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## The knowledge and the attitude of students from the selected Lublin's universities towards the influenza vaccination

Wiedza i postawa studentów wybranych lubelskich uczelni na temat szczepień przeciwko grypie

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### Abstract

Among all of the infectious diseases, it is influenza that affects the most people. The high infectiousness is its characteristic, therefore people fall ill to it, regardless of age or gender. When it comes to the flu illness, the highest risk group are children and people over 65. The airways' infection caused by the flu virus is a serious health issue all around the world, causing 3-5 millions of clinical infections and 250-500 thousands deaths per year.

**Key words:** vaccination, influenza

### Introduction

Among all of the infectious diseases, it is influenza that affects the most people. The high infectiousness is its characteristic, therefore people fall ill to it, regardless of age or gender. When it comes to the flu illness, the highest risk group are children and people over 65.

The airways' infection caused by the flu virus is a serious health issue all around the world, causing 3-5 millions of clinical infections and 250-500 thousands deaths per year. The influenza often took form of pandemic and epidemic starting from the year 1742, when cases of illness were recorded in Europe (especially in Rome and London), all the way to 1873. The subsequent flu pandemics were recorded in 1889, so called Asian flu, 1918 Spanish flu, 1957 Asian flu, or 1968 Hong Kong flu, and 1977 Russian flu. Influenza in Poland showed up in cycles of epidemic as well, for example in the year 1947, 1949, 1951, 1954, 1967, as well as 1977. For instance, in 1957 over 3 million people had fallen ill, but in 1971 the number rose to 6 127 674, and 5 940 deaths had been recorded. 1971 was the year with the highest mortality rate in the history of flu in Poland, 18,14/100 thousand of population. In 1975, 3 768 054 people had fallen ill, and the mortality rate at that time stood at 4,14/100 thousand (1 409 deaths). In the last twenty years, it was the year 1999 when the increase of cases were recorded, with 2 344 773 people falling ill (402 deaths), and mortality rate of 1,04/100 thousands. The data on incidence and deaths caused by influenza is shown on Figure no. 1.

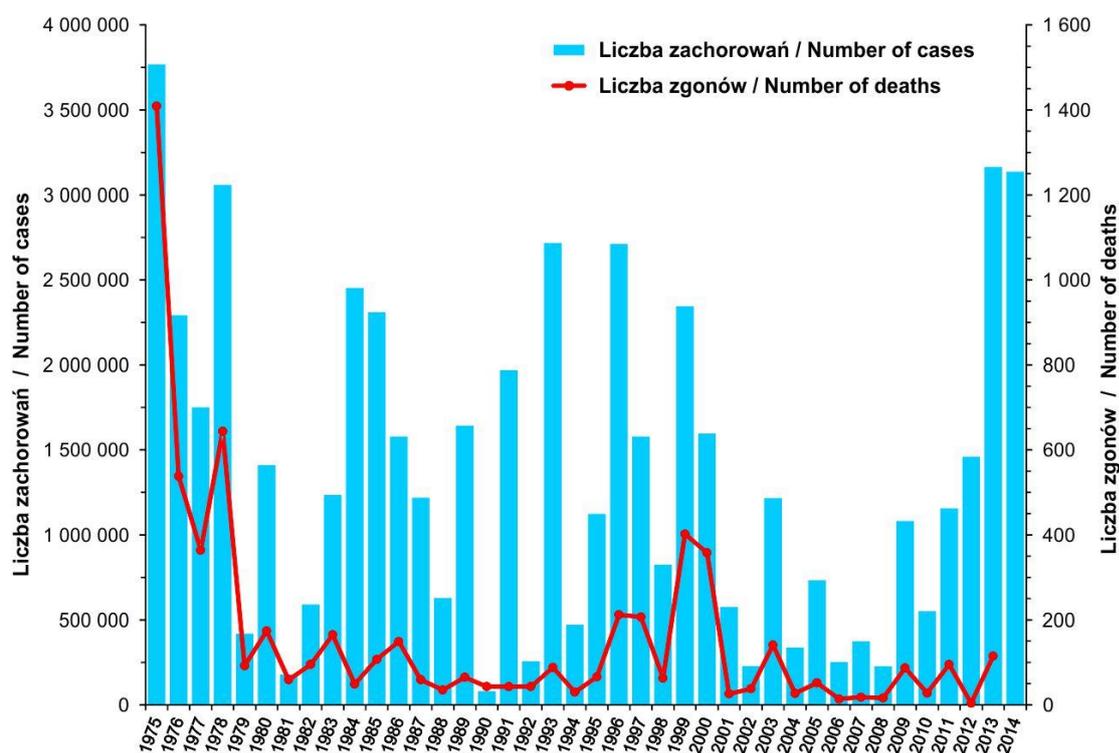


Figure no. 1. The number of flu infections and suspected flu infections and the number of deaths caused by flu in the years 1975 – 2014.

Dane Narodowego Instytutu Zdrowia Publicznego, Państwowego Zakładu Higieny, Zakładu Epidemiologii, Pracownia Monitorowania i Analizy Sytuacji Epidemiologicznej.

In 2005 733 234 people had fallen ill, and as taken from data from NIZP-PZH, in 2015 overall 3 843 438 cases were recorded, (incidence 9994,7/100 000). From that amount 12 197 people were taken to hospital. According to the latest data, in period from 1<sup>st</sup> to 7<sup>th</sup> of January only, 132 030 cases were recorded – the daily average incidence stood at 49,0/ 100 000 people.

The flu season in Poland usually befalls on period from September to April, although the rapid increase in incidence more often than not happens between January and March. Given the possibility of flu related complications occurring, such as pneumonia, myocarditis, encephalitis or meningitis, WHO recommends yearly protective vaccinations. Vaccines are the most effective way of the disease prevention. They are safe and effective, they have been in use for over 60 years. Influenza vaccines are among the most advantageous elements of prevention. The usage of vaccines not only brings health benefits, but has it's further implications with lowering the costs of treatment, long-term hospitalization or post-flu complications. According to sanitary inspection's data from 2012, the flu vaccination concerned only 2,4% of the whole population (7,7% of people over the age of 64). The flu vaccination is among the recommended ones. WHO recommends yearly vaccinations to pregnant women on each and every period of pregnancy, to the children from aged from 6 months to 5 years, to the elderly (age over 65), and to the people with long-term health issues as well as the health care professionals.

### **The aim**

The aim of the study was to learn about the student's level of knowledge and their attitudes towards the flu vaccinations, as well as using this knowledge to one's health protection.

### **Content and the methods**

The study has been performed among the students of Medical University in Lublin (UM), and Maria Curie Skłodowska University in Lublin (UMCS). The survey has been filled out by 120 students overall, from which 68 (57%) were from Medical University and 52 (43%) from UMCS. The average age was 21. The study has been conducted on four degrees – two degrees per university. From UM the degrees were Public Health (19%) and Nursing (38%), from UMCS those were Economics (29%) and Geography (14%). The survey was conducted around March and April of 2015.

The method of diagnostic opinion poll was used during the study. As part of the method, the survey was used, and for the examination tool a custom questionnaire consisting of 20 questions was created. The survey was individually filled out by the students and ensured anonymity, the participation was completely voluntary.

## **Results**

Overall 120 students took part in the study: 95 women (79%) and 25 men (21%). The first question was focused on examining the responder's attitude towards the flu vaccinations. Almost half of them – 46% of UM and 42% of UMCS, expressed a solid support towards vaccination. The supportive opinion had been declared by 44% of responders overall. Almost quarter of participants had no opinion on the matter. On the other hand, 7% of students responded that they are rather against those vaccines, and 2 students claimed to be in strong opposition, one of each university.

The next study concerned the level of knowledge in the matter of the frequency of flu vaccinations. Most of the responders were well aware of yearly character of vaccines – 66% of UM and 29% from UMCS. Almost half of the students (42%) stated, that vaccination should be taken once every few years, 5 students responded that the frequency does not matter, and 4 people said that one should not vaccinate at all.

Afterwards, the participants were asked if they know what is the best period for vaccination against flu. More than half of them (57%) were of the opinion that one should vaccinate during autumn, and 20% responded that vaccines should be done with the beginning of spring. 22% said that it does not matter. The correct answer was given by 32% UMCS students and 15% UM students.

The subsequent question aimed to check the participants' attitudes towards the value of vaccinations. This time, 84% responded that it is worth to vaccinate. Both UM and UMCS students express similar opinion (88% and 78%). The detailed analysis of the examination had shown, that the dominating opinion among the responders was that vaccinations should be done most of all by elderly, children and people of low immunity. Among the UM participants were also opinions, that vaccinations should be done by medical professionals and people whose work requires a lot of interactions with other people. The UMCS students leaned towards vaccinations for people with long-term diseases. Overall 35% of students (17% UM and 18% UMCS) expressed opinion, that anyone who hasn't got any contraindications should vaccinate.

The majority of the responders, 84% UM and 73% UMCS was of opinion, that flu vaccines are effective. The opposing opinion was declared here by 16% of UM responders and 27% of UMCS. The participants were also asked about the safety of the flu vaccination. A lot of them (87%) stated that the vaccines are safe. This opinion expressed 91% of UM students and 83% of UMCS students.

It was important to learn about the level of knowledge possessed by the examined population about the possible complications from flu. Roughly 74% was aware of them, 76% UM and 71% of UMCS responders. However, 24% of the UM students responded that flu causes no health complications. Similarly, 29% of the UMCS students were of the same mind.

In the further part, the questions revolved around the flu vaccinations done by the survey participants in the period that the survey took place. As high as 90% of the responders had not vaccinated against flu. Only 3% from UM and 17% from UMCS decided to vaccinate. It was 11 students overall. They decided so, because they believed it to be the best method of prevention (64%), they had contact with the ill (18%), and they had it recommended by their doctor (18%). The participants that had not vaccinated (109 people), defended their choice by saying that: the vaccines are too expensive (18%), they are afraid of needles (12%), their organism takes care of the flu virus by itself (59%), and they do not believe in the vaccine's effectiveness (11%). Detailed data in Figure no. 2.

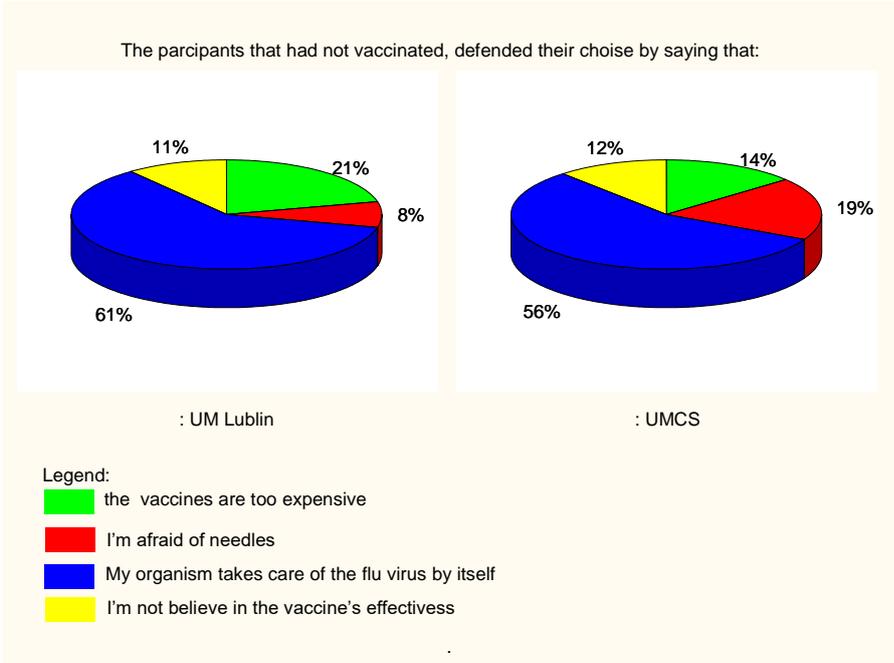


Figure no. 2. The declared reasons for not vaccinating against flu

Afterwards, the participants were asked if they vaccinated in the previous seasons. Only 22% had vaccinated in the previous years. The next question was about the intention of vaccinating in the next season. The intention to vaccinate was declared only by 31% of students. The next question was: "Would you be more willing to vaccinate if it was free of charge?" This was confirmed by 32% of the responders, 28% said that they possibly would, 10% would rather not vaccinate, 6% would definitely not. 25% of the students did not know if they would vaccinate.

They were also asked if they would recommend vaccination to their friends and family. As high as 55% said they would not recommend it.

## **Discussion**

The effectiveness of vaccines against flu had been proved many times. It is the only effective way of flu prevention. The studies show, that vaccinating the whole society would cost less than the subsequent treatment. Almost 70% of population should be vaccinated to gain immunity of the whole population. Despite that, the flu vaccination meter in all of age groups is still low.

The conducted study had shown that the examined population – the students of UM and UMCS had the positive attitude towards vaccination against flu. Up to 84% participants declared, that it is worth to vaccinate. The dominating opinion among the responders was that the people who should vaccinate above all else were elderly, children and people of low immunity. There were also responses that the medical professionals and people having a lot of contact with other people should also vaccinate. This means, that the students expect the health care professionals to vaccinate against flu. Unfortunately, as taken from the studies by Gołabek and co., only 5% of surveyed nurses vaccinate every season – more often vaccines are done by the ambulatory workers than the hospital ones. The motivated them taking vaccines with the care for their health. In other studies conducted on the medical professionals the most common reasons for not vaccinating were displayed. Those were, among else, lack of awareness for the consequences of falling ill and the possible complications.

Overall, 35% of the responders stated that anyone without contraindications should vaccinate. The group of surveyed students mostly believed that the vaccines are safe (91% UM and 83% UMCS students) and effective (84% UM and 73% UMCS). It is contradictory with the trend that was noted by Kalinowski and co. They stated that among the young people there is an opinion, that the vaccination against flu might cause one, and that the vaccinations have the risk of causing autism.

The students of UM presented higher level of knowledge about vaccination against flu than the UMCS ones, which is surely connected with the subject of their degrees. Almost 74% of the participants were aware of the possibilities of flu complications. However, the percent of students vaccinating against flu is low, because of 120 students only 11 of them were vaccinated against it during the time of the survey. The number of people declaring vaccinating in the previous years, who were not vaccinated in the given year, was similar to other studies like this. The students would be much more keen on vaccinating if it were free of charge. Kalinowski and co., had gotten similar results when surveying a group of young people. In the work of Zielonka and co. as well, the doctors, nurses and students as their main reason for not vaccinating responded with high cost of the vaccination. This means, that the lack of financing vaccinating patients by doctors is one of the most crucial obstacles.

From the studies of Łukomska and co. one can learn, that most of the patients vaccinate when convinced by their close ones, by their doctor or the industry they work for. According to the conducted studies more than half of the young people recommend vaccinations, causing vaccinations to become more and more popular. In the discussed study, 45% of the participants declared convincing their close ones and friends to vaccinate against flu. It is unsettling however, that the participants do not vaccinate against flu despite the fact, that they are well aware of the complications.

## **Conclusion**

1. Overall attitude of the students towards vaccination against flu is positive.
2. Both UM and UMCS students are convinced to effectiveness and safety of the vaccine
3. The amount of students vaccinating against flu is low. More of the UMCS students vaccinate than UM ones.
4. The financial cost of vaccinating is still the reason for not doing them.

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