

COMPULSORY VACCINATION OF CHILDREN – MEDICAL AND LEGAL PROBLEMS

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SUMMARY

Regarding the vaccination of children, it can be said that there are basically three vaccination policies in the world, one of which is usually used in particular country depending on the national legislation. These are the mandatory vaccination policy, mandatory vaccination policy for school entry and recommended vaccination policy. The mandatory vaccination policy and the mandatory vaccination policy for school entry face obstacles consisting of conflicts between fundamental human rights and freedoms. This is, for example, a conflict between the right to health and the right to life on the one hand and the right to protect the inviolability of the person and body integrity or the right to personal freedom, freedom of movement, residence, etc., on the other. Another issue is the right to uninterrupted school attendance, based on both compulsory schooling and the right to education. This article looks at different approaches to the vaccination of children in different countries. It provides an illustrative comparison of approaches to vaccination of children in selected countries. It is obvious that the essential problems with organizing and ensuring the vaccination of children are and will be associated with the indicated conflicts of fundamental human rights. It is therefore necessary to search and try to find the optimal policy for undergoing the necessary vaccinations and thereby creating herd immunity, of course for those infectious diseases where this is possible. These efforts are necessary for sufficiently effective protection of individual and public health.

Key words: compulsory, mandatory, recommended vaccination, fundamental human rights and freedoms, herd immunity

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<https://doi.org/10.21101/cejph.a8087>

INTRODUCTION

The issue that needs to be addressed with regard to the compulsory vaccination of children is the conflict between fundamental human rights, the inviolability of the person, the protection of bodily integrity on the one hand, and the protection of life and health on the other. This raises the question of enforceability of compulsory vaccination, which is compulsory vaccination and also compulsory school attendance. Then there are the sanctions enforcing compulsory vaccination and the possibility of their application.

Brief Description of the Legal Status

The role of vaccination of children, namely compulsory vaccination, is suitable for assessment. The vaccination of children is a necessary tool for the prevention of infectious diseases. Therefore, it is necessary to secure the vaccination. Vaccination can be and remain voluntary if the necessary majority of children are immunized by voluntarily receiving the necessary vaccinations and therefore the child population is adequately protected against individual threatening infectious diseases. Moreover, the vaccination can be voluntary if the necessary majority of the child population is protected by the specific vaccination used. The approach to vaccination is different among different countries. Vaccination policy is a competence of national authorities, but

the European Commission supports EU countries in coordinating their policies and programmes (1). Some countries use voluntary approach, some compulsory approach. Mixed approach emerges nowadays as well. Some countries use and prefer voluntary approach for a long time and with some exceptions they admit compulsory vaccination, for example, the Federal Republic of Germany, which, contrary to its tradition, has newly established mandatory vaccination against measles. In essence, this is a mandatory vaccination for a child's entry into an educational institution, a children's collective (2).

Physical integrity and informed consent could be important obstacles. Protection of bodily integrity and informed consent can be important barriers to mandatory vaccination. Compulsory preschool and school attendance are also barriers to compulsory vaccination.

Administrative refusal of school entry for unvaccinated children can be legally problematic, as every child should have an unhindered opportunity to attend school and this right derives from a fundamental human right that should not be restricted.

It is indisputable that the vaccination minimizes the morbidity rate. The occurrence of different diseases is minimal as a consequence of the vaccination, e. g., variola was eradicated and other diseases occur very rarely, e.g., diphtheria, polio, pertussis etc. The vaccination also contributes to rise and existence of herd immunity.

DISCUSSION

Current Approaches to Vaccination

The compulsory vaccination belongs to important tools of protection of inhabitants against infection diseases. In the study “Vaccine schedules in all countries in the EU/EEA”, a total of 31 European countries were analysed. Information on policies of mandatory or recommended vaccinations was acquired from the official website* and gathered by ECDC (3).

The country with long tradition of compulsory vaccination is France. Italy is also the country with compulsory vaccination. These two countries of Western Europe have broad compulsory vaccination. Belgium, Malta and the Federal Republic of Germany are countries with compulsory vaccination in limited extent. In addition, there are countries with compulsory vaccination in so called Eastern Europe, namely: Bulgaria, Croatia, Czech Republic, Hungary, Latvia, Poland, Slovakia, and Slovenia.

The results of mass vaccinations are indisputable. The variola was eradicated, and other diseases, e. g., diphtheria, poliomyelitis, etc., occur very rarely.

Eleven European countries introduced compulsory vaccinations in childhood and the other introduced recommended vaccination. Latvia and Italy have ten compulsory vaccinations. Bulgaria, Croatia, Czech Republic, France, Hungary, Poland, and Slovakia have nine compulsory vaccinations, and Belgium has one compulsory vaccination (4).

Mumps, measles, rubella. Vaccination against mumps, measles and rubella is mandatory in nine countries (Bulgaria, Croatia, Czech Republic, France, Hungary, Italy, Latvia, Poland, and Slovakia). It is recommended in other twenty-two countries.

Varicella. Vaccination against varicella is compulsory in Italy and Latvia. It is recommended in eight countries and in three countries only for specific groups.

Tetanus, diphtheria, pertussis. Vaccination is compulsory in ten countries (Bulgaria, Croatia, Czech Republic, France, Greece, Hungary, Italy, Latvia, Poland, Slovakia) and is recommended in other twenty-one countries.

Haemophilus influenzae type B. Vaccination is compulsory in nine countries (Bulgaria, Croatia, Czech Republic, France, Hungary, Italy, Latvia, Poland, Slovakia) and is recommended in twenty-two countries.

Hepatitis B. Vaccination for Hepatitis B is compulsory in nine countries (Bulgaria, Croatia, Czech Republic, France, Hungary, Italy, Latvia, Poland, Slovakia) and it is recommended in twenty countries. Denmark recommended vaccination for specific groups and Iceland did not recommend it.

Poliovirus. Poliovirus vaccination is mandatory in ten countries (Belgium, Bulgaria, Croatia, Czech Republic, France, Hungary, Italy, Latvia, Poland, Slovakia) and recommended in all the others.

Human papillomavirus vaccination is mandatory in Latvia.

Influenza vaccination is mandatory in Latvia.

Meningococcal disease vaccination is mandatory in France.

Pneumococcal disease vaccination is compulsory in six countries (Bulgaria, Croatia, France, Latvia, Poland, Slovakia).

Rotavirus infection vaccination is mandatory in Latvia.

Tuberculosis vaccination is mandatory in seven countries (Bulgaria, Croatia, Czech Republic, Hungary, Latvia, Poland, Slovenia).

Varicella vaccination is mandatory in three countries (Hungary, Italy, Latvia).

Some European countries have high level of community demand and acceptance of vaccinations and therefore in these countries it is possible that compulsory vaccination programmes would be unnecessary. On the contrary, the World Health Organisation (WHO) understands that some countries may want to move in this direction when faced with disease outbreaks due to declining vaccination coverage. “WHO is very interested in learning from the experience of countries who introduce compulsory vaccination in order to better understand the impact on immunization coverage and the strengths and benefits of such approaches” (5).

There are also vaccines recommended by the Centres for Disease Control and Prevention (CDC). The Vaccine Information Statements (VISs) provide more information about diseases and benefits and potential risks associated with the vaccines.

Overall, it is possible to say about vaccines in the territory of the EU and the European Economic Area: before any new vaccine can be used, the vaccine has to pass a set of rigorous testing. The vaccine can be approved for use only after scientific evaluation of the results of these tests that prove its quality, safety and effectiveness. The evaluation has to show that the benefit of the vaccine in protecting people far outweighs the possible risk. Scientific experts evaluating vaccines always consider the benefits and possible risks very carefully, especially since vaccines are given to healthy people.

There is no doubt that there are countries that do without compulsory vaccination of children, countries with mandatory vaccination mandated by law and countries with vaccination perceived as compulsory based on rules resulting from broad social demand. It is necessary to recognize that a positive social psychological effect can always be associated with the protective function of vaccination.

Legal obligation of vaccination presents a significance of this vaccination and thus evokes trust in vaccination.

The vaccination policy across the world is different. The terms ‘mandates’ and ‘mandatory’ are taken to mean quite different things.

“Whilst the term is commonly used it is poorly defined. Mandates require vaccination for a certain purpose, most commonly related to school entry for children. While definitional disagreements still persist, it remains important to better understand what policies are in place across countries and the reasons driving changes in policy over time” (6).

Mandatory or Optional – Recommended Vaccinations

There are three levels of child vaccination policy: mandatory, mandatory for school entry, or recommended.

The childhood vaccines around the world are mainly vaccines that protect from the following diseases: measles, mumps, rubella, diphtheria, tetanus, pertussis, polio, rabies, hepatitis B, rotavirus, haemophilus influenzae type B, and tuberculosis. There is no

*<https://vaccine-schedule.ecdc.europa.eu/>

essential difference in vaccination policies among developed European and other developed countries in other continents. The majority of vaccinations consists of vaccinations recommended.

In countries where the mandatory vaccination has been introduced, the interest of some parents' associations arouses seeking to change mandatory vaccination to voluntary. This approach of these parents has different reasons, from secular or religious objections to different myths, superstitions, to an impression of some parents that they are bothered with vaccination because vaccinations are unnecessary. These associations therefore strive to change the relevant legislation in countries with compulsory vaccination. Furthermore, it can be stated that the occurrence of recent outbreaks is an important factor in the introduction of mandatory vaccination.

It can be said that individual countries follow their own traditions, i.e., countries with recommended vaccinations follow the path of recommended vaccinations, countries with mandatory vaccinations use mandatory vaccinations against specified diseases. However, the Federal Republic of Germany, as a country with a recommended vaccination, approaches mandatory vaccination against measles, contrary to its tradition (2).

It is possible to mention the attack on vaccination caused in 1998 by an article by Andrew Wakefield in the *Lancet* Journal, where the author inferred a connection between vaccination and autism. The article has shown to be fraudulent. Wakefield talked about the link between the MMR vaccine and autism. No causal link between the MMR vaccine and autism has been established.

Attacks on Vaccination

Vaccination policy must consistently resist anti-vaxxer campaigns. These campaigns are partially successful in spite of irrational arguments. Some of the main arguments used by anti-vaccination campaigners are described below.

Anticipated Development

It is a generally accepted principle that children should receive the recommended vaccinations before entering school. The matter of mandatory vaccination of children will undoubtedly remain the subject of professional debates for a long time. In the long term, the protection of bodily inviolability, conscientious objection, protection of personal freedom and other human rights aspects will persist on the one hand, and the fact that general vaccination of children will be a very effective prevention to forestall the emergence and spread of some infectious diseases among people on the other hand. It is necessary to emphasize the significant success of vaccination in the form of smallpox eradication. There is still hope for the eradication of polio.

It is therefore necessary that childhood vaccinations continue. However, it is possible to abandon vaccination against diseases that have been eradicated. Notably, smallpox is the first and the only infectious disease, that has been eradicated so far. The last but not least, it is also necessary to be aware that new infectious diseases may appear.

The Czech Republic, as mentioned, is among the countries with compulsory vaccination. Parents who refuse the mandatory vaccination of their children may be subject to penalties of up to CZK 10,000 (7). Fining parents is controversial. The fine should

not be too high so as not to be devastating to the accused parent. However, a low fine serves no educational function. Moreover, the principle of 'ne bis in idem' is maintained, so that a fine for failure to submit to compulsory vaccination can only be imposed once. France, for example, has abandoned fining parents for non-compliance with vaccination obligations (8).

Globally, over 13 million children below the age of one year did not receive any vaccines at all in 2018, many of whom live in countries with weak health systems (6). Even before the COVID-19 pandemic, measles, polio and other vaccines were out of reach for 20 million children below the age of one year annually. An estimated 3.2 million children did not receive any vaccine in South East Asia in 2018. In Eastern and Southern Africa, the number of unvaccinated children remained at around 2 million.

Regarding the benefit of vaccination for the protection of public health, Stephen Johns, Imperial College London, states that vaccines given in the last 20 years could prevent 50 million deaths (9). New research led by the Vaccine Impact Modelling Consortium (VIMC) including researchers of Imperial College London, assessed the impact of vaccination activities against 10 infectious diseases across 112 countries.

The team says that success is expected to continue, with further 47 million deaths predicted to be prevented by vaccination given between 2020 and 2030, if progression sustained. This would mean 97 million deaths in low-income countries would be prevented by vaccination occurring between 2000 and 2030. The majority (52 million) of deaths averted would be children under the age of five.

Despite the necessity of increasing the vaccination rate of children, it will be necessary to face the questioning of vaccination of children. Opponents of childhood vaccinations have a strong position because no developed democratic country can completely prevent the schooling of unvaccinated children. Compulsory school attendance is an obligation as well as an exercise of the basic fundamental right to education. Thus, limiting compulsory school attendance can be problematic. Therefore, preventing an unvaccinated child from attending school can be questionable.

In countries where vaccination of children is compulsory, school attendance is usually also compulsory in principle. The legal obligation to submit to compulsory vaccination is thus substantially questioned. Specifically, in the USA, where it is required to be vaccinated before entering school, this situation is solved by so-called non-medical exemptions. France, for example, insists on principle not allowing an unvaccinated child to enter a school, a collective. One can imagine an unvaccinated child participating in so-called home education (10–13).

The arguments of the opponents of vaccination have no scientific basis. Nevertheless, the arguments of the opponents of vaccination are successfully disseminated mainly thanks to the Internet. Opponents of vaccination talk besides other things about overloading the immune system of vaccinated human being.

The scientific evidence shows that giving children several vaccines at the same time has no adverse effect on their immune systems (14). Children are exposed to different substances that trigger immune responses every day. A child is exposed to far more antigens from a common cold or sore throat than they are from vaccines. Eating food can introduce new antigens into the body, and several bacteria live in the mouth and nose.

Main Myths

It is necessary to summarize the main myths used by opponents of vaccination (15).

Infectious diseases began to subside before vaccination began.

There is no doubt that the improvement of economic conditions and better health care affect the occurrence of some infectious diseases. This is an example of hepatitis A, the occurrence of which is related to the socioeconomic situation. The number of cases of hepatitis A decreases. This applies to developed countries. Notwithstanding, vaccination is recommended when traveling to developing countries. There has been an idea that in developed countries vaccination against whooping cough will not be necessary. Nevertheless, with the decline in vaccination rates, it has led to the emergence of hundreds to thousands of new diseases in the UK. *Most people got sick with the disease for which they were vaccinated.*

It is beyond doubt and statistically proven that the number of diseases is significantly lower in vaccinated persons and the course of diseases is significantly milder than in non-vaccinated persons. *There are many batches of low-quality vaccines.*

Defective batches of vaccines are extremely rare.

Vaccines have significant side effects.

The side effects of vaccines are negligible compared to the benefits that vaccines bring.

Infectious diseases no longer occur.

The incidence of infectious diseases is increasing in connection with the decrease in vaccination against them.

Combined vaccines overload the immune system.

The immune system usually copes with a much greater burden than the burden from the combined vaccine.

It is necessary to mention the religious conscientious objection against vaccination when it comes to children. Basically, no major religion currently prohibits vaccination. Nevertheless, in most major religions today, there are minorities who refuse vaccination. Arguments against vaccination are different, from the claim that vaccination makes it possible to eliminate the risk of disease during unapproved sexual contacts, through the refusal to use pig derivatives to, for example, the refusal to use material from human embryos, etc. In a secular country, both religious and secular conscientious objection can be exercised. For example, in the USA, 45 states allow children to be exempted from compulsory vaccination for religious reasons.

Increasing Health Literacy

There is no doubt that the fight against dangerous infectious diseases places high demands on health education. A high level of health literacy undoubtedly leads to public acceptance of expert recommendations and limits the potential need for coercive measures (16–18). The necessity of legal measures enforcement in case of crisis situations cannot be completely ruled out.

CONCLUSIONS

The article describes the state of vaccination of children. It deals with vaccination refusal and discusses the clash of fundamental rights associated with mandatory vaccination. It also deals with contradiction between the obligation to submit to compulsory

vaccination and the right to uninterrupted school attendance. It mentions sanctions and the possibilities of their application as well as the advantages and disadvantages of mandatory and recommended vaccinations. The article concludes by recommending future procedures for the organization and provision of vaccination.

If vaccination is voluntarily accepted by majority of society in a particular country, the recommended vaccination will be sufficient. Majority voluntary uptake of vaccination will ensure the creation of herd immunity in addition to individual protection. Thus, such a conscious, voluntary approach will allow us to advance optimal public health protection and fulfil a necessary health purpose.

Majority voluntary vaccination uptake also minimizes vaccine-related litigation. Given the conflict of fundamental human rights, these are complex cases, resolved largely at the discretion of individual judges. No law ever provides that one fundamental human right takes precedence over another. Of course, the right to life must always take priority, but this priority entails proving the threat to life, its degree of extent, etc.

Judicial decision-making, while striving to protect human rights as the basis of the rule of law, also entails the purely subjective view of a particular judge. The activist approach of a particular judge burdened with ignorance of health issues cannot be ruled out.

Thus, enforcing the protection of life and health can sometimes be very problematic, as we have seen in the case of the pandemic.

In the Czech Republic, for example, restrictions on personal freedoms necessary to protect life and health (quarantine and isolation) used to be abolished for procedural reasons, even though the procedural procedure could not be followed because of the urgency of the measure.

It is therefore clear that if a voluntary approach to vaccination allows for adequate implementation of active immunisation, this will be the best solution. However, the voluntary approach is often insufficient and therefore cannot be relied upon.

For example, there has been a decline in vaccination coverage in the eastern German states following the abolition of compulsory vaccination. Germany, as a country with a traditionally liberal approach to vaccination, had to introduce compulsory measles vaccination despite its traditionally liberal approach.

Furthermore, in the event of a pandemic outbreak of a deadly disease, it may not be possible to rely on voluntary access to vaccination. Of course, even in such a situation, it is necessary to take into account that objections and campaigns based on myths, superstitions, bureaucratic obstacles and, in general, human limitations will have to be faced. But the struggle against human limitations is endless. This must not significantly jeopardise public health. Legally, it is advisable for each state to have appropriate emergency, injunctive legislation in place so that in the event of a disaster, the opportunities for litigation are minimized.

Conflict of Interests

None declared

REFERENCES

1. European Commission. Public Health: overview [Internet]. Brusel: European Commission [cited 2023 Oct 2]. Available from: https://health.ec.europa.eu/vaccination/overview_en.

2. [Measles Protection Act of February 10, 2020]. Bundesgesetzblatt. 2020 Feb 13;Pt I(6):148-57. In German.
3. ECDC. Vaccine schedules in countries in the EU/EEA [Internet]. Stockholm: ECDC [cited 2023 Oct 2]. Available from: <https://vaccine-schedule.ecdc.europa.eu/>.
4. Bozzola E, Spina G, Russo R, Bozzola M, Corsello G, Villani A. Mandatory vaccinations in European countries, undocumented information, false news and the impact on vaccination uptake: the position of the Italian pediatric society. Ital J Pediatr. 2018 Jun 14;44(1):67. doi: 10.1186/s13052-018-0504-y.
5. Walkinshaw E. Mandatory vaccinations: the international landscape. CMAJ. 2011 Nov 8;183(16):E1167-8.
6. Marks T, Vanderslott S. Which countries have mandatory childhood vaccination policies? [Internet]. Oxford: Our World in Data; 2021 [cited 2023 Oct 2]. Available from: <https://ourworldindata.org/childhood-vaccination-policies>.
7. [Act No. 258/2000 on the protection of public health and on amendments to certain related acts, as amended]. Sbírka zákonů ČR. 2000 Aug 11;Pt 74:3622-62. In Czech.
8. Vaccination Info Service. [Non-compliance with vaccination obligations] [Internet]. Vaccination Info Service; 2018 [cited 2023 Oct 2]. Available from: <https://professionnels.vaccination-info-service.fr/Aspects-juridique/Infractions-et-sanctions/Non-respect-des-obligations-vaccinales>. French.
9. Johns, S. Vaccines given in last 20 years could prevent 50 million deaths [Internet]. Douglas: Medical Xpress; 2021 [cited 2023 Sep 23]. Available from: <https://medicalxpress.com/news/2021-07-vaccines-years-million-deaths.html>.
10. UNICEF. Over 13 million children did not receive any vaccines at all even before COVID-19 disrupted global immunization - UNICEF [Internet]. New York: UNICEF; 2020 [cited 2023 Sep 23]. Available from: <https://www.unicef.org/press-releases/over-13-million-children-did-not-receive-any-vaccines-all-even-covid-19-disrupted>.
11. Bhatti A, Carias C, Corsi Mendez F, Choi Y, Skolnik A. A comprehensive assessment of child care vaccination laws across the US. Health Aff (Millwood). 2022 Apr;41(4):589-597.
12. Lévy-Bruhl D, Desenclos JC, Quelet S, Bourdillon F. Extension of French vaccination mandates: from the recommendation of the Steering Committee of the Citizen Consultation on Vaccination to the law. Euro Surveill. 2018 Apr;23(17):18-00048. doi: 10.2807/1560-7917.ES.2018.23.17.18-00048.
13. Légifrance. [Code on education] [Internet]. [cited 2023 Sep 30]. Available from: https://www.legifrance.gouv.fr/liste/code?etatTexte=VIGUEUR&etatTexte=VIGUEUR_DIFF.
14. Wikipedia. Vaccination policy of the United States [Internet]. San Francisco: Wikipedia [cited 2023 Oct 2]. Available from: https://en.wikipedia.org/wiki/Vaccination_policy_of_the_United_States
15. Pan American Health Organization. Debunking immunization myths [Internet]. Washington D.C.: PAHO [cited 2023 Oct 2]. Available from: <https://www.paho.org/en/topics/immunization/debunking-immunization-myths>.
16. Stárek, J. [Vaccination myths and facts] [Internet]. Prague: Regional Public Health Authority of the Central Bohemian Region; 2019 [cited 2023 Oct 2]. Available from: <https://khsstc.cz/myty-a-fakta-o-ockovani/>. Czech.
17. Federico F. 8 ways to improve health literacy [Internet]. Boston: Institute for Healthcare Improvement; 2014 [cited 2023 Oct 2]. Available from: <https://www.ihl.org/insights/8-ways-improve-health-literacy>.
18. World Health Organization. Improving health literacy [Internet]. Geneva: WHO [cited 2023 Oct 2]. Available from: <https://www.who.int/health-promotion/enhanced-wellbeing/improving-health-literacy>.

Received October 2, 2023

Accepted in revised form March 21, 2024