

Review Article

Covid-19 outbreak reminds of personal accounts providing a story of pandemic flu 1918 individual suffering

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Running Title: Flu 1918, Individual Suffering Stories

Abstract

Aims: This review aims at investigating personal stories of ordinary people who faced the deadly flu 1918, dealing with the loss of loved ones, with little knowledge of how to fight the invisible enemy of this frightening illness.

Methods: An extended literature search in English using databases as Pubmed, Google Scholar and other sources was conducted, using the terms: "pandemic, flu virus, humanitarian crisis". A total of 47 relevant records were studied. Out of them 11 were excluded and the remaining 36 were included in the study.

Results: Reports from one country reflect what happened worldwide. Eskimo settlements, who provided Dr Hultin the flu victims' tissues, from permafrost massive graves, for his virus hunting, lost 70% of inhabitants. The Greek Aegean island Skyros lost two thirds of its population. Soldiers having arrived back home from the front alive, glad to see their loved ones, died 1-2 days after. There is an enormous number of family tragedies, millions of young victims of the pandemic, leaving orphans in poverty and pain. Two famous personalities the Canadian doctor Sir William Osler and the American president Thomas Woodrow Wilson fell ill with the Spanish Flu. The first died on December 1919, despite long, intensive treatment. The latter, following his illness, became forgetful, concentrated with difficulty during signing of peace treaty between the Allies and the defeated Central Powers in Paris 1919 and his personality and conduct had somehow changed.

Conclusions: Flu 1918 was a major humanitarian crisis with lots of individual suffering, which counts more than mass casualty estimations. We should never forget the devastating impact of pandemics on each single, unrepeatable human life and strive by all means to prevent any similar future mass tragedy.

Keywords: pandemic, flu virus, humanitarian crisis

Introduction

With all the heartache the COVID-19 pandemic has caused, with our lives truly threatened, this crisis is helping us gain a greater appreciation for life and remind us of all the people, who suffered recently and in the past in similar pandemic outbreaks, as flu pandemic of 1918, who killed more than 50 million people across the planet. [1].

Dealing with the loss of a loved one is probably one of the most traumatic and difficult things in life, and sometimes, we never fully heal from losing someone dear to us. All personal accounts regarding the COVID-19 pandemic may not have yet been recorded systematically, as those of flu 1918 pandemic, but focusing on them, great parallelisms between these two global pandemics are unveiled.

Flu 1918 pandemic was not only a public health care phenomenon; rather it was a global humanitarian crisis. Individual stories count more than mass casualty estimation and relevant reports from pandemics outbreak in a country reflects

what happened worldwide. The statistics associated with pandemics, sometimes makes it difficult to remember, that each number represents a single, unrepeatable human life.

First World War logic priorities brought flu by USA troops to Europe, as a war secret. Neutral Spain's uncensored press announced so many victims, that Barcelona mayor called military services for burial of the dead, so the flu was named Spanish. The first 4-5 pages of the Spanish papers consisted of obituaries, during the peak of the pandemic [2]

War propaganda interests led Philadelphia city authorities to organize a Liberty Loan Parade on September 28, 1918, although doctors tried to prevent it. After just three days, every patient hospital bed was occupied.[3] Following the epidemic explosion in Philadelphia, with every hospital in the city overcrowded, nurses were in high demand.[4]

Hundreds died daily and corpses stayed in homes due to paralysis of the mortuary services.[5]

In other communities people took ceiling boards out of their own houses to make coffins for the dead. It is an example of people helping each other, but it is chilling to think of the circumstances that would require people to do that.[6]

Physician N. Roy Grist described the devastation to his friend Burt in a September 29 letter sent from Devens' military camp, near Boston USA, hardly hit by the 1918 influenza, with 10,500 cases out of some 45,000 soldiers stationed at the fort, waiting to be deployed to France. Grist's letter is "a remarkably distinct and accurate description of what it was like to be": „These men start with what appears to be an ordinary attack of Influenza, and very rapidly develop the most vicious type of Pneumonia that has ever been seen, the Mahogany spots over the cheek bones and the Cyanosis extending from their ears and spreading all over the face. It is only a matter of a few hours then until death comes... It is horrible." The body would not get enough oxygen through lungs... how it was possible for lungs to become useless in such a short time... the young, strong people, the very ones who had had perfect health until then, developed an extremely intensive inflammatory response to the antigenically new influenza virus... in lung tissues, the main obstacle to their normal functioning, it is simply a struggle for air until they suffocate. It is horrible.... these young people had actually suffocated in their own blood... in the products of an intensive inflammatory reaction, which is called „cytokine storm“.

The diseased, mostly young and strong people, the ones who were believed to be the most resistant ones, would die quickly, after two to three days from the manifestation of the first symptoms, and the deadly outcome followed terrible suffering of the diseased. The manner of dying was extremely striking for the people in the vicinity of the diseased. [7]

The 1918 pandemic flu, at that time, was thought to be caused by bacteria. Viruses were not well known and antibiotics still not invented. The very important discovery of flu viral cause was made in USA by the Swedish microbiologist John Hultin after his 2 attempts, some 50 years apart. First, as an Iowa student in 1951 he travelled to Alaska Brevig Mission village and from permafrost

massive graves of flu 1918 victims, he obtained lung tissues hoping to find traces of the 1918 virus and revive it, but he failed and resigned. In 1997, then 72 living in San Francisco, Hultin, was informed that virologist Jeffery Taubenberger, with RNA from a preserved lung tissue of a 21-year-old male U.S. service member having died 1918 with influenza, was able to sequence 9 fragments of viral RNA from 4 of the virus' 8 gene segments. But it was not the complete sequence of the entire 1918 virus' genome.[8]

Hultin inspired to attempt again to recover the 1918 virus, departed for Brevig Mission at a personal cost of about \$3,200 and after a 5 days excavation, found a young mid-20s obese woman's lungs well preserved, since the body's excess fatty tissue had insulated and protected them from decay, shipped them, in preserving fluid, to Taubenberger. He confirmed an A H1N1 virus subtype as the flu cause, reconstructed the virus and in 2005 the vaccine, to prevent such a future pandemic, was developed.[9]

Hultin, in a 1998 interview over the phone from San Francisco, attributed his success to the village's elders, who gave him the opportunity to do something good- not just for themselves but for the whole world." [10]

The touching details of Hultin missions is the particularly cruel facts in isolated human communities, as Eskimo settlements, for whom the virus was absolutely new in antigenic respect. Some were almost completely devastated as Brevig Mission village, where out of 80 people 72 died. *Out of 300 people 176 died in another Eskimo settlement.* When Hultin first opened the permafrost grave, he came across the body of a little girl, still preserved wearing a blue dress, her hair adorned with red ribbons. Hultin's consideration for the burial site made him replace the two Crosses previously marking it and now swept away, by building himself, within the woodshop of a local school, two new large Crosses to respect the grave. [11]

Materials and Methods

The literature search, for this narrative review, was conducted using the keywords "pandemic", "

flu virus ", "humanitarian crisis, and the PubMed, Google Scholar databases' published bibliography as well as other sources , in English language.

Out of the 47 records identified initially, 11 were excluded due to similarities or not availability of full text.

A total of 36 records were included, with References' list numbers respectively as follows:

(a) Pubmed, n=13: 2, 4, 7, 12, 14, 20, 23, 25, 27, 28, 30, 31, 36; (b)Google scholar n= 8: 13, 15, 16, 26, 29, 32, 33, 34; (c) Websites: n= 10 <https://www.history.com/news/spanish-flu-pandemic-dead>: 3, science.org: 8 sfgate.com: 9 <https://www.nytimes.com> : 10, 35; <https://www.cdc.gov> : 11, <https://www.researchgate>: 17, <https://bic-pk.ceon.rs/CEON/CEES>: 18, 22, <https://www.cdc.gov.storybook>: 19; (d) Books: n=2: 5, 21; (e) Newspaper: n= 1, 24, and (f) Other sources n = 2 : 1,6.

Database search	Other sources	Records excluded	Records included
Pubmed n=13	Websites n=17	Websites n=7	23
Google scholar n=8	Books Press etc n=9	Books Press etc n=4	13
Total 21	Total 26	11	36

Table 1. Summary of literature search: Flu 1918, Individual Suffering Stories

Results-Discussion

Flu pandemic 1918 took five times as many lives as the War and preferably healthy young people, who died in 1-4 days after the first symptoms. [12]

When hospitals were filled to capacity, temporary emergency hospitals in schools, warehouses, and churches were set up [13].

The experience of one student nurse, who worked 12-hour shifts in a flu ward, in New York City hospitals, was typical: *Almost overnight the hospital was inundated.... Wards were emptied hastily of patients convalescing from other ailments ... and only emergency operations were performed.*

Vacations all cancelled ... classes disrupted. ... Care was mainly supportive: we gave heart and respiratory stimulants, or sedation as the condition dictated. A variety of cough medicines ... were ordered. Camphor in oil and caffeine by hypo [hypodermic injection] were in constant use, and we were forever balancing the advantages of forcing fluids against the disadvantages of edema, as kidneys or heart became overtaxed and the lungs showed congestion. ... Victims came on stretchers...their faces and nails as blue as huckleberries." [14]

In many families, more than one member was ill and, when both parents succumbed to the flu, the nurses not only had to care for the sick, but also for the entire family. In one account, a nurse found four out of seven in the family, including both parents, a baby, and two small children, ill:

In a crib beside the mother's bed was a six-week-old baby who had not been bathed for four days and was wet and cold. Though the father ... running a temperature of 103 degrees, had to get out of bed ... to care for his wife and children. ... The family had no coal, and the three well children were shivering and hungry. The nurse gave care to the sick and bathed and fed the baby. She made a wood fire in the stove and prepared food for the other children. She then found a kind neighbor to continue to look after the children....[15]

Euphemia Davis and Bessie B. Hawse, African American nurses, recalled similar situations during the influenza noting:

... a family of ten were in bed and dying No one would come near. I was asked by the health officer if I would go. As I entered the little country cabin I found the mother dead in bed. Three children buried the week before. The father and remainder of the family running a temperature of 102–104. Some had influenza, others had pneumonia.... I rolled up my sleeves and began to cook,.. I milked the cow, gave medicine ... I only thought of saving lives. I didn't realize how tired I was until I got home." [16]

There is an enormous number of family tragedies, millions of young victims of the pandemic, leaving orphans, bringing pain to elderly people and their dearest ones, who survived, left with suffering for life. Public funerals and even the

opening of caskets were prohibited. Exceptions were made only for parents or wives identifying soldiers before burial – and even then, covered their mouths and noses with masks and refrained from touching the body.[7]

On July 1918 (1st flu wave) at the Greek port town of Patras, a tobacco factory's Director and a worker died 4 days after opening 5 boxes arrived from Thessaloniki, then war front, while most workers became ill by the flu. [17]

The 2nd wave (autumn 1918) marked the beginning of mass deaths throughout the world. Reliable statistical data can rarely be found. It is possible to conclude from incomplete data, memories, newspaper articles and graves.[7]

The first cases of 1918 flu pandemic in the United States were reported from Fort Riley, Kansas on March when an Army private became ill; complaining of fever, sore throat, and headache. Military personnel were greatly impacted by the virus and many young recruits were dead from the flu before they ever saw combat. [18]

Dr. Otto Wernecke 39 , a dentist in Wisconsin, father of 5 children (having lost a 2–year–old daughter from scarlet fever in 1910) died from the flu epidemic in 1918, leaving them in devastation and poverty.[19]

Dr James H. Wallace was on duty at Great Lakes Navy base in Chicago September 1918, when he was assigned to a ward of “flu” patients responsible for about 100 patients, most with violent broncho–pneumonia with no sulfa, no penicillin, not much but aspirin and death rate of over 100 a day. [19]

Carlandrea Didio, immigrated from Italy to the United States in 1889 with his young wife Louisa. He was one of the many victims of the 1918 influenza pandemic, at the age of 47. Left to mourn his death was his wife Louisa and three children, ages 13, 11 and 7. When Didio's grandson obtained a copy of his grandfather's death certificate, he cried wondering how different his dad's life would have been, if his father had lived. [19]

The Colorado eight Phye family members (parents, a daughter and five sons) were admitted to the emergency hospital having been set–up by the Red Cross in a banquet hall, as the general

hospital was full, and between October 30 and November 9, 1918, all eight died from the flu. Charlie, age 45 (died Nov. 2); Jessie, age 40 (died Oct. 30); Florence, age 19 (died Nov. 1); Tommy, age 16 (died Nov. 7); Harry, age 10 (died Nov. 5); Bobbie, age 8 (died Nov. 4); Davie, age 6 (died Nov. 9); and Willie, age 4 (died Nov. 5). [19]

A polish couple, Joseph and Tekla with four kids, were living in Minneapolis, MN. In October 1918, Joseph contracted the flu, was seen by a doctor, was told to stay in bed. However being the breadwinner supporting his family with a new baby born a month before, he went back to work outside in a junkyard under cold and rainy weather, developed pneumonia and died 5 days later. His widow in such tough time with a family to support saw an advertisement in the newspaper and married a man whose first wife and a child died of the flu, and had three more children. [19]

Following the penetration of the Thessaloniki front, Dr Aleksandar Radosavljeviü noted a sudden disease among soldiers and disturbing French and Serbian medical corps units. A suspicion spread wide, that the enemy had poisoned the wells and the food while retreating, and that this was the cause of the disease. Only upon arrival in Raška, he found the local hospital full of diseased citizens and soldiers. Tiüa an active joyful lieutenant, born in Kraljevo, having arrived back from the front alive, glad to see his mother, died two days later.[20]

The Croatian paper Ozbor reported on October 19, 1918 that the state railway was forced, due to the illness of the employees, to reduce the number of train lines. Zagreb horse cab drivers refused to transport Zagreb doctors, for fear of the disease, which was the cause for the intervention of the municipal administration. Ozbor“dated November 9, reported that entire houses were left empty in Bosnia.[21,22]

The hospital staff in just liberated Vranje consisted mainly of women doctors and medical nurses from Australia and New Zealand. These brave women represented the personnel of the third field surgical hospital, which was the only one which managed to follow the liberation army. Many Serbian soldiers from this region came home to tragic scenes, their dearest ones had died just a

day or two before their return. Cries and laments were heard instead of laughter and joy. [23]

As the pandemic second deadly autumn wave made its way through Greece, the mortality rates were extremely high. [24,25]

Konstantinos Faltaitis (1891-1921), a 27-year-old author and journalist in his unique 1919 book, written in Greek, describes with touching details the disease hitting 'like a thunderbolt' his native Aegean Sea Greek island Skyros "with a ferocity akin only to the plagues of the Middle Ages". At night, people would fall asleep healthy but never woke in the morning. They came from the countryside to buy food, but died in the street. Angelos Kanas 8 years old, got sick, survived, but his brother Anestis 12 died within 3 days. He narrated on camera about no space in the cemetery, the burials out of churches on hills on the edge of the village with the rain drifting the soil and bringing to light his brother's body, an image not escaping from Angelos mind for nine decades. The island suffered without medicines and hospitals, with 4 doctors, refusing to visit the sick and giving advice from the balcony- good food and wine - resulting in enriching the merchandise that ruthlessly raised the prices in the crisis. Skyros had a population of 3,200 at the time; two-thirds did not make it through the pandemic. Those who managed to survive 'the Biblical Cataclysm', being enemies or hating each other 'from generation to generation wanted to hug each other and everybody, who had lost many or even only a few of their parents, their children, their brothers and sisters, women, men were comforting each other' .[26, 27,28,29,30]

Faltait's unique report is similar to Hippocrates's analysis of Perynthos influenza – like outbreak 2400 years ago.[31]

Similar family cases have been reported in the nearby Greek islands of Euboea and Andros. [32, 33, 34].

The 3rd pandemic wave, at the beginning of 1919, took thousands of lives in Australia, not however possible to talk about a 3rd wave in this case, as 2nd wave was not present at all on this continent, due to the strict quarantines. [6]

The disease appeared sporadically also after the first half of 1919. The renowned Canadian

doctor, Sir William Osler, (1849–1919) fell ill with the Spanish Flu on September 29, 1919, working at the Oxford University in England at that time. Following a short recovery, he got pneumonia, of which he died on December 29, 1919, despite long, intensive treatment.[6]

Many authors indicate 1920 instead of 1919, as the final year of the Flu pandemic. There is an indication of numerous death cases caused by influenza and its consequences in New York and Chicago at the beginning of 1920 [5] Many having recovered from the Spanish Flu, presented neurological and psychiatric complications. The American president Thomas Woodrow Wilson, (1856–1924), fell severely ill on April 3, 1919 in Paris during signing of peace treaty between the Allies and the defeated Central Powers. After his recovery he became forgetful, he concentrated with difficulty and his personality and conduct had somehow changed. This was manifested in his refraining from the political principles, he had advocated before his disease, insisting on the peace treaty being acceptable for both sides and if not, threatening the French prime minister, Georges Benjamin Clemenceau, (1841–1929) to abort negotiations. So he accepted easily the latter's requests, entailing extremely humiliating terms for the defeated Germany, to which he before flu strongly opposed. [6]

Conclusions

COVID-19 outbreak has driven a great interest toward the influenza pandemic of 1918.. When infectious diseases are intruding in everyday life, humans are forced to rapidly reassess their attitudes in all aspects and mainly in social behaviors.

Lessons we should learn from the pandemic flu 1918 and the coronavirus recent pandemic is that, whenever our lives are truly threatened, it forces us to think about our own mortality, and of those we love.

The mayor of Cologne of that time, Konrad Hermann Joseph Adenauer, (1876–1967), the future chancellor of the Federal Republic of Germany, said that the Spanish Flu was exhausting so much thousands of sick people, that it made them incapable of hatred [5]

We should also not allow these disasters and each personal suffering, to be forgotten. The millions of those, whose unrepeatable lives the Spanish Flu and Covid- 19 claimed, oblige us to remember them and to strive by all means to prevent any similar future mass tragedy.

Scientists and governments worry about a repeat of a devastating epidemic. [35]

We should learn from examples, as Australia and 23 American towns, where early public health measures significantly reduced the number of deaths. [36]

No conflicts of interest

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