bir salgın, yeni bir salgın. İnsan ve İnsan. 2021;8(28):13-31.
7. Platto S, Wang Y, Zhou J, Carafoli E. History of the COVID-19 pandemic: Origin, explosion, worldwide spreading. Biochem Biophys Res Commun. 2021;538:14-23.
8. Vatanoğlu EE, Ataman AD. A sexually transmitted disease: History of AIDS through philately. J Turk Ger Gynecol Assoc. 2011;12(3):192-196.
9. Rose PI. Frank M. Snowden, Epidemics and Society: From the Black Death to the Present. Springer; 2020.

10. Oğurlu E. Tarih Boyunca Pandemiler ve Uluslararası Sisteme Etkileri. Turkish Studies. 2020;15(4):791-805.
11. Tapısız ÖL, Altınbaş ŞK. Mikroorganizmalar mavi gezegende bizden çok önce vardı: Pandemiler tarihi. Türk Kadın Sağlığı ve Neonatoloji Dergisi. 2020;2(2):53-69.
12. Parıldar Hl, Dikici MF. Pandemiler tarihi. Klinik Tıp Aile Hekimliği. 2020;12(1):1-8.
13. Özdinç A. Cumhuriyet'in ilk yıllarında frengi: 1916-1925 yılları arası salnamelerde Bolu sancağı örneği. Abant Tıp Dergisi. 2020;9(1):8-19.
14. Ozcel MA. Sıtma In: Ozcel MA, editor. Sıtmanın onemi, korunma ve sıtma savaşı. İzmir: Turkiye Parazitoloji Derneği, Ege Universitesi Basımevi; 1999. p. 237-73.
15. Ghendon Y. Introduction to pandemic influenza through history. Eur J Epidemiol. 1994;10(4):451-3.
16. Martini M, Gazzaniga V, Bragazzi NL, Barberis I. The Spanish Influenza Pandemic: a lesson from history 100 years after 1918. J Prev Med Hyg. 2019;60(1):E64-7.
17. Temel MK, Ertin H. 1918 Grip Pandemisi Kıssasından COVID-19 Pandemisine Hisseler. Anatolian Clinic The Journal Of Medical Sciences. 2020;25(Special Issue on COVID 19):63-78.
18. Wang D, Shu Y. History and reflection of pandemic influenza. Scientia Sinica Vitae. 2018;48(12):1247-51.
19. WHO. WHO Coronavirus (COVID-19) Dashboard 2022 [Available from: https://covid19.who.int/.
20. Qiu W, Rutherford S, Mao A, Chu C. The pandemic and its impacts. Health, Culture and Society. 2017;9;1-11.