

## VACCINATION AND VACCINE HESITANCY, THE ROLE OF A PHARMACEUTICAL SPECIALIST IN THE HEALTH CARE

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### Annotation

The Anti-Vaccination Movement is a public movement that questions vaccination, its effectiveness, safety and the right to mass vaccination, posing a serious threat to human health. Depending on the country, its development and culture, the number of vaccine hesitancy can be different. Not always a therapist or person with medical education can influence a patient's decision to be vaccinated or not. The main task of my qualifying work was to find out the role of pharmacist in the vaccination problem in Latvia.

### Introduction

Vaccination is a very complex topic in medicine and healthcare. Despite the fact that vaccines have been widely used for various diseases since the middle of the last century, people still have a lot of questions and mistrust.

The vaccine hesitancy has been around since the vaccine was first made and is becoming popular in many developed countries, such as the United States, Germany, France and other countries. The popularity of the anti-vaccination movement is also growing in Latvia, which in turn may be a reason for spreading disinformation and the growth of various vaccine-related diseases.

The main professional task of pharmacists is to provide to other people high-quality and modern based knowledges in the health care. One another important task of pharmacist is promoting disease prevention, which in turn is the task of vaccination. The aim of the research: to find out the role of a pharmacy specialist in ensuring public health in vaccination issues. Research tasks and problems:

To find out, with the help of doctors, pharmacists and interviewed people how a pharmacist can promote vaccination and educate people in this field. As also to define a percent of the respondents, which support the vaccine hesitancy. Qualitative and quantitative research methods were used in the work: semi-structured interview and questionnaire. The study interviewed 44 pharmacists and pharmacist's assistants, 22 doctors in Latvia. 500 people from social networks and forums participated in the research questionnaire.

### Vaccination statistics data

Vaccination has significantly reduced morbidity and mortality from various infectious diseases. Immunization prevents 2-3 million deaths worldwide each year, but if global vaccination improved, another 1.5 million deaths could be prevented. Some 18.7 million babies - almost one in five children worldwide - are still not routinely immunized against preventable diseases such as diphtheria, whooping cough and tetanus. (*Zavadska D., Isarova D., 2017*).

Vaccination is one of the main and most effective forms of health prevention, despite the fact that many people believe that the vaccine is only a source of profit for pharmaceutical companies, statistics show that any vaccination is always cheaper and more beneficial than treatment and rehabilitation - both for the individual and however, both the public and professionals have two different views: on vaccination and against vaccination (*Rozīte S., Dumpis U., 2011*).

## Collective immunity

As collective immunity declines, the incidence of certain infectious diseases increases, so in order to prevent the recurrence of infections, vaccination must be continued even if cases of certain infectious diseases have not been registered in the country in recent years or are very rare. Collective immunity is extremely important for people in society who, for objective reasons, cannot be vaccinated, such as cancer patients or other serious conditions. Vaccination has almost completely eradicated the world from dangerous poliomyelitis, an infection that mainly affects children. Only in Latvia the cases of some infectious diseases decreased up to 99.5% (*Vakcinācijas pamatprincipi un termini, BKUS*).

## Influence of social networks on vaccine hesitancy

The anti-vaccination movement is a public movement that questions vaccination, its effectiveness, safety and the right to mass vaccination. Skepticism about vaccination includes complete abandonment of vaccination, refusal of individual vaccines, and ignoring or constantly changing the vaccination schedule and schedule despite a doctor's advice.

Despite the fact that vaccination is recognized as one of the most successful public health interventions, more and more people consider vaccination to be unsafe and unnecessary. Vismazākā vakcīnu uzticība pasaulē uz 2018. gadu tiek konstatēta Krievijā un Ukrainā – tikai apmēram 30-40% cilvēku tic, ka vakcīnas ir drošas. Antivakseru kustība izplatīta arī Eiropas valstīs – Francijā, Latvijā, Bulgārijā, Polijā tikai 60-68% no iedzīvotājiem uzticas vakcīnu drošumam (*Dube E., Laberge C., 2013*).

The lowest confidence in vaccines in the world until 2018 is found in Russia and Ukraine - only about 30-40% of people believe that vaccines are safe. Antiviral movement is also widespread in European countries - France, Latvia, Bulgaria, Poland only 60-68% of the population trust the safety of vaccines.

Social networks play an important role in deciding for or against vaccination.

Parents decide to vaccinate a child, but rarely do they make that decision alone. Parents often seek advice on social media, which they call their own source of information and advice. A study was conducted in Washington in 2013 to examine the role of social networks in deciding whether to vaccinate a child. In addition, it was found out which social media are used by parents who support vaccination and which are not. A total of 126 American parents who supported vaccination and 70 parents who did not support vaccination participated in the survey (28 parents had given all their children only on time; 37 had vaccinated their children partially and 5 had not vaccinated at all). Although 95% of parents in both groups admitted to having used social networks before making a decision, parents who did not support vaccination were statistically more likely to indicate specific social networks they had used.

The authors of the study acknowledged that social networks play the most important role in the decision-making process, the information provided by the doctor is only a small part of all the information that is collected before the decision is made. (*Sociālo tīklu ietekme uz vecāku izvēli, Doctus, 2013*).

## Practical part

As a result of the research work, 500 people from different social networks had to answer for 10 multiple choice questions, to find out how people feel about vaccination. As also, what informative source people choose, deciding to be vaccinated or not. 44 pharmacists and 22 doctors of various specialties were also interviewed. Electronic questionnaires with 12 questions were prepared for medics, to which they could leave a disclosed answer. The research was carried out during the period from 10<sup>th</sup> December to 30<sup>th</sup> January.

Based on the results obtained, it can be concluded that more than 13% of the people, surveyed in social networks have opinion, that no one in our society should be vaccinated and nowadays the vaccine is losing its relevance. Among pharmacists, almost 5% believe that vaccination is not necessary at all and did not be vaccinated at all during their lifetime. As the research showed, that no one of interview doctors supports the antiviral movement.

More than 37% people from social forums, who answered the questionnaire are not ready to trust pharmacy specialists in vaccination questions. Also, most indicated that the pharmacist could not influence his decision to vaccinate or not. More than half of the respondents would not want a pharmacist to have a possibility to vaccinate people inside the pharmacy. The interview with pharmacists shows that more respondents believe, that they can affect the human opinion and the pharmacy can provide customers with pharmaceutical care on vaccination questions. At the same time, majority of respondents with pharmaceutical education currently unwilling to perform manipulations in a pharmacy due to lack of experience and many other responsibilities. Additional income to the salary is also not a sufficient motivation for the introduction of vaccination in a pharmacy. Doctors, compared to the other two groups, have great trust in pharmacy specialists. They noted that the sale of vaccines and vaccination within the pharmacy, as well as additional advice on the vaccination schedule, side effects, may increase the number of people vaccinated in the country.

The questionnaire for people in social network shows that almost 40% of people trusted information about vaccination from social networks and forums. More than 11% of respondents indicated that this would be their main source of information.

The results shows, that the theoretical part coincides with the results of the practical part and vaccine hesitancy is very popular in social networks. People prefer to get information about vaccination in the internet and not by doctor or pharmacist.

## Conclusions

1. The anti-vaccine movement is very widespread on social networks in Latvia, posing a serious threat to human health.
2. A lot of people prefer to get information about vaccination in the internet and not by doctor or pharmacist.
3. Among people with a medical education, the vaccine hesitancy is less common in Latvia. 13% by people from social networks, 5% by interviewed pharmacist and 0% by interviewed doctors.
4. Doctors trust pharmacists in vaccination questions. Most of interviewed doctors noticed, that vaccination can be taken in the pharmacy. This can increase the number of vaccinated people, as also reduce the vaccine hesitancy in the country.
5. Summarizing all the answers about vaccination, it can be concluded that the majority of people, who filled out the questionnaire is not ready to trust the pharmacy in matters of vaccination. People don't want to be vaccinated in the pharmacy and they don't trust the pharmacist in consultation about vaccination and vaccines. The increase in public distrust may have been triggered by the start of Covid-19 vaccination.

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## Summary

As a result of the research work, it was concluded that the anti-vaccination movement is widespread among parents of children in Latvia. One way or another, most of the respondents feel about and support the anti-vaccination movement - they doubt the effectiveness of vaccines, do not trust or choose not to vaccinate at all. The questionnaire did not mention specific vaccines, but vaccination in general. A large percentage of respondents also indicated that information on the Internet is the main source of information about vaccination. The survey has shown that a pharmacist and a pharmacy have no influence on the inhabitants of Latvia in matters of vaccination. Most of the respondents would not like to be vaccinated in pharmacies and to receive any additional information about vaccination from a pharmacist.