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VACCINATIONS AGAINST INFLUENZA OF HEALTHCARE WORKERS

SZCZEPNIENIA PRZECIWKO GRYPIE U PRACOWNIKÓW OCHRONY ZDROWIA

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ABSTRACT

Flu is a contagious disease that poses a problem recurring in each influenza season with varying intensity. At the end of the XX and early XXI century new subtypes appeared, which indicates the high variability of the pathogen from the moment of its isolation to the present day. Many people do not realize, how big a threat is flu, its consequences have a significant rebound in both the health and economic sphere.

On the issue of influenza, the best prevention measure is prophylaxis. Hygiene behaviour meet with approval and the problem of incorporating these behaviours into life, while the most effective way of preventing influenza in the form of vaccination, for unknown reasons, does not enjoy excessive recognition and good reputation among the population.

Medical personnel through frequent and close contact with patients are exposed to various pathogens that cause disease. The increase in influenza flu among medical personnel facilitates the transmission of a disease that is spreading among patients and other employees. This creates a significant coordination problem, associated with the need to deal with staff shortages among employees, mainly during the epidemic seasons typical of influenza. The results of serological tests show that seasonal exposure to influenza virus is about 25% of medical workers [1].

Key words: influenza, vaccination, healthcareworkers

ETHIOLOGY AND PATHOGENESIS

Influenza is an acute infectious disease caused by viruses from the Orthomyxoviridae family. The influenza is caused by the types A and B, which are the cause of severe illness, and type C, causing disease with a lighter course. The influenza virus multiplies in the epithelial cells of the upper and lower respiratory tract, does not cause viremia, and the general symptoms appear as a result of the action of cytokines released in the inflammatory reaction [2]. Influenza is an important clinical and epidemiological threat, as well as a significant cause of death in many regions of the world [3].

The source of infection is a human, and in the case of type A some animals: pigs, horses, mink, water mammals, whales, seals and birds. The infection is usually by droplet, which means that the virus has the ability to transfer from person to person. It is possible to get infected by contact with infected objects and by hands. In the case of avian influenza, a sick animal is the source of human infection. Transmission of the infection to a human can take place through close, direct contact with a sick or dead bird, by eating undercooked or raw meat, as well as by eating raw eggs of sick animals [2,4]

CLINICAL PICTURE

The incubation period usually lasts 1-4 days (on average 1-2 days). Infectious period of the disease varies, depending on the patient's age and immune status [4].

The flu usually starts suddenly, with the respiratory and systemic symptoms. The high proportion of cases in the general population is self-limiting (flu without complications) [5]. Clinical symptoms of seasonal flu, mainly include runny nose, cough, sore throat, fever, chills, joint and muscle pain, headaches, malaise, sometimes nausea and vomiting. In uncomplicated cases, acute clinical symptoms of the disease usually disappear spontaneously within 3-7 days, but cough and malaise may take longer, up to 2 weeks. Up to 50% of infections are asymptomatic [2].

EPIDEMIOLOGY OF INFLUENZA IN POLAND AND IN THE WORLD

An epidemic is a large number of disease cases occurring at a given time in a given area. Influenza epidemics occur seasonally. In the southern hemisphere, the flu epidemic season, on average, lasts from May to September, and in the northern hemisphere from November to March [6]. Large epidemics result in numerous deaths in the general population, with an increasing percentage of high-risk patients, mainly due to complications in the respiratory system [7]. A pandemic is an epidemic of an infectious disease that occurs every dozen or several dozen of years in large areas, on different continents, at the same time. Influenza infections, from time to time take the form of a pandemic flu and are caused by new variants and subtypes of the virus [7].

According to the estimates of the World Health Organization (WHO), between 330 million and 1.575 billion people suffer from flu and flu-like illness every year, and 500,000 to even a million people die [2].

According to data from the National Institute of Hygiene (PZH), between July 1 and July 7, 2018, a total of 42.697 cases and suspicions of influenza were registered in Poland. The average daily incidence was 15.9 per 100 000 population. Deaths due to influenza were not reported [8]. A meta-analysis of 22 studies (24 246 people in control groups) carried out in different years showed that during the epidemic season, on laboratory confirmed influenza, on average, suffered 2.4% of adults during the epidemic season (the incidence of 2400 / 100,000 people). The intensity of epidemic seasons in the following years is not the same, and the chance of getting sick is from 1% to almost 11% (1000-11 000/100 000). However, it is difficult to predict in advance what activity of the influenza virus will appear in the upcoming season [9].

A high incidence occurs in the age range 0-4 years, then 4-14 years, this number decreases in adults and in turn increases with the greatest severity in the elderly, in whom both the highest incidence and mortality occur [10].

VACCINATIONS AGAINST INFLUENZA OF MEDICAL PERSONNEL

The favorable epidemiological status of a large number of infectious diseases is, to a large extent, the result of preventive measures. The use of personal protective equipment and obeying hygiene and sanitary procedures are important, but not sufficient to prevent infection with the influenza virus [11].

Vaccination is the most effective prophylactic method in the case of influenza, which is a long-term protection against infection. This way, it is possible to improve the epidemiological situation, but also to eradicate and eliminate illnesses [12,13].

The challenges that healthcare providers faces are largely due to the lack of comprehensive vaccination solutions against influenza among medical personnel. There are no specific procedures to be followed, which leads to a reduction in vaccinations among health care workers; this is associated with a deterioration of the epidemiological situation. In Poland, infectious diseases are ranked third on the list of occupational diseases [14].

Influenza is a serious patient safety issue, taking into account factual and convincing data on the severity and frequency of flu infection. Safety, efficacy, economic, legal and ethical platforms support the use of influenza vaccines. Despite this, health care workers have shown for almost 25 years, that they are not willing to respect voluntary vaccination programs against influenza. It is advisable to require annual immunization against influenza from any healthcare worker directly contacting the patient, unless there are medical or ethical contraindications. High level of vaccination for health workers will benefit patients, healthcare professionals, their families and employers, and the communities in which they work and live [1].

In Poland, the low percentage of people vaccinated against influenza is worrying because they have direct and frequent contact with patients. The results of many studies indicate that among the medical personnel, the doctors vaccinate themselves against influenza most often, less frequent nurses and other medical personnel [15].

A significant difference was noticed by Fernandez et al. in a 2008 study that was carried out among the staff of one of the hospitals in Boston - 94% of residents were vaccinated against influenza, 82% of doctors and only 42% of nurses. They investigated attitudes, practices and knowledge of influenza vaccination and support for such vaccination

programs among healthcare professionals. The authors of the study showed that knowledge about vaccination was an important factor in making a vaccination decision [16].

The importance of influenza vaccination has also been demonstrated by Salgado et al. In their study, the number of lab-confirmed influenza incidences fell from 42% to 9% in the influenza vaccine group, and the percentage of hospital infections in the form of a respiratory tract infections fell from 32% to 3% [17].

The involvement of family doctors in influenza vaccination is low. Many of them believe that time is a barrier to thoroughly discuss the role of vaccination during a routine visit in the office [18]. In 2013, Nitsch-Osuch et al. carried out a study among people applying to the primary care physicians. Most patients stated that the information they obtained from the doctor about the vaccination was exhaustive, but in most cases they themselves were initiators of talks on this subject [19]. It is unquestionable that doctors play an important role in promoting anti-influenza prophylaxis. Patients most often consult on doubts whether they should get vaccinated against influenza, when and why. The role of the medical staff is to answer these and other bothering questions, to overthrow myths about flu and its prevention. They should give information reliably, however, to do this and set an example to others, they should undergo immunization themselves.

Despite the recommendations and appeals of many organizations, vaccination level of medical staff against influenza remains low. In the United States, the percentage of vaccinations among health care workers varies between 20 and 80% (on average 40-50%) [20]. In Poland, it is estimated that the percentage of vaccinated medical personnel is 5-6% and is slightly higher than the level of vaccination of the general population [21].

Vaccination against influenza is not a popular method of fighting this virus in our country. A small number of people use this option of anti-influenza prophylaxis. The number of people who decide to vaccinate is increasing compared to previous years, despite this fact the statistics are still not satisfactory [22].

Better knowledge of these infections and influenza vaccination will allow us to better understanding the problem and take some action to effectively fight this issue in the future. Apart from numerous arguments, that such knowledge is more and more needed by medical staff, it is worth mentioning one more, very important - about the "educational" mission. Healthcare system employees, apart from everyday professional activities, also perform the role of a "teacher", especially when they implement their younger colleagues in the work and professional activities or provide knowledge to patients and their families.

CONCLUSIONS

Influenza - a disease that can be prevented through vaccination remains one of the major health threats around the world, despite the fact that effective vaccines have been available for many years. Diseases preventable by vaccination can spread before the onset of symptoms, and their course is often subclinical, so that health care workers can continue their work and transmit the virus. Persuading employees for voluntary vaccinations and for using other protective measures to control the disease is morally justified. Employees should be aware of the seriousness of their illness and the consequences associated with the onset of influenza. The more employees choose to vaccinate, the more benefits patients, their institution and the society itself will have.

Influenza can cause multifaceted effects, both personal and social. The most serious consequences are those that affect our health or life. Another are the economic consequences - professional indisposition of patients and their family members, costs of hospitalization, outpatient treatment and pharmacological treatment. Important social consequences, such as the healthcare system burden, and the difficulty in the social and professional functioning of both sick people and family members with direct care of the sick are also important consequences of developing flu [23].

Systematic and reliable prevention may bring a number of benefits, such as reducing the potential social impact of influenza, reducing incidence and mortality caused by post-influenza complications, as well as limiting economic consequences [23].

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