

Public awareness of contagious diseases

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Abstract

Introduction: Restrictions against the COVID-19 pandemic have resulted in a decrease in other contagious diseases. However, their prevention and treatment are still a topical issue.

Purpose: To present the public awareness on infectious diseases taking into account the knowledge of people with medical education.

Material and method: The study was conducted by means of the author's questionnaire. 158 questionnaires were collected and analysed.

Results: Men and women of different age took part in the survey. Half of the respondents had medical education. The analysis showed that as many as 89.2% of the respondents were aware of the pathogenic factor of influenza, which is the virus. Only a small percentage of respondents had information regarding the number of influenza infections in Poland (10.8%) and worldwide (21.5%). Medics were aware of this in 10.0% and 28.8% respectively. Influenza was admitted by 81.0% of the respondents, while for other infectious disease (except COVID-19) the result was 75.3%. The respondents indicated as the most common route of transmission of infectious diseases the droplet route (66.5%), while fever was the typical symptom (81.0%). Washing hands turned out to be the most important prophylactic behaviour of respondents (50.6%) and especially of students (93.7%).

Conclusions: Awareness of infectious diseases among Poles is not at the highest level. Those with medical education have slightly higher knowledge, but it is necessary to introduce educational programmes and update knowledge.

Keywords: contagious diseases; awareness; society.

Introduction and purpose

One of the key problems for Poles in the 21st century are infectious diseases. The current major infectious disease is COVID-19, which has affected as many as 219 million people worldwide by 8 August 2021 [1]. According to a report by the National Institute of Public Health - National Institute of Hygiene (Narodowy Instytut Zdrowia Publicznego - Państwowy Zakład Higieny) in Poland, the restrictions caused by the pandemic caused a significant decrease in the number of cases of most infectious diseases. The decrease concerned influenza as well as intestinal infections, rotavirus in children and even hospital infections (e.g. *Clostridium difficile*) [2]. Keeping a distance, wearing masks and sanitizing significantly help to maintain fewer infections. However, according to another NIZP-PZH report "Behaviour and suspected cases of influenza in Poland" from 2020, more than 4.5 million people fall ill with influenza in the country every year, which is still a significant problem [2]. In the world, on the other hand, about 5-10% of the world's adult population and 20-30% of children get sick annually. Each year there are 3-5 million acute cases of the disease, while the number of deaths is 250 000- 500 000 [3]. Elderly people with chronic diseases or young children are particularly at risk. They can be significantly affected by the chronic effects of influenza, which can even threaten death [4]. Despite the development of medicine, the diagnosis and treatment of infectious diseases are still a major problem for humanity. The aim of this study was to present the public awareness of contagious diseases taking into account people with medical education.

Material and methods

The study was conducted in August 2021. The research technique was a proprietary survey questionnaire. The survey was made available via the Internet. 158 questionnaires were collected and then the collected survey material was analysed.

Women (55.7%) and men (44.3%) participated in the study. The age of the respondents varied, ranging from 12 to 65 years, while the average age was 31 years. 63.9% of the respondents lived in the city, while 36.1% of them lived in the countryside. Half of the respondents (50.6%) were studying medicine or had a medical degree. The percentage distribution regarding the gender of the respondents, place of residence, and medical education is presented below.

Gender	N	%
Female	88	55,7
Male	70	44,3

Table 1. Gender distribution of the respondents.

Place of residence	N	%
Village	57	36,1
City	101	63,9

Table 2. Distribution of the respondents' place of residence.

Medical education	N	%
Yes	80	50,6
No	78	49,4

Table 3. Distribution of medical education of the respondents.

Results

The main part of the survey consisted of questions about the respondents' knowledge. The first question was about the microorganism causing influenza. As many as 89.2% of the respondents chose the correct answer, which was a virus. Only 7.0% of the respondents opted for bacteria, while 3.8% did not know which answer was correct.

Answer	N	%
Virus	141	89,2
Bacteria	11	7,0
Lack of knowledge	6	3,8

Table 4. Distribution of answers about the pathogen of influenza.

The situation regarding knowledge on the epidemiology of infectious diseases was different. The respondents were asked a question about the annual number of flu cases in the world. The correct answer was marked only by 21.5% of respondents, that is 34 persons. Persons with medical education only in 28.8% knew these statistics.

Answer	Persons with medical education	Percentage of total (%)	Persons without medical education	Percentage of total (%)	Total - 158	Percentage of total (%)
Right	23	14,6%	11	6,9%	34	21,5%
False	57	36,1%	67	42,4%	124	78,5%

Table 5. Relationship between medical education and determination of the number of influenza cases worldwide.

The question about the number of cases of influenza in Poland during the year was answered correctly only by 10.8% of respondents, that is 17 people. Among the correct answers, only 8 were given by persons studying medicine (10%).

Answer	Persons with medical education	Percentage of total (%)	Persons without medical education	Percentage of total (%)	Total - 158	Percentage of total (%)
Right	8	5,1%	9	5,7%	17	10,8%
False	73	46,2%	68	43,0%	141	89,2%

Table 6. Relationship between medical education and the number of cases of influenza in Poland.

A significant part of the respondents (81.0%) declared that they had ever fallen ill with influenza. Every fifth respondent stated that they had never been ill with this infectious disease.

Occurrence of influenza	N	%
Disease has occurred	128	81,0
Disease did not occur	30	19,0

Table 7. Declarations of sickness for influenza.

In contrast, for other infectious diseases (except influenza and COVID-19), one in four people believed that they had not experienced one.

Occurrence of another disease	N	%
Disease has occurred	119	75,3
Disease did not occur	39	24,7

Table 8. Declarations of behaviour to another infectious disease.

As the most common route of transmission of contagious diseases, respondents mentioned the droplet route (66.5%). In second place was the oral route, which was favoured by 17.7% of respondents. Next were sexual contact (9.5%), transmission by vectors e.g. mosquitoes or ticks (3.8%), and contact through blood (2.5%).

Routes of transmission of infectious diseases	N	%
Droplet route	105	66,5
Oral route	28	17,7
Sexual contact	15	9,5
Transmission by vectors e.g. mosquitoes	6	3,8
Blood contact	4	2,5

Table 9. The most frequent ways of transmitting contagious diseases.

A large part of the respondents (81.0%) correctly identified fever as a symptom typical for an infectious disease. 11.4% of the respondents opted for cough, but it is not such a characteristic symptom. In this question, almost all medical students (93.7%) indicated the correct answer.

Typical symptom of infectious diseases	N	%
Fever	128	81,0
Cough	18	11,4
Rash	9	5,7
Migratory erythema	2	1,3
Conjunctivitis	1	0,6

Table 10. The most common symptoms of contagious diseases.

Answer	Persons with medical education	Percentage of total (%)	Persons without medical education	Percentage of total (%)	Total - 158	Percentage of total (%)
Right (fever)	74	46,8%	55	34,8%	129	81,6%
False	5	3,2%	24	15,2%	29	18,4%

Table 11. Relationship between medical education and identification of the most common symptom of infectious diseases.

Half of the respondents (50.6%) agreed that in order not to get sick the most important thing is to wash your hands. 20.2% of the respondents were in favour of general hygiene care, while 17.8% put the priority on vaccination. The least number of people considered wearing masks (7.0%), and avoiding contact with the sick (4.4%) to be the most important.

Prevention of infectious diseases	N	%
Washing hands	80	50,6
Taking care of hygiene	32	20,2
Vaccinating	28	17,8
Wearing protective masks	11	7,0
Avoiding contact with ill people	7	4,4

Table 12. Most important aspect of prevention of infectious diseases according to respondents.

Discussion

The results of the survey revealed low public knowledge of infectious diseases. A review of databases was carried out in order to find research papers relating to the knowledge of Poles on this subject.

The analysis by K. Wójtowicz-Chomicz on the students' awareness of influenza showed that 86.92% of the respondents correctly chose the virus when asked about the microorganism causing influenza. The answer bacterium was chosen by 6.66% of students, while 6.42% marked the answer do not know [5]. In the study, the result was very similar, as much as 89.2% of the respondents put on the virus, 7.0% on the bacterium and 3.8% had no opinion on the subject.

The study by K. Bojar concerning the knowledge of nursing students about influenza proved to be significant. The knowledge of the percentage of the influenza population worldwide according to the World Health Organization (WHO) was demonstrated by less than half of the students [6]. On the other hand, in the analysis, the percentage of those who were aware was only 21.5%, and 28.8%. in the group of those with medical education.

The next question asked by K. Bojar was the awareness of the percentage of population infected with influenza viruses in Poland every year. Only 18.33% of students knew the correct answer [6]. The results of the questionnaire, on the other hand, showed 10.8% awareness in the studied group and 10.0% among students.

The article by I. Gąska on the level of nurses' knowledge about prevention of infectious diseases indicates that 90% of them know all the ways of spreading infectious diseases, whereas the remaining 10% know almost all of them [7]. However, in the questionnaire, the respondents only marked the most common of the routes. 66.5% mentioned the droplet route and 17.7% the oral route.

In the study by K. Wójtowicz-Chomicz, only 14.44% of the respondents were able to name the influenza symptoms. The rest (85.56%) did not mention a single symptom [5]. On the other hand, in the analysis also this question concerned only the listing of the most frequent symptom. It showed 81.0% of correct answers - fever.

The article by A. Garus-Pakowska on the nurses' knowledge about infectious diseases turned out to be important. According to it, as many as 71.2% of nurses believe that most nosocomial infections are spread by hands of the personnel [8]. On the other hand, in the study by I. Gąska, as many as 90% of nurses admitted that hand washing is very important in the prevention of infectious diseases [7]. In the analysis, it is particularly important for more than half of them (50.6%).

Conclusions

The majority of respondents, regardless of medical education, are not aware of the statistics of incidence of contagious diseases in Poland and worldwide. The society shows general awareness of ways of spreading infectious diseases, their symptoms and ways of prevention. Medics should constantly update their knowledge of basic data on contagious diseases. It is necessary to educate the public about infectious diseases, prevention against them by applying appropriate rules.

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