

Vaccination against COVID-19 in Poland

Paulina Kasperska¹, Eliza Oleksy¹, Anna Wojtczak¹

¹Department of Geriatrics, Ludwik Rydygier Collegium Medicum in Bydgoszcz, Nicolaus Copernicus University in Toruń, Poland / Katedra Geriatrii Collegium Medicum w Bydgoszczy UMK w Toruniu

Paulina	Kasperska	https://orcid.org/0000-0003-2236-0018
Eliza	Oleksy	https://orcid.org/0000-0002-0872-5546
Anna	Ziółkowska	https://orcid.org/0000-0002-4068-1133

Abstract

Introduction. Due to the still difficult and worsening epidemic situation in Poland, related to the second wave of the coronavirus pandemic (COVID-19), it turned out to be necessary to develop, prepare and conduct additional training on the work of medical personnel during the pandemic. Preventive vaccinations and their skilful implementation play a very important role.

Aim. The aim of the systematic review is to present the general principles, procedures and competences of nurses in the pandemic era, this work can be used to conduct a comparative meta-analysis.

Discussion. The vaccine protects against the symptoms of COVID-19, which has been proven in clinical trials. For both the Comirnaty vaccine and the Moderna vaccine, the European Medicines Agency website states that the effect of vaccination on the transmission of the virus is unknown and whether vaccinated people can transmit SARS-CoV-2. Clinical trials are scheduled for 2 years and, as part of conditional approval, companies will complete the data after subsequent periodic evaluations.

Conclusion. Over 1.5 million people worldwide have died since the outbreak of the COVID-19 epidemic. Each vaccinated person is potentially from a few to a dozen or so people protected against infection. Already 50% of the vaccinated population will significantly reduce the risk of spreading the coronavirus in it. Vaccines are the most effective method of protection against infection with various diseases. Humanity has been successfully using this achievement of civilization for several hundred years.

Key words: vaccination, nursing, pandemic

Introduction

The vaccine is a biological preparation which by assumption mimics a natural infection and leads to the development of immunity analogous to that obtained by the body during the first contact with a real microorganism (bacteria or virus). Ultimately, protective vaccines are used to create protection in the body against the severe course of the disease and its consequences. It induces the body's natural immunity, similar after achieved an illness [1].

Vaccination gives a person individual immunity. Due to fact that many people have been vaccinated against the disease, the virus cannot attack and spread. This means that one person infects many people with whom he comes in contact. Mandatory vaccinations and recommended vaccinations, increasing the percentage of protected people, reduce the probability of infection of unvaccinated people. At this point, the disease begins to fade away. This is population immunity [2].

Taking the vaccine does not guarantee that we will not get the disease. However, even if we get sick, the vaccine will make the course of the disease much milder. This means that you will avoid serious complications that can result from certain diseases [2,15].

There are complications after vaccinations. Post-vaccination complications may result from wrong administration of the vaccine, allergic reaction to the vaccine and wrong selection of the vaccine (its quality, out-of-date). In this case, unwanted reactions from the body may occur [2,15].

Aim

The aim of the systematic review is to present the general principles, procedures and competences of nurses in the pandemic era, this work can be used to conduct a comparative meta-analysis.

Current knowledge

The following are eligible for vaccination against COVID-19: doctors, dentists, medical assistants, nurses and midwives as well as paramedics, laboratory diagnosticians, pharmacists and physiotherapists after completed theoretical training, students of the last two years of medical studies and the last year of first-cycle studies in the field of nursing, who may qualify for vaccination under the supervision of a doctor and upon presentation of a

certificate of graduation, as part of their studies, of a subject related to preventive vaccinations [3,17].

The nurse is obliged to constantly update his knowledge and professional skills, and the right to professional development in various types of postgraduate education. The following types of postgraduate education are established: specialization training, qualification course, specialist course, training course [4].

The aim of the specialist vaccination course is to prepare a nurse to independently provide health services in the field of preventive vaccinations, conduct in the event of an undesirable vaccination reaction, and report on protective vaccinations [4,5].

The coronavirus vaccine is administered intramuscularly, preferably into the deltoid muscle. The patient receives two doses of the vaccine (0.3 ml each) with an interval of at least 21 days. It is not possible for the second dose to be replaced by a vaccine from a different manufacturer than the one for the first dose, and no dose adjustment is required for people aged 65 and over. The vaccine may not provide complete protection until at least 7 days after the second dose [6].

Procedure vaccinating with Comiranty

Shelf life and special precautions for storage of the vaccine. Once removed from the freezer, the unopened vaccine may be stored for up to 5 days at 2°C to 8°C and for up to 2 hours at up to 30°C before use. Once thawed, the vaccine should not be re-frozen. Chemical and physical in-use stability has been demonstrated for 6 hours at 2°C to 30°C after dilution with sodium chloride 9 mg / ml (0.9%) solution for injection. The vaccine should be stored in a freezer at -90°C to -60°C in the original package in order to protect from light. During storage, minimize exposure to indoor light and avoid exposure to direct sunlight and ultraviolet radiation. Preparation of thawed vials for use may take place in lighted rooms. Open-lid vial trays or vial trays containing less than 195 vials after removal from frozen storage (<-60°C) may be placed at room temperature (<25°C) for up to 3 minutes to remove the vials or move them from one place with very low temperature to another. After removing the vial from the tray, it must be thawed for use. After the trays of the vials are returned to the frozen storage after exposure to room temperature, they must remain there for at least 2 hours before they can be removed again [7,8,16].

The thawed vaccine should be diluted in the original vial by adding 1.8 ml of sodium chloride 9 mg/ml (0.9%) solution for injection, using a 21-gauge or thinner needle and using aseptic technique. Pressurize the vial before removing the needle from the vial stopper by drawing 1.8 ml of air into the empty diluent syringe. Gently invert the vial with the diluted dispersion 10 times. Do not shake. The diluted vaccine should be an off-white dispersion, free from visible particles. The diluted vaccine should be discarded if it contains particles or has changed color. After dilution, the appropriate use-by date and time should be recorded on the vials. Do not freeze the diluted dispersion or shake it. If stored in a refrigerator, allow the diluted dispersion to reach room temperature before use [7,8].

After dilution, the vial contains 2.25 ml from which 6 doses of 0.3 ml can be withdrawn. Using aseptic technique, clean the vial stopper with a disposable sterile swab. Withdraw 0.3 ml of Comiranty vaccine. Use syringes and/or needles with a small dead space to withdraw the 6 doses from one vial. The dead space in a syringe and needle assembly with a small dead space should be no more than 35 microliters. If you use standard syringes and needles, the volume may not be sufficient to withdraw a sixth dose from one vial. Each dose must contain 0.3 ml of vaccine. If there is not enough vaccine left in the vial to provide a full dose of 0.3 ml, discard the vial and any remaining vaccine. Vaccine residue should not be pooled from multiple vials. Any remaining vaccine not used within 6 hours of dilution should be discarded [7,8].

Vaccines from several producers are available in Poland, including: Corminaty, Moderna, AstraZeneca, Johnson & Johnson [7,8,9,10,11].

E-registration allows to enroll patients for a vaccination appointment and is a collection of individual graphics for individual vaccination points with the service of viewing and editing them. E-registration is dedicated to the so-called open vaccination points - primary healthcare and other facilities qualified by the National Health Fund to vaccinate each group of patients. In the case of closed vaccination points such as hospitals, including nodal hospitals, the enrollment of people for vaccination takes place outside the above-mentioned system, i.e. in a manner selected independently by the closed vaccination point [12,15].

Information on vaccination (both the first and the second dose) is entered into the vaccination e-card in the P1 system (Electronic Platform for Collection, Analysis and Sharing of Digital Resources on Medical Events) from the office / hospital system from which a given entity uses it on a daily basis, depending on the supplier's readiness [13].

The e-vaccination card saved in the e-health system (P1) allows to issue a certificate of administration of the first and second dose of the vaccine. The patient can download the electronic certification document from IKP (Internet Patient Account) [13,14].

Conclusions

Over 1.5 million people worldwide have died since the outbreak of the COVID-19 epidemic. Each vaccinated person is potentially from a few to a dozen or so people protected against infection. The more people vaccinated, the faster we will achieve population immunity. Coronavirus vaccines are voluntary, free. Already 50% of the vaccinated population will significantly reduce the risk of spreading the coronavirus in it. There is a very high probability - up to 95% - that vaccination protects against COVID-19 infection. Vaccines are the most effective method of protection against infection with various diseases. Humanity has been successfully using this achievement of civilization for several hundred years.

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