

ATTITUDES OF STUDENTS, RESIDENTS AND GENERAL PRACTITIONERS TOWARDS VACCINATION

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The study presented in the article was performed at the Department of Family Medicine of North-Western State Medical University named after I.I. Mechnikov. *The aim of study* was to assess the attitude of general practitioners, residents, and students towards vaccination.

Materials and methods. The study involved 22 students, 14 residents and 21 general practitioners. Participants completed a questionnaire that included questions about self-assessment of the level of knowledge in the field of vaccination, attitude towards vaccination, opinion about its effectiveness, etc. Statistical analysis was performed using the software SPSS 20.0 (SPSS Inc., Chicago, IL, USA) and MedCalc 11.5.00 (Medcalc Software, Oostende). The Chi-square test was used to assess intergroup differences.

Results and discussion. 61% of the participants rated their own level of knowledge in the field of vaccine prevention as good, 21% as satisfactory and 5% as excellent. The most confident in their level of knowledge were students, in the second place – residents and in the third place – doctors ($p < 0.05$). 90% of respondents identified their attitude to vaccination as positive. 95.5% of students, 85.7% of residents and 76.2% of doctors noted that vaccination is necessary (mandatory). The effectiveness of vaccination is considered high by 86% of participants. When asked whether the respondents do preventive vaccinations for themselves and their children, the majority chose the options “Yes, within the national calendar plus additional” and “all within the national calendar” (51% and 39%, respectively).

Conclusion. The attitude of the surveyed doctors, residents and students to vaccination is mostly positive, the majority of respondents assess the effectiveness of vaccination as high. Most respondents are vaccinated in accordance with the national vaccination schedule, a large proportion of respondents also do vaccinations that are not included in the national schedule. Almost all respondents recommend preventive vaccinations to patients.

Keywords: vaccination; attitude to vaccination; general practice (family medicine).

ОТНОШЕНИЕ СТУДЕНТОВ, ОРДИНАТОРОВ И ВРАЧЕЙ ОБЩЕЙ ПРАКТИКИ К ВАКЦИНАЦИИ

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На кафедре семейной медицины СЗГМУ им. И.И. Мечникова было проведено исследование, *цель* которого состояла в изучении отношения к вакцинации врачей общей практики, ординаторов и студентов.

Материалы и методы. В исследовании участвовали 22 студента, 14 ординаторов и 21 врач общей практики, которые заполняли опросник, включающий вопросы о самооценке уровня знаний в области вакцинопрофилактики, отношении к вакцинации, мнении о ее эффективности и т. д. Статистический анализ данных проводили при помощи программ SPSS 20.0 (SPSS Inc., Chicago, IL, США) и MedCalc 11.5.00 (Medcalc Software, Oostende). Для оценки межгрупповых различий применяли критерий Хи-квадрат.

Результаты и обсуждение. Собственный уровень знаний в области вакцинопрофилактики 61 % участников оценили как хороший, 21 % — как удовлетворительный и 5 % — как отличный. Наиболее уверенными в своем уровне знаний были студенты, на втором месте — ординаторы и на третьем месте — врачи ($p < 0,05$). Отношение к вакцинации 90 % респондентов определили как положительное. 95,5 % студентов, 85,7 % ординаторов и 76,2 % врачей отметили, что вакцинация необходима (обязательна). Эффективность вакцинации 86 % участников считают высокой. На вопрос, делают ли респонденты профилактические прививки себе и своим детям, большинство выбрали варианты «да, в рамках национального календаря плюс дополнительные» и «все в рамках национального календаря» (51 и 39 % соответственно).

Заклучение. Отношение опрошенных врачей, ординаторов и студентов к вакцинации преимущественно положительное, эффективность вакцинации большинство респондентов оценивают как высокую. Большинство опрошенных прививается в соответствии с национальным календарем прививок, значительная доля опрошенных также делает прививки, не входящие в национальный календарь. Практически все респонденты рекомендуют профилактические прививки пациентам.

Ключевые слова: вакцинация; отношение к вакцинации; общая врачебная практика (семейная медицина).

The most effective method of prevention of infectious diseases related to vaccine-preventable infections is vaccination. According to the World Health Organization (WHO), vaccination prevents 2–3 million deaths annually, and global vaccination coverage could help prevent another 1.5 million annual deaths [1].

However, in the world today, due to mistrust and refusals from preventive vaccinations, there is a problem of insufficient coverage of the population with vaccinations. Moreover, vaccination mistrust has been reported by the WHO as a major threat to global health in 2019, along with air pollution and climate change; non-communicable diseases such as diabetes, cancer, and cardiovascular diseases; as well as antimicrobial drug resistance and an underdeveloped primary healthcare system [1].

Frequent reasons for refusals of the population from vaccination are carelessness and underestimation of the risk of infectious diseases, mistrust of vaccines, anxiety about post-vaccination reactions or complications, concerns about the effectiveness of vaccination, as well as “just having a legal right” to refuse vaccination [2, 3].

In order to reverse the situation, it is important to raise the public awareness on vaccine prevention issues to carry out explanatory work both through consulting in medical organizations and through mass media and social networks. According to some data, the Internet is one of the main sources of information about vaccination for many patients (20%–91%), while about 31%–68% of patients receive such information from medical workers [2, 3].

At the same time, the vast majority of patients (up to 95%) consider the opinion of doctors to be the most authoritative and the information received from medical workers to be more accurate compared to the information obtained from the Internet, the media, or friends and relatives [4, 5].

That is why doctors need to have the necessary knowledge in the field of vaccine prevention, correctly recognizing and evaluating the need and efficacy of the vaccine. Unfortunately, some doctors have a negative attitude toward vaccination (3%–10%) according to a number of studies and convey it to patients, and some doc-

tors do not recommend vaccination to patients at all [5, 6].

In 2020, at the Department of Family Medicine, North-Western State Medical University named after I.I. Mechnikov, a study was conducted to determine the attitude of different groups of students toward vaccine prevention.

The goal of the study was to analyze the attitude of general practitioners (family doctors), residents, and 6th year students of the medical faculty studying at the department toward vaccination.

Materials and methods

A one-stage study included 57 participants at the department studying at that time, namely, 22 students, 14 residents, and 21 general practitioners. The average age of the respondents was 32 years.

A short questionnaire was completed by the study participants, which included questions on self-assessment of the level of knowledge in the field of preventive vaccination, attitude toward vaccination, and opinion on its effectiveness as a method of preventing infectious diseases. It also included the questions “Do you vaccinate yourself?,” “Do you vaccinate your children?,” and “Do you recommend vaccinations for your patients?” Those who considered vaccination to be harmful or dangerous were asked to state the reason they believed it to be so. Another question concerned an opinion on the need to make any changes to the national immunization schedule.

Statistical data analysis was performed using the SPSS 20.0 (SPSS Inc., Chicago, IL, USA) and MedCalc 11.5.00 (MedCalc Software, Ostend) programs. For assessing intergroup differences, the Chi-square test was used. Differences were considered significant at $p < 0.05$.

Results and discussion

Furthermore, 61% of the participants rated their own level of knowledge on preventive vaccination as good, and another 21% rated it as satisfactory.

Only 5% of the respondents considered their level of knowledge about preventive vaccination

to be excellent. At the same time, a linear relationship ($p < 0.05$) between confidence in the level of knowledge regarding vaccination and professional experience was revealed (Fig. 1). In their level of knowledge regarding vaccination, students were the most confident, residents ranked second, and doctors ranked third ($p < 0.05$). The number of students who responded that they had a good level of knowledge in the field of vaccination was 53.2% higher than among doctors (95% CI 24.2%–71.4%; $p < 0.05$).

The vast majority of respondents (90%) described their attitude to vaccination as positive (85.7% of doctors, 92.9% of residents, and 90.9% of students), while another 10% of respondents had a neutral attitude. Moreover, none of the participants expressed a negative attitude toward vaccination.

When asked about their attitude toward the need for vaccination, the majority of respondents (95.5% of students, 85.7% of residents, and 76.2% of doctors) answered that it is extremely necessary (obligatory), and some of the respondents chose the answer option “acceptable (possible, but optional)” ($p > 0.05$) (Fig. 2).

At the same time, the efficiency of vaccination as a method of preventing infectious diseases was assessed by 86% of the participants as high and by 14% as moderate. None of the participants chose the “low” or “extremely low” response options. Moreover, there were no major variations in the response this question among the groups of respondents.

When asked whether the respondents of the survey perform preventive vaccinations for themselves and their children, the majority chose the answer “yes, within the national schedule plus additional” and “everything within the national schedule” (51% and 39%, respectively). Five participants were partially vaccinated within the national schedule, and one participant wrote that he was not vaccinated. It should be noted that the annual influenza vaccination was distinguished by several participants as additional off-schedule immunization.

Positive attitudes and assurance of the efficacy of preventive vaccination directly influenced whether or not study participants were vaccinated and whether or not they would recommend vaccination to their patients ($p < 0.05$). Further, study participants who were vaccinated were more likely to recommend it to others and their children ($p < 0.05$).

When asked about the reasons for refusing vaccinations, the respondents (four people) replied that they were not sure about the safety and efficacy of the vaccine. At the same time, one of these participants did not receive vaccinations, and the rest of the respondents partially

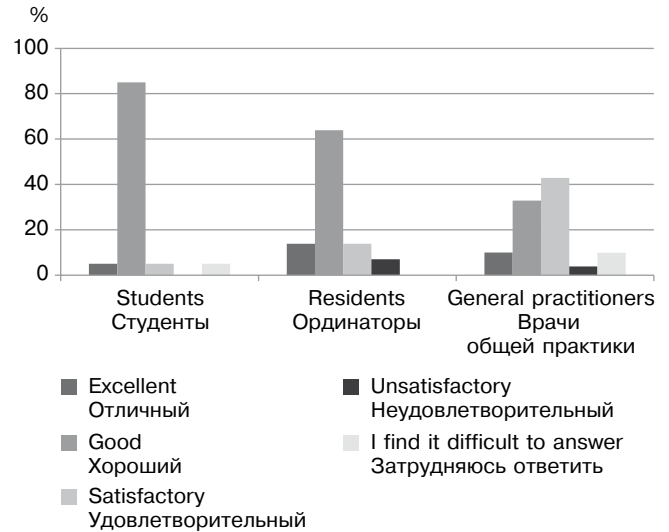


Fig. 1. Self-assessment of the level of knowledge in the field of vaccination

Рис. 1. Самооценка уровня знаний в области вакцинопрофилактики

received them within the national immunization schedule.

We analyzed the answers to the question about the hazard or risk of vaccination. Most of those surveyed do not believe that vaccination is harmful or dangerous. However, five respondents indicated what they consider to be dangerous. Thus, three participants reported that vaccination causes allergic diseases and autoimmune disorders and reduces immunity. At the same time, one of the respondents is not vaccinated, another is partially vaccinated, and respondent 3 follows the national schedule. It is noteworthy that these participants either found it difficult to assess the level of knowledge about vaccine prevention or assessed it as satisfactory. Two other participants expressed the opinion that vaccination can be dangerous if it is contraindicated and also if vaccines that have not been tested in all

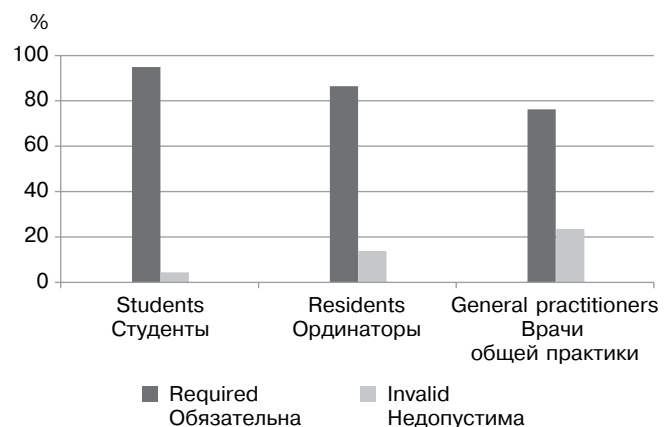


Fig. 2. Attitude towards the need for vaccination

Рис. 2. Отношение к необходимости вакцинации

the required clinical trials are used. At the same time, these participants receive all the immunization according to the national schedule, as well as additional ones, and consider their level of knowledge about vaccine prevention to be good.

Most participants who answered to the question “Do you recommend preventive vaccinations for your patients?” recommend vaccinations according to the national schedule and also additional ones; and much smaller proportion of those surveyed recommend vaccinations within the national immunization schedule.

Opinions on the need to amend the national immunization schedule were divided: 22 participants believed that amendments were not required; 2 respondents indicated that certain vaccines could be excluded from the immunization schedule, but did not indicate which ones; and 33 participants noted that the national schedule could be supplemented with vaccinations, in particular against human papillomavirus, chickenpox, tick-borne encephalitis, meningococcal and pneumococcal infections, rotavirus, and viral hepatitis A. Three participants wrote that vaccination against a new coronavirus infection (COVID-19) should be added to the national schedule, despite the fact that we noted in the introduction to the

survey that the new coronavirus infection and related vaccination issues were not discussed in the survey.

Conclusion

Thus, the attitude of the surveyed doctors, residents, and students toward vaccination is mostly optimistic, and the majority of respondents assess the efficiency of vaccination as high.

In addition, the vast majority of respondents are vaccinated according to the national immunization schedule, and a significant proportion of respondents additionally receive vaccination, which is not included in the national immunization schedule.

Almost all respondents recommend preventive vaccinations to their patients, including those not included in the national immunization schedule.

However, in view of the data on insufficient coverage of patients with vaccination, studies are needed to identify the causes of this problem, with the subsequent development of measures to eliminate them. Moreover, increasing the level of knowledge and activity of doctors in the field of preventive vaccination can be one of the methods to improve the situation.

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