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Short communication

Pharmacists` vaccine basic knowledge and attitudes in the RN Macedonia

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Introduction

Immunization is an important part of the public health and primary health care system. It is the most cost-effective health investment from a financial point of view. There are more than 20 vaccine preventable life-threatening diseases, which allow people to live longer and better lives. Early vaccination is the most effective way to fight the infectious diseases (Pullagura et al., 2020). Today we are still facing problems associated with lower vaccination rates than established targets, although their efficacy and safety are proven a long time ago (Burson et al., 2016). Main barrier is foreseen in lack of unhindered and regular access to relevant preventive health care recommendations.

Pharmacists as the most accessible primary healthcare professionals worldwide play a significant role in provision of different pharmaceutical care services toward promotion and improvement of public health. According to the International Pharmaceutical Federation (FIP) community pharmacy based vaccinations are available in at least 36 countries and territories, indicating that 1.8 billion people can access vaccination services at a community pharmacy (FIP, 2020). Also, they can positively influence patients by provision of reliable safety and efficacy vaccine information thus improving vaccination rate.

The aim of the conducted study was to evaluate the basic knowledge of pharmacists and pharmacy technicians in RN Macedonia related to the vaccines and vaccination.

Materials and methods

The design and structuring of the questionnaire was carried out using focus-methodology group approach. The questionnaire was designed and structured and clarity, complexity and understanding of questions and answers in the form of a pilot survey were performed in a period of one week beginning on 10.04.2022. The final form of questionnaire was distributed as an on-line survey between 18.04-05.05.2022 via Google forms platform. The 34 questions were assigned in 2 categories, RN Macedonia pharmacists' socio-demographic characteristics and knowledge, opinions and attitudes related to vaccines. Obtained data were tabulated using Microsoft Excel® (Microsoft Corp. Redmond, WA, USA) and were computed and consequently evaluated using statistical software STATGRAPHICS Centurion XVI evaluation (StatPoint technologies Inc., USA).

Results and discussion

The survey was completed by 116 pharmacists and pharmacy technicians of whom 91.4% were females. The average age was 34.7±8.6 years. Graduated pharmacists were 53.4%, while 21.6% and 23.3% were with postgraduate and secondary level of education, respectively. Almost half of the responders (46.6%) were community pharmacists while 27.6% were pharmacy technicians employed at community pharmacies. The majority (85.3%) doesn`t have any chronic disease, 93.1% claim that they have received all vaccines from the national immunization calendar and 90.5% didn`t reject any regular vaccine.

The most (88.8%) of respondents claimed that vaccines can prevent serious forms of infectious diseases. Most of them 75.9%, would choose a classical vaccines

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based on a whole inactivated or attenuated virus, and only 24.1% would select a new vaccines based on isolated parts of a virus.

When evaluating the knowledge regarding the new vaccines concepts and platforms, 58.6 % responded that they are acquainted with RNA vaccines, and 48.3% have satisfactory level of information for vaccines based on replicating virus vectors. 70.7% of the respondents agreed with the statement that the classical vaccines based on live attenuated viruses secure long-term immunity, while 40.5% agreed that new vaccines are manufactured in a faster and easier manner in comparison with the classical vaccines.

The time period in which the clinical trials of vaccines are performed, as well as the number of patients participating in them, is important for 95.7%, and 91.4% of the respondents, respectively while 80.2% share the opinion that both aspects are equally important.

About 58% of the respondents disagree with the conspiracy theories related to vaccines and 16.3% agree or partially agree that vaccines cause autism. 72.4% of the respondents did not experience any side effects after vaccination, except the expected ones (headache, pain at the site of the application, fever, fatigue). Only half (56.9%) of the respondents know where they should report the side effects after vaccination.

More than 2/3 of the respondents in this survey considered that vaccines against COVID-19 should not be mandatory. From the total number of vaccinated (~ 73%) around 27% received Sinovac/Sinopharm, 24% were vaccinated with Sputnik and 21% received the Phizer/BioNTech vaccine. Nearly half of the survey respondents (54.3%) did not have the opportunity to choose the type of vaccine.

Approximately one fourth of the surveyed answered that they are not vaccinated. The most common reason (~26%) for the refusal is anticipation that despite the vaccine they would still face the risk for COVID-19 infection. Other reasons were: short time for vaccine development (18.1%), small number of people enrolled during clinical testing (19%), concerns about vaccines' safety and possible long term side effects (17.2%) and disbelief in vaccine efficacy in general (9.5%).

Out of 116 respondents, 76.7% strongly agree or agree that they want to help in improvement of COVID-19 prevention. High percentage of responders (69.8%), won't accept enrolment in COVID-19 vaccines clinical trial. Only 25% of the pharmacy staff agrees with the model of vaccination in community pharmacy settings as established in some European countries and United States while 61.2% disagreed. 51.7% are defiant towards their own engagement in vaccine application even after proper training, while nearly 39% are confident. When asked" If the COVID-19 vaccine was given in pharmacies, would you receive it there?" similar results were obtained, almost 53% share negative and 31% positive opinion.

Exactly 60% of the respondents would agree to perform some diagnostic procedures on patients (blood sugar measurement, blood pressure measurement, etc.) in a pharmacy, if they received financial compensation for that. Most of the surveyed respondents (nearly 85%) are confident to perform blood tension measurement, around 88% to monitor blood glucose, as well as BMI and rapid COVID-19 tests (79% and 90%, respectively) without additional training.

Conclusion

According to the obtained results, the surveyed population acknowledges benefits of vaccination for public health. Generally, they are familiar with the new vaccine types available at the market. However, a large majority do not appraise vaccination in the community pharmacy setting. Instead, they have positive consent to perform other non - invasive services to patients in a pharmacy.

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