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What does the past have to teach us about influenza?

O que o passado tem a nos ensinar sobre a Influenza?

¿Qué puede enseñarnos el pasado sobre la Influenza?

Mercedes Neto[I]; Fernando Porto[II]

ABSTRACT
Objective: to present a narrative of historical events regarding the influenza epidemic and its interfaces with public health and nursing. **Content**: the study highlights culture and ways of seeing history over the years, in order to understand the epidemiological behavior of influenza in Brazil, its epidemics, and what has been learned and built after 100 years' caring for and studying this condition during epidemics that occurred in Brazil. **Conclusion**: immunization is the most effective strategy for controlling communicable diseases and, in the case of Influenza, is a powerful immunobiological resource. This should be the legacy learned from the major epidemics of this disease, as well as health surveillance and education of the public for the same purpose, with a special focus on anti-vaccine movements.
Descriptors: Influenza; epidemic; nursing; public health.

RESUMO
Objetivo: apresentar narrativa dos acontecimentos históricos sobre a epidemia de Influenza e suas interfaces com a saúde pública e enfermagem. **Conteúdo:** destaca-se a cultura, e os modos de ver a história ao longo dos anos para compreensão do comportamento epidemiológico da Influenza no Brasil, suas epidemias e o que se apreendeu e construiu após 100 anos cuidando e estudando sobre este agravo durante as epidemias que ocorreram no Brasil. **Conclusão:** entender que a imunização é a estratégia mais eficaz no controle de doenças transmissíveis e, no caso da Influenza, como imunobiológico potente, deve ser o legado apreendido das grandes epidemias deste agravo, mas também, a vigilância e educação em saúde das populações para tal, principalmente com foco nos movimentos antivacinas.
Descritores: Influenza; epidemia; enfermagem; saúde pública.

RESUMEN
Objetivo: presentar narrativa de los sucesos históricos sobre la epidemia de Influenza y sus interfaces con la salud pública y la enfermería. **Contenido**: se destacan la cultura y los modos de ver la historia a lo largo de los años, para comprender el comportamiento epidemiológico de la Influenza en Brasil, sus epidemias y lo que se aprendió y construyó después de 100 años cuidando y estudiando sobre este agravio durante las epidemias que ocurrieron en Brasil. **Conclusión**: entender que la inmunización es la estrategia más eficaz en el control de enfermedades transmisibles y, en el caso de la Influenza, como inmunobiológico potente, ese debe ser el legado comprendido de las grandes epidemias. Asimismo, se debe llevar en cuenta la vigilancia y la educación en salud de las poblaciones, principalmente con foco en los movimientos antivacunas.
Descriptores: Influenza; epidemia; enfermería; salud pública.

INTRODUCTION

2018 marked the 100th anniversary of the first epidemic flu in Brazil. This infectious respiratory disease of viral origin can lead to aggravation and death, especially in the infection target population (children under five years of age, pregnant women, adults over 60 years old, noncommunicable diseases carriers and other special clinical conditions).

Therefore, the Influenza vaccination strategy was incorporated into the National Immunization Program in 1999, intending to reduce hospitalizations, complications and deaths in the target population for vaccination in Brazil. Thus, the authors of this paper proposed to present historical aspects of the influenza epidemics and pandemics, permeating sanitary actions carried out during these 100 years of influenza in Brazil.

To this end, the text was structured by the disease historicity synthesis and then by the narrative of today's sanitary actions, which is trying to combat the anti-vaccine movement, providing influenza's (re)emerging as a warning disease for new epidemics. Therefore, it is characterized as a study of reflection, aiming to present the influenza epidemic narrative of historical events and its interrelationships with public health and nursing.

[I]Nurse. PhD. Adjunct Professor. Rio de Janeiro State University. Rio de Janeiro, Brazil. E-mail: mercedesneto.uerj@gmail.com
[II]Nurse. PhD. Adjunct Professor. Rio de Janeiro State Federal University. Rio de Janeiro, Brazil. E-mail: ramosporto@openlink.com.br

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INFLUENZA EPIDEMIC

Influenza epidemic precursors

Historically, it is known that Hippocrates was the one who first referred to the term Influenza and introduced it. That way, it may seem redundant to opt for the temporality and credibility narrative regarding to the years of 412 BC in Greece. At that time, he observed that a particular respiratory system health problem affected several people and in a few weeks it killed them. For this, bleedings were used, based on the theory of humors, as it was believed that the elimination of excessive blood could cure people of this disease[1].

Thus, in the understanding that the individuals who were affected did not live in the cities – *epidemos* –, Hippocrates compared infectious diseases that were not from a particular region and disappeared, and gave rise to the term epidemic. For centuries, there were several epidemics of this disease until the 18th century, when three outbreaks of this disease in a particular region drew attention and promoted records which validated the emergence of the term Influenza. Several theories about the origin of the name are attributed to it, from the influence of the stars to climatic interference of cold, which can be explained by relating low temperatures affecting the respiratory system of human being[2].

The recommended care and treatment was chastity because they believed the pathology was related to excessive sexual intercourse, a thought that lasted until the 19th century[1]. Until the great epidemic, comprising its cause as Influenza, care and management were underdeveloped and often unidentified.

100 years of Influenza epidemic

Until discovery of the vaccine, many were affected and killed by Influenza. In the period of 1889-1890, there is the record of the Russian Flu, with symptoms of fever and pneumonia, which resulted in the loss of approximately 1.5 million lives. In the period of 1918-1919, there was a postwar outbreak of the so-called Spanish Flu. The patients had viral pneumonia, bleeding and chills, and several continents were affected, with an estimated 65% of the world's population affected, accounting for around 35,240 deaths[1,3], including Brazil in this statistic.

It is noteworthy that during this period, in the 20th century's first four decades, these patients' care were hot baths, wine ingestion and chicken soup, use of quinine medication and purgatives. It is also emphasized that only in 1945; the vaccine emerged in the United States, with microscope's support, from dead viruses. Its popularization took place in the 1960's and in 2003 it was reconfigured with live virus[2].

In 1947, the World Health Organization (WHO) developed an epidemiological surveillance system for influenza on several continents; even so, other pandemic outbreaks occurred[3]. In the period of 1957-1958, the Asian Flu was noticed in the press. Its signs and symptoms were high fever, headache and tiredness. In addition to Asia, this flu hit Europe, Africa, Oceania and the United States, killing two million people[4]. Some areas reached parameters of 10% to 20% of affected population, with greater repercussion in the elderly[5].

The cause of the Asian Influenza virus was A/Singapore/1/57 (H2N2), with the circulation emerging of Hemagglutinin and Neuraminidase of different types[6]. Ten years later, it was the Hong Kong Flu (H3N2) (1968-1969). Those affected had high fever, joint pain and body fatigue[1], when it hit the population of Asia, Oceania, Europe and the United States of America with 1 million deaths. This epidemic was similar to that of 1957[7,8].

In late 20th and early 21st centuries, the Avian Influenza (1997-2004) became known, with symptoms such as fever, cough and sore throat, affecting the populations of Southeast Asia, Europe and Africa. There were records of 373 cases, with 236 deaths, reported by the WHO[6]. Based on the above, it is possible to identify similarities in the symptoms presented, considering virus mutation, but with a dizzying fall in relation to death records. The lack of knowledge about how the disease behaved and was transmitted, as well as no specialized search, except in severe cases[8], was an impediment to reach a solution for Influenza. Knowing the causes of the disease, preventive contagion measures were created and, in consequence, the number of deaths was reduced.

Despite the advancements, and the years that followed it, Brazil could not control the Influenza, which led to the occurrence of a new pandemic in 2009. This was considered an important milestone for the improvement of surveillance in the country, especially in the advancements that this brought as a result of the knowledge about the virus and its mutations, but also promoted the understanding about vaccination as a key point in the elimination of this transmissible disease[9].

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It is noteworthy that the WHO's World Influenza Program, which has existed for 70 years, has as its main components the response and surveillance of this disease. This initiative currently has a network of 144 national laboratories, six collaborating centers, four essential regulatory laboratories, 13 reference laboratories, one collaborating center for epidemiological surveillance and one for ecological studies[9].

2018 marked the 100th anniversary of the largest public health crisis in modern history – the Spanish Flu –, which infected about one third of the world's population in 1918. A century later, knowledge and technologies to deal with such pandemics are sophisticated and can help not only countries to respond to them, but also to mitigate their devastating effects, such as high mortality rates and disabilities.

Health surveillance and immunization for Influenza control

One hundred years have passed in Brazil since the Spanish Flu epidemic and, in some places, they seem to forget that every season a new flu virus circulates around the world, with the need to establish living barrier strategies. That said, the World Health Organization annually determines which viruses are the most widely circulated for vaccine manufacture against Influenza, with recommendation to governments to monitor and expand national vaccination programs[9]. Influenza surveillance in Brazil is composed of sentinel-surveillance of Influenza Syndrome (IS), Severe Acute Respiratory Syndrome (SARS) in patients admitted to an Intensive Care Unit and by the SARS universal surveillance. This surveillance monitors hospitalized cases and deaths in order to identify Influenza behavior in the country to guide the decision making process in the Ministry of Health and in the State and Municipal Health Departments[10].

In addition, it promotes annual immunization campaigns against this disease, which is incumbent upon the Brazilian government, as a requirement, to have access to the vaccine against the disease in a public manner, and its distribution occurs at no cost to users of the Unified Health System (*Sistema Único de Saúde*, SUS). In the country, there has been a significant reduction in endemic levels as a result of national control strategies, especially vaccination of vulnerable groups such as health professionals, children, pregnant women, postpartum women, elderly[11].

The immunization culture in Brazil, expressed in the population's adherence to the programs and in the demand for new vaccines to be offered by the public sector, goes back to the process of introduction of vaccines in the 19th century and the mass vaccination campaigns undertaken by Brazilian state[3]. In the country, a reference for many others in the area of Immunization, vaccination occupies a prominent place among Public Health actions[10].

Immunization policies are becoming increasingly complex in their global and national dimensions. In order for the Public Health goals to be reached, the population's acceptance for immunization is needed. However, the available information, whether from books, television news, newspaper articles or *on-line* sources, has a big impact on how the public perceives vaccines. This was due to the impact of Andrew Wakefield's publication in the medical journal *The Lancet* in 1998, in which the author supported a relation between the mumps, measles and rubella (MMR) vaccine and autism. This message has become commonplace and remains a significant concern among parents, even after the magazine only retracted in 2010 for publishing the article and blunting the discovery[12].

News about a possible relationship between autism and MMR comes from scientific articles published in reputable and authoritative journals led not only the population to fear for immunization, but widespread concern among health professionals. This seems to be true today when articles published in scholarly journals of varying respectability can have a significant impact as they can be seen as a scientific basis for skeptical and anti-skeptical positions[12].

In this news, it is possible to identify the remnant of the Vaccine Uprising on the speeches and the lack of scientific understanding of the benefits of vaccines. The dissemination of information and even research studies that support non-vaccination promotes contagion of diseases that should be eradicated, such as measles and polio[13].

Observational studies have shown an association between exposure to anti-vaccine information on *twitter* and Internet in general, and a negative perception of vaccine risks. A second Canadian study conducted with 250 mothers also reported that reliance on governmental *websites* that promote vaccination is associated with higher vaccination rates. Therefore, it is difficult to establish an association and to quantify the impact of *online* information on the acceptance of vaccines[9].

It is noteworthy that, for nursing practice areas, especially for Primary Health Care professionals working in the vaccination room, surveillance services, and care for populations in the territories, the anti-vaccines movement discourse promotes little vaccine acceptance and doubts about their effectiveness and real need.

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It is not possible to confirm that immunobiologicals are totally risk-free, but it requires health professionals to develop clarifications on vaccine activities so that the incidence of immunopreventable diseases does not change as long ago[14]. Moreover, in recent years, the target population for influenza immunization has reached the goal of vaccination coverage set by the Ministry of Health, which would be 90%.

In contrast, the group of pregnant women and children, aged between six months and under five years old, in addition to the states of Roraima, Rio de Janeiro and Acre, remain below the expected coverage. This may be related to the population's non-adherence to the vaccine, being this problem possible, especially regarding the lack of adherence to vaccination and care with the epidemiological surveillance of new cases, but mainly of the circulating serotypes[15].

In other words, influenza health surveillance, as well as the construction of strategies for its elimination, go beyond the treatment and prevention technologies. These direction of these actions is in the population's health education, including immunization as a unique strategy for influenza control and its elimination in the Brazilian territory.

CONCLUSION

The Spanish Flu epidemic outbreak has highlighted the incipient nature of actions undertaken and unable to address the issue of urban sanitation and to equip the state to offer comprehensive, compulsory, permanent and effective public health policies to the population. In 1918, the population of Salvador was still subjected to poor sanitation, lack of water services, sewage, transportation, and high mortality rates caused by endemic and epidemic ills. From this perspective, the Spanish Flu was a major epidemic in the country that, with great repercussions on lethal outcomes, brought meaning and significance within a human context, in various ways in which it infiltrates people's lives, the reactions it provokes, and the manner in which it expresses social, cultural and political values.

Regarding the prevention of severe influenza and its complications, today, the most effective measure against the disease is vaccination. The annual need for vaccination is emphasized, since the vaccine is produced according to the strains circulating in the territory in the previous year. It is worth mentioning that vaccination, whether for Influenza or other injury, constitutes, over the years, an effective prevention action with breaking the epidemiological chain of several diseases, which strategically becomes a public health policy recognized worldwide.

Moreover, for the nursing field, understanding the various influenza epidemics dynamics that the country faced during this century is to understand the behavior of this disease in the populations, thus enabling professional development in the practice areas, from primary to hospital care.

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