

The Spanish Flu epidemic in Poland (1918-1919)

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Abstract

This article presents the most important issues surrounding the course of the Spanish Flu in Poland and the efforts and knowledge of professionals about the etiology of this dangerous disease during that time. It provides information about unsuccessful attempts to combat the flu in urban and rural areas and research on the disease in different scientific centers of the country. Hopefully, this also partly enriches the scientific literature devoted to the Spanish Flu. Until today, there has been very little published or studies undertaken by specialists dealing with the cause and spread of pandemic diseases among the peoples of Central and Eastern Europe.

Keywords: The Spanish flu; Epidemic; Pandemic; Infectious diseases

Introduction

During the years of 1918-1919 flu pandemic, called the Spanish Flu, struck the world. It was characterized by an extremely high mortality rate followed by relapses. The beginning of this dangerous disease came at a very difficult time towards the end of the First World War, when the populations of many countries were awaiting the imminent end to the fighting and the advent of peace. The disease was most likely carried to Spain from the United States of America, and after hitting the Iberian Peninsula spread to many countries and is said to have perhaps killed more people than the First World War [1]. There is abundant scientific literature about the Spanish flu which traces the course this disease took in different countries around the world. However, there is very little published regarding the course this pandemic took on Polish soil. In 1918, Poland regained its independence after many years of captivity. The first months were difficult for the sovereignty of the Polish population not only because of the flu, but because of two other serious epidemics of typhus and dysentery which swept the country [2]. A very difficult economic situation in Poland, shortages of doctors and medicine as well as war against the Bolshevik army did not facilitate fighting against infectious diseases.

The purpose of this article is to popularize knowledge about the consequences of the Spanish Flu epidemic in Poland. This text is based on extensive historical sources, including scientific journals as well as the popular press's reports on the course of this epidemic. The magazines surveyed include: Physicians Gazette, Military Doctor, Epidemiological Review and the Medical Review. Archival sources report not only the scale of morbidity and mortality, but also informed research conducted at various medical centers throughout Poland reported on the awareness and attitude of the population of towns and villages facing the dangers posed by these epidemics. A detailed analysis of historical literature regarding influenza gives us an idea about the specifics of everyday life of the population and their priorities, who for the sake of survival, and filled with much uncertainty about what the future held for them, shows that health issues were not always the most important matters.

This article provides mainly knowledge about flu epidemiology and the attempts made to study it. It also shows the fear of the deadly disease among people.

It is impossible today to present the complete image of the Spanish flu course in Poland. During World War II sources kept in Warsaw, archive records prepared by doctors fighting against the Spanish flu in Poland, were destroyed (in a fire). As a result, there is no information about the number of deaths because of this disease across Poland; we do not know exactly how many people died of the flu. Many people with the disease, in particular in the country, did not use medical care, did not report their condition to proper medical services. There is no doubt that in some small towns a lot of citizens lost their lives due to the epidemic. The fact that all family members died was not unusual. Historical sources are incomplete so they do not allow comparing the incidence rate of the Spanish flu in Poland and neighboring countries such as Czechoslovakia, Germany, or Russia.

General characteristics of the course of the epidemic

In Poland, news of this little known epidemic disease began to appear in early summer of 1918. The contemporary press reported a high incidence among the population of many European countries [3]. A few weeks later, the Spanish Flu appeared in many regions of Poland, instilling a sense of helplessness and terror among the population and did in fact result in the death of many people [4]. At the end of September of 1918, one of Krakow's newspapers wrote: "In Krakow, with each passing day, the Spanish influenza epidemic takes on more and more dangerous dimensions and malicious form. The consequence of this rapidly spreading disease can be death (!), and it has already been acutely felt by all layers of the population. The public is seriously concerned about the intimidating progress of this persistent plague. A fair estimate is that a fourth part of the local population has become the victim of the 'Spaniard'. Doctors legs are failing, being unable to cope with the straight hours of superhuman work" [5]. Concern among the population increased with the circulation of false rumors that the deadly disease is a type of plague, and a claim to bear witness to this is that among other things it causes a blackening of the body after death [6].

The scale of infection and sickness from the Spanish Flu was very high due to very poor sanitary conditions existing in the country [7]. The press reported from one province that the Spanish Flu is "prowling the countryside in a terrifying manner (...) there is hardly a hut, which is not suffering from Spanish influenza (...) Mortalities are rampant. Carpenters in villages and towns have no work, but to build coffins (...) people have succumbed to a feeling of utter apathy, because of their inability to prevent the contagion" [8]. The following is a dramatic description of cases of the Spanish Flu in rural areas of southern Poland, made in October 1918 from one of the witnesses of these tragic events: The author wrote, that in the country-side, "There are several funerals a day of those dead from the Spanish influenza. Entire communities are consumed by fever; many patients have blood gushing from their mouths and noses and have multiple wounds. They are consumed by heat and remain in bed, delirious for several days... and he who catches a cold is heading to the other world. People have an un-worldly look. There is great fear as no rescue can be found (...) Funerals usually take place without tears, as often the entire immediate family of the deceased lay in bed with fever and there is no one to mourn over the coffin. It often happens that a mother lying in bed delirious with fever does not realize that her dead child is being carried from the house" [9]. The rural population was blamed for many cases of the disease and death. An overburdened administrative authority did very little or nothing to warn villagers of the impending danger, nor did they provide them with pharmaceuticals. The villager's knowledge of the influenza was negligible. The peasants feared not only for their own lives, but also feared that the disease would attack their livestock [10]. The mortality rate among the rural population kept growing due to the simultaneous presence of other infectious diseases besides the Spanish Flu, with many deaths being caused by dysentery and typhoid.

The cities brutally experienced the onslaught of the Spanish Flu as well. Because of the dense population of residential areas and non-compliance with the rules of hygiene by the general population, the cities became a cesspool of dangerous communicable diseases. Spanish Flu spread quickly in Krakow, where each day brought more and more deaths, "hourglasses were on churches, as an announcement of the deaths caused by this disease" [11]. Some of the population demanded the improvement of sanitary conditions, for the streets and city squares to be cleaned as these were believed to be a source of the infection [12]. The Spanish Flu caused great mortality among the residents in many other cities as well. In Lvov, many young people and high school students became victims to this disease [13]. Because of their fear of contagion, parents did not send their children to school and the education authorities decided to close some schools because of the epidemic. The immense increase in the number of deaths caused a lack of coffins as well as a lack of people to attend funerals. The dead often remained unburied for several days after their death [14].

People were warned by help from the press. The population was alerted against irresponsible behavior in any cases of symptoms of influenza: "Much responsibility is on the sick, who having a slight headache and aching of bones, ignores these symptoms and does not go to bed nor call a doctor. Naturally, the disease intensifies, followed by shivers and a purulent inflammation. Often times, while still ill when the fever subsides, the person immediately gets up and goes to work" [15]. Hoping to curb the spread of the epidemic, the population was given false information about the invention of drugs that could inhibit the incidences of flu. These hopes quickly fell as a result of further depressing news about the spread of the flu with doctors remaining helpless to prevent the mass deaths. The press published

pessimistic statistical data which deprived the people of any hope for the imminent end of the pandemic disease.

Scientific research on the epidemic

After World War I ended, health care was developed in Poland. In 1919 the Sejm established the Ministry of Public Health which made efforts to limit the spread of infectious diseases. In the same year the government appointed the Chief Extraordinary Commissioner to fight against epidemics, and institutes and units started to be established at the Ministry of Public Health, which next were combined together in the National Institute of Public Health which included the department of bacteriology and experimental medicine. Public health departments were established at province offices. In the times of a rapid increase in the prevalence of epidemic diseases the Chief Extraordinary Commissioner sent doctors specialising in epidemics to the areas which were particularly affected by such diseases.

The Spanish Flu epidemic forced experts to do intensive research in the field of etiology [16]. Scientific investigations have verified the findings of Richard Pfeiffer at the end of the nineteenth century. Regarding the etiological agent of flu, Pfeiffer proved that "Pfeiffer's bacillus is the only organism accompanied by some epidemics of flu" [17]. Today we know that the pandemic flu in the years from 1918 to 1920 was caused "by new subtypes or variants of the virus which were hitherto unknown in humans" [18] called H1N1 [19]. One of the researchers wrote: "The overall results of analyzes of hemagglutinin suggest that either the strain of 1918 escaped to the human population directly from birds (...) or got into the human host in the years immediately preceding the year of 1918 and adapted itself before the appearance of the pandemic virus" [20].

During the period of the Spanish flu epidemic, Polish scientific journals were filled with dozens of published reports of research on this disease, as well as transcripts of the discussions held during the meetings of the scientific medical associations [21]. Doctors of epidemic diseases have done much research and provided various observations and much written material, which provided an impulse to experimentation with the intention of inventing a therapeutic agent that could relieve the suffering of the sick [22]. Scientific publications from this period provide much knowledge of how the various regions of Poland fought the flu and how great and fatal was its descent. At the same time this constituted a certificate of helplessness, that medicine could provide no protection against the malicious influenza virus. The priority of scientific research was to acquire knowledge about the origins of the flu and its etiology. The Medical Gazette reported that this research was led by James Puterman, author of an article regarding the outbreak of avian influenza in the year 1918. The author, who was vice president of the Medical Society in Sosnowiec, saw that the rapid spread of the disease was dependent upon direct communication which caused its prevalence in large concentrations of people. They were not able to determine whether the flu spread through droplets of sputum or why the disease caused so many fatalities. The study was aimed to determine the differences between the flu epidemic of 1918-1919 and the epidemic that took place between 1889-1890, during which time mostly elderly people and children died. During the Spanish Flu outbreak of 1918, mostly people ages 20-40 years were affected. Polish doctors believed that the lower mortality rate among older subjects was due to the older generation having resistance built up during the epidemic from 30 years before [23]. Anthony Krokiewicz, of the internal disease ward of the Hospital of St. Lazarus in Krakow, and author of the article, Observations on the Spanish Flu

Epidemic, watched many deaths from influenza in his hospital ward [24]. He was inclined to believe that people of a young age succumb to the flu because of poor immunity that was the result of malnutrition. He also claimed that the reason for susceptibility to disease may be greater patency of lymphatic vessels in the respiratory system, through which the virus quickly enters the body: "Older people are therefore less subject to the disease, as in them, the lymph vessels are largely obstructed by the changes from pneumonic changes and therefore formed a more difficult environment for the ingress of pathogens into the body by inhalation" [25].

There was no agreement among scientists regarding Spanish flu prevention. The prevailing opinion was, the need for isolation of patients in larger population centers (hospitals, barracks and prisons), during the course of the epidemic demanding bans regarding gatherings of people for performances and fairs. Prevention and therapeutic advice was to rinse the mouth and nose regularly with disinfectants [13]. The scientists conducted detailed pathological and bacteriological studies which resulted in many published articles [26]. Stanislaw Ciechanowski from the Department of Pathology at the Jagiellonian University observed the rapid growth of the epidemic in Krakow and stated that the fatal cases of influenza were due to respiratory inflammation and usually occurred as a result of "severe infection from streptococcal microbes in the blood" [27]. To also determine how Ciechanowski came to his conclusions, Jan Olbrycht, a military doctor in Krakow, conducted autopsies of dead soldiers. He proved that the Spanish Flu "is characterized, on the one hand, by local changes in the respiratory system (...) and on the other hand there are changes such as degeneration of organs and muscles, jaundice, rapid decay and severe infection of the blood by microbes" [28]. Marian Franke and Juliet Bickels, doctors of the Military Hospital of Epidemiology in Lvov also struggled with the problem of the Spanish Flu pandemic. They published an article called, about the current flu epidemic from a clinical point of view, which were the results of research and observation on hundreds of patients. By analyzing the clinical picture of the Spanish flu, the authors directed attention to its transformation as a result of changing complications in the functioning of the respiratory system [29]. Their research, which was carried out on a large sample of research subjects during the midst of the plague, still didn't establish a clear answer or fully explain the origin and course of the Spanish Flu. Also, Witold Nowicki, a professor in the Department of Pathological Anatomy at the Jan Kazimierz University of Lvov and author of the article Observations of Pathological Anatomy and Bacteriology, was not able to pioneer any new finding regarding the Spanish flu [30]. In his opinion, infection of the Spanish Flu begins in the upper respiratory tract and then spreads throughout the lymphatic system. He also believed that the flu, which appeared during the close of the First World War was not a new phenomenon: "Clinical studies show that anatomical changes that take place in the victims, undoubtedly are consistent with what was found in influenza cases 30 years ago; the difference being that the current influenza is much more severe, causing complications of the pulmonary and pleural systems with the tendency of transition of inflammation by suppuration. Also results of bacteriological tests 30 years ago generally show little difference from the currently prevailing flu" [31].

Wladyslaw Szenajch was also not sure what conditions influenced the emergence of the epidemic. He rejected claims that these factors were allegedly due to rapid temperature changes, arguing that only further "epidemiological and clinical studies, and the detection of pathogen specific microbes and understanding their biological

properties can eventually tell us how to explain the dark side of the course of the influenza epidemic" [32].

The flu epidemic then attacked the Polish army [33]. Research on the etiology of the Spanish flu was led by Stefan Sterling-Okuniewski of the Department of Sanitation of the Ministry of Military Affairs. He made studies among the troops staying in the garrisons rather than those at war, establishing that the mortality rate was not as high among this group of soldiers. Soldiers were vaccinated with the vaccine (a product of the Central Department of Epidemiology), which was intended to provide immunization against the disease. According to Sterling-Okuniewski, the vaccination exerted "a positive influence on the course of the epidemic" [34]. Nevertheless, as is widely known, the flu vaccine invented during the pandemic didn't provide sufficient protection against the disease. The many cases of soldiers contracting the Spanish Flu aroused particular fear during the Polish-Bolshevik war as the disease severely reduced the number of troops and their combat efficiency [35].

Physicians specializing in infectious diseases followed the influenza's course in conjunction with other diseases, which when combined, usually resulted in a high mortality rate [36]. Expert studies by radiologists were aimed at improving knowledge of the flu [37] and the relationship between the disease and tuberculosis [38]. After two years of the continual onslaught of the disease, doctors no longer attempted to precisely predict when the end of the pandemic would come, as they weren't able to estimate the future sanitary situation in the country. Stanislaw Adamowicz, of the State Department of Epidemiology wrote in the Review of Epidemiology: "Whether we will enter a period of relative calm and are on the threshold of a breakthrough is difficult to predict, what is for sure, however, is that the cycle of pandemic influenza which began in 1918 has not yet ended and that over the next few years we must reckon with the likelihood of an occurrence of new secondary waves, the severity of which is difficult to predict, and at the moment how to best investigate the causes of the great waves of the original is the priority" [39]. Effective research on communicable diseases was not readily facilitated because of the difficult financial situation of Poland [40]. Part of the scientific research work was carried out by the financial effort of scholars.

Summary

The epidemic of the Spanish Flu was a major disaster for the people of many countries. This article is a contribution to the knowledge of this disease on Polish soil, a country situated in middle-east Europe. The effect of the Spanish Flu epidemic in this part of the world is an issue that has been poorly explored, requiring a detailed analysis of the preserved historical records. An important source of knowledge about the Spanish flu pandemic is the non-scientific press, which was available to recipients from many sectors of society. Although, the daily newspapers and weekly publications of nonmedical knowledge did not carry an understanding of the essence of infectious diseases, these small volumes of news, (particularly correspondence from the provinces to the newspapers) shed a clear light on the difficult struggle of the population from the Spanish Flu and the image of helplessness residents of towns and villages faced with the spreading of the epidemic. These also bore witness to the tragedy of life many families faced because of the severe consequences of those touched by this contagious disease. Polish scientific journals and newspapers are undoubtedly an invaluable source of knowledge about the flu. Analysis of articles written by scholars, their correspondence, short references

or obituaries of victims of the Spanish Flu makes us realize how great was the disease's scale in both the cities and in the countryside

There is no doubt that the Spanish Flu epidemic and its fast-paced spread on Polish soil, caused the death of an untold number of people. In 1918, Doctor Charles Rozenfeld recalled: "Suddenly surprised, we all stood helpless in the face of disaster, the enormity of which we could not estimate nor even roughly determine. A general feeling of horror increased as we saw how impotent was our treatment, our efforts seemed futile in serious cases to prevent fatality" [41]. The flu's complications prompted doctors to their studies making de-tailed analysis and recording their results [42]. For the modern specialist, studying scientific articles produced more than ninety years ago is seen as a mirror of contemporary knowledge on the etiology of the flu and the preventive and curative measures that were applied at that time. Comparatively speaking, the knowledge of Polish scientists was quite poor in contrast to modern expertise. The fight against the epidemic was hampered by the dismissive attitude of the general population to the sanitary measures recommended by doctors. The autumn of 1918 was a most critical time, when the Spanish Flu had taken the lives of thousands of people, residents of towns and villages downplayed the epidemic. They did not believe in taking the preventive measures recommended by doctors, such as isolation of patients, disinfection of premises, considering them superfluous.

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