

VACCINATION HESITATION FROM THE BIOETHICAL PERSPECTIVE: A CASE REPORT

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Abstract: Introduction: Vaccine hesitation represents a significant challenge to public health, with serious consequences, such as the resurgence of eradicated diseases, the return of measles and pertussis in Brazil, as well as other immunoprevenable diseases, due to the fall in vaccination coverage. There is a bioethical conflict between the autonomy of parents who choose not to vaccinate their children and

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the lack of responsibility, as citizens, to protect public health. In addition, the responsibility of health professionals to work in accordance with the principles of beneficence and non-maleficence, so that they always indicate and encourage vaccines duly endorsed by science. Respect for autonomy should be balanced with the collective good, where vaccination hesitation contributes to the resurgence of preventable diseases and generates negative impacts on public health. Objective: Discuss vaccine hesitation from the perspective of bioethics from a real case report, addressing the repercussions of doctors' instructions to their patients. Additionally, the legal aspects related to the obligation of vaccination in Brazil are discussed, with emphasis on collective protection and ethical duty to promote public health. METHOD: This is a descriptive and qualitative study based on a real case report of meningoencephalitis resulting from chickenpox, whose searches were performed in the Scielo, PubMed and Lilacs databases. Discussion: Varicella is a disease caused by the varicella-zoster virus, whose transmission occurs through respiratory aerosols or contact with the contents of skin lesions. Its main complications are meningoencephalitis, pneumonia, skin and ear infections. Meningoencephalitis is a rare interlocutory appeal that consists of acute central nervous system inflammation and can be fatal. Vaccination against chickenpox prevents injuries resulting from this infection. According to the legislation in force in the country, the obligation to immunize through a vaccine that, registered with a health surveillance body, is part of the National Immunization Program or its obligatory application determined by law is constitutional. Addressing the precepts of principlalist bioethics, the present study relates them to the reported case, aiming to broadly discuss vaccine hesitation from medical advice. CONCLUSION: The case report highlights the importance of vaccination against the varicella zoster virus in preventing serious complications and the bioethical dilemma between parents' autonomy and the responsibility of protecting the health of children and the community. Non-immunization, as in the case of the varicella, highlights the need to prioritize the principles of beneficence and non-maleficence. Although autonomy is essential, it should be balanced with the individual and collective good, especially in vaccination, where protection depends on adherence to immunization policies. Vaccine hesitation is a growing public health problem, requiring health



professionals to be well formed to combat misinformation and promote evidence -based practices.

Keywords: “vaccination hesitation”; “Bioethics and vaccination hesitation”; “varicella”; “Varicella and vaccination hesitation”.

INTRODUCTION

The term “bioethics” was coined by the American oncologist Van Rensselaer Potter in 1970, motivated by the growing interest in reflecting on and debating the moral values involved in the practice of health sciences. His field of study goes beyond traditional medical ethics, connecting to the contemporary concept of health, which encompasses social, psychological, and biological aspects, seeking to influence moral conscience and morality, offering educational and normative guidelines (Pessini, 2014).

In 1979, Tom Beauchamp and James Childress presented, for the first time, the four bioethical principles: Beneficence, Non-Maleficence, Autonomy and Justice, providing a fundamental theoretical framework for decision-making, based on these four principles, which guide health professionals in their actions, ensuring that choices are made responsibly and with respect for patients’ rights and serving as a compass in a sea of ethical dilemmas that permeate the practice clinic (Beauchamp; Childress, 2019).

Vaccine hesitancy is now a major public health problem, given the indisputable benefits promoted by the vaccine, implying ethical and solidary responsibility, social justice, and strengthening of the Democratic Rule of Law (Cardin; Nery, 2019).

The drop in vaccination coverage may result in the return of serious diseases that have already been eradicated or controlled in Brazil, as happened with measles, which again caused epidemics in 2018 after a reduction in coverage – the percentage of people immunized with both doses fell from 92% in 2014 to 76% in 2018 (BRASIL, 2023).



This study aims to examine vaccine hesitancy from a real case report, discussing its repercussions on health, illustrated by the occurrence of post-varicella meningoencephalitis in a patient, in relation to the guidance provided by the attending physician. The analysis will be carried out in the light of the principles of bioethics, such as autonomy, in the informed choice of patients; beneficence and non-maleficence, in the obligation to promote the good and avoid harm; and justice, in the equitable distribution of the benefits and risks associated with vaccination. Thus, the work highlights the importance of immunization in the prevention of serious complications, addressing the disease and its aggravations, and the bioethical dilemma between the autonomy of vaccine hesitancy and the individual and social aggravations of this choice, in addition to associating the legal limits regarding the influence on vaccine decision based on the relationship between doctors and patients.

METHODOLOGY

This is a descriptive and qualitative study, with a case report format. A search for articles was performed using the following databases: Scientific Electronic Library (Scielo), Pubmed and LILACS, using the Boolean operator “and”. The key words were: “vaccine hesitancy”; “Bioethics and vaccine hesitancy”; “chickenpox”; “Varicella and vaccine hesitancy”. A total of 151 articles were found, and 11 were selected, which were read and discussed in their entirety for the preparation of the study. The inclusion criteria selected for the articles were: articles published in English and Portuguese, between 2013 and 2024, available in full in the databases.

Additionally, the book “Principles of Biomedical Ethics - Approaches and Perspectives” written by J.F. Childress and T.L. Beauchamp in 2002 was used, given the relevance and contribution to the construction of this research, contents extracted from the websites of the Ministry of Health / FIOCRUZ, the Federal Council of Medicine, the Regional Council of Medicine of São Paulo, the Brazilian Society of Immunization, as well as legislation to substantiate the legal analysis of vaccine hesitancy.



CASE REPORT

M.C.F., 2 years and 11 months, born in Rio de Janeiro - RJ. In 2011 and 2012, she had regular follow-up with a homeopathic pediatrician to improve her immunity, due to repetitive cases of upper respiratory tract infections (URTIs) and otitis. In one of her consultations, the mother asked about the Varicella vaccination, which has not yet been applied. According to the doctor, the aforementioned immunization would not be necessary at the moment, since it was not a mandatory vaccine in the official calendar in force at the time. As a result, even though she was insecure and had already vaccinated her first daughter, the mother decided not to get the vaccine. Approximately one month after the consultation, her first daughter, upon returning from a trip, developed Herpes Zoster. In this context, the mother sought guidance from the pediatrician, who reassured her, stating that it was not necessary to isolate contact. Two weeks after her older sister's condition, the patient began to manifest intensely pruritic diffuse erythematous papules, and was diagnosed with chickenpox and symptomatic treatment was initiated. After ten days, with all the lesions in crust, the mother noticed difficulty in waking up the patient, who had the habit of waking up early. Later, the family noticed that M.C.F. had balance disorders, especially in orthostatics, preferring to crawl, also presenting laughing fits.

Throughout the day, there was progression of the clinical picture, with the appearance of aphasia and intensification of ataxia, which worried her guardian, seeking emergency care. At that time, the condition of meningoencephalitis resulting from Varicella infection was diagnosed. M.C.F. remained hospitalized in the ICU and ward for 21 days. His prognosis was extremely poor, with possible death or development of severe neurological sequelae. During hospitalization, pharmacological treatment was associated with motor and speech rehabilitation, which contributed to a favorable outcome and resulted in his discharge without sequelae.



DISCUSSION

MENINGOENCEPHALITIS CAUSED BY VARICELLA ZOSTER VIRUS

Chickenpox is a disease caused by the Varicella-Zoster virus, whose transmission occurs through respiratory aerosols, droplets, saliva or by contact with the contents of skin lesions. The pathology is more common in childhood and usually determines long-lasting immunity, but it can manifest as Herpes Zoster by the reactivation of the latent virus in ganglia of the nervous system. Its main complications are meningoencephalitis, pneumonia, skin and ear infections, common in severe cases or inadequately treated (BRASIL, 2024).

Meningoencephalitis consists of an acute inflammation of the central nervous system, affecting the meninges and the brain and its symptoms include fever, headache and neurological changes, if left untreated and can be fatal (BRASIL, 2024). This complication caused by the virus in question is rare in the population, and it is estimated that it occurs between 0.1 and 0.2% of patients who developed the disease. Although it occurs in immunocompetent patients, such presentation is usually associated with immunodeficiencies, and is not necessarily preceded by skin lesions. In addition, mortality from encephalitis caused by chickenpox is between 9-20% of cases (Tavares et al., 2020).

The impact of the National Humanization Program (PNI) has been extremely positive in reducing vaccine-preventable diseases in recent decades. However, anti-vaccine movements can have a direct impact on child growth and development (Viana et al., 2023). It should be emphasized that the objective of vaccination, in general, is to prevent severe forms of the disease. The patient's non-immunization made her vulnerable to serious complications, such as meningoencephalitis, which was totally avoidable if the vaccine had been applied to her.

IMMUNIZATION OF CHICKENPOX

The vaccine against chickenpox was developed in the 70s, in Japan (Ozaki; Asano, 2016) and,



since the second half of 2013, it has been part of the Brazilian Basic Vaccination Calendar defined by the National Immunization Program (PNI), being made available free of charge in basic health units (SBIM, 2023). It is a vaccine containing the varicella virus in an attenuated form, which goes through a process in which its virulence is reduced to levels considered safe for clinical application.

When the vaccine is administered, the attenuated agent becomes able to replicate slowly, causing no major damage to the body. Prolonged exposure during slow viral replication induces an immune response, stimulating the production of memory cells and ensuring the establishment of immunity (BRASIL, 2022). The first dose is applied at 15 months, as part of the tetraviral vaccine, and the second dose at 4 years of age. It is also recommended for children from 12 months in situations of disease outbreak (SBIM, 2023).

Patients with immunosuppression considered mild have an immune response similar to healthy individuals and should also be submitted to two doses, as this is how the best response is obtained. With regard to individuals with chronic diseases, the ideal is to update the vaccination schedule before starting immunosuppression therapy. The impairment of the immune system increases the risk of infection by the virus evolving into a serious condition, which can lead to pulmonary and neurological complications, and even death (Polistchuk; Santos, 2017).

Thus, vaccination against chickenpox is important for immunosuppressed patients. However, immunosuppression increases the risk of the patient not responding adequately to the vaccine. Therefore, immunizations that rely on attenuated viruses bring an extra concern and must be thoroughly guided by professionals (Polistchuk; Santos, 2017).

The main vaccine contraindications include people who have had anaphylaxis caused by any of the components of the vaccine and pregnant women. The most common adverse effects include pain at the application site and redness. Vesicles can also be observed near the application site and rarely do some individuals have rash on the body, similar to the lesions caused by chickenpox (SBIM, 2023).

Vaccination against chickenpox directly impacts hospitalization rates related to the disease.



According to a review of world data published by the Pediatrics Society of São Paulo, 24 countries were identified with universal vaccination against chickenpox and the impact of the vaccine on hospitalizations associated with the virus in seven countries was observed. Among the results obtained, it was possible to observe that the reduction in the hospitalization rate varied between 62.4% and 99.2% in the countries that adopted vaccination. Thus, the publications revealed a significant drop in the percentage of hospitalizations for chickenpox after the implementation of immunization in the countries surveyed and the results found are varied because they depend on the time elapsed after the introduction of universal vaccination, differences in the age group studied, hospitalization criteria, vaccination coverage and vaccine strategy (Hirose et al, 2016).

THE PRECEPTS OF PRINCIPLES-LEVEL BIOETHICS AND THE RELATIONSHIP WITH THE CASE STUDY

NON-MALEFICENCE

The principle of non-maleficence determines the obligation not to intentionally inflict harm. In their work, Beauchamp and Childress, in 2002, directed their points of view to doctors and other health professionals, defending specific points, such as, for example, not killing; not to cause pain or suffering, disability and/or offense to others.

In relation to the case report and according to the content learned from the literature studied, it can be said that the principle of non-maleficence was disrespected by the physician, when he advised the mother about the need not to immunize the child against chickenpox, since it is a vaccine that has been proven to be safe and with benefits widely described by science. In addition, this principle was violated again when the health professional informed the person in charge about the need to isolate the eldest daughter, who was in an active case of Herpes Zoster, even though she knew that the younger sister was not immunized. In this context, the doctor caused suffering to the patient, who developed severe meningoencephalitis, and to her family. Negligent conduct, according to Beauchamp and



Childress, in 2002, is part of a professional model known as “due assistance”, which consists of the idea of moral responsibility for health professionals, when they have a duty to the affected party. The principle of non-maleficence has always been related to the maxim *Primum non nocere*, that is, above all not to cause harm (CREMESP, 2024).

As an expression of the principle of non-maleficence, the Code of Medical Ethics (CEM) defines that:

The doctor will never use his knowledge to cause physical or moral suffering, for the extermination of the human being or to allow and cover up attempts against his dignity and integrity”. In addition, it establishes that it is forbidden for the professional to “cause harm to the patient, by action or omission, characterized as malpractice, recklessness or negligence (CFM, 2019, p. 15).

Based on the above, it can be inferred that the doctor caused physical and moral damage to the patient and her family.

BENEFICENCE

The principle of beneficence is based on the recognition of the moral value of the other, and takes into account that maximizing the good of the other means reducing the evil. This principle establishes that health professionals must commit to assessing potential risks and benefits – whether individual or collective – and always pursue the maximum benefits, reducing possible harms and risks to a minimum (Silva; Rezende, 2017).

In relation to this principle, the CEM, in its article 32, provides that:

It is forbidden for the physician to fail to use all available means of health promotion and prevention, diagnosis, and treatment of diseases, scientifically recognized and within his reach, in favor of the patient (CFM, 2019, p. 27).



In the case report, the principle of beneficence was injured when the doctor advised not to vaccinate the patient, ignoring the proven benefits of the varicella vaccine in preventing the disease. The vaccine, despite not being mandatory in the calendar at the time, was already recognized for its effectiveness in reducing serious complications associated with this pathology, such as meningoencephalitis, which the child later developed. By not recommending immunization, the physician did not act in a way that prevented the harm that occurred to the child, since he did not prioritize the protection of the patient's health against avoidable risks.

JUSTICE

In the context of Principlism, the bioethical pillar of justice aims to ensure that everyone has access to health services, promote fair and impartial treatment of individuals according to their needs, and that resources are distributed prioritizing non-discrimination. Thus, the principle of justice establishes equity as a fundamental condition: an ethical obligation to treat each individual according to what is morally correct and adequate, to give each what is due to him. The physician must act with impartiality, avoiding as much as possible that social, cultural, religious, financial or other aspects interfere in the doctor-patient relationship. Resources must be evenly distributed, with the aim of reaching, with better effectiveness, the largest number of people assisted (CREMESP, 2024).

UNESCO, in its Universal Declaration on Bioethics and Human Rights, provides:

The fundamental equality of all human beings in terms of dignity and rights must be respected so that everyone is treated fairly and equitably (UNESCO, 2005, p. 8).

The Unified Health System (SUS) has as doctrinal principles universality, comprehensiveness and equity in health care for Brazilians. Thus, the bioethical principle of justice is related to the coherent and adequate distribution of social duties and benefits, supported by the 1988 Constitution,



which states that health is everyone's right (BRASIL, 1988).

In the case under study, this pillar was not compromised, as the varicella vaccine had not yet been included in the immunization schedule, which occurred later, in 2013. It could be said that, if from the year of insertion there was unavailability of the same, preventing broad access to the population, then there would be a situation of compromise of the principle of justice.

AUTONOMY

The principle of autonomy is part of the pillars of bioethics and concerns self-determination, that is, the power to decide about oneself. It is based on the idea that every person has an intrinsic and unconditional value, so they should have the power to make rational decisions in accordance with their own morals. This principle was reaffirmed in a court decision in 1914, which issued the following statement: "Every human being considered an adult has the right to determine what should be done with his own body" (Varkey, 2021).

The violation of autonomy is only ethically acceptable when the public good overrides the individual good, since divergent thoughts should not result in harm to the collective (Varkey, 2021). CFM Resolution No. 2,217, of September 27, 2018, modified by CFM Resolutions No. 2,222/2018 and 2,226/2019, which provides for the Code of Medical Ethics, in its article 22, establishes that it is "forbidden for the physician to fail to obtain consent from the patient or his legal representative after clarifying him about the procedure to be performed, except in case of imminent risk of death" (CFM, 2019).

In the case report discussed above, it can be observed that there was no compromise of the principle of autonomy, but the attitude of the professional can be understood as an "external influence", since he represents an authority in his area of activity. Therefore, most patients trust what is being said and follow the guidelines of the health professional. This view is confirmed in the case report, as the patient's mother had already immunized her first daughter, and the absence of immunization of her



second daughter occurred due to the opinion of the professional who accompanied her.

VACCINE HESITANCY AND LEGAL LIMITS

LEGAL APPROACH

Initially, it should be clarified that vaccination is a duty arising from the fundamental right to health of children and adolescents and, therefore, must be guaranteed to all in an unrestricted way. On the other hand, freedom of conscience is also presented as a right protected by the Federal Constitution (art. 5, VI and VIII); an argument that may eventually be evoked for refusal of vaccination (Oliveira; Machado, 2020).

In this context, it is certain that no right is presented as absolute, and limits must be imposed on each one. In the case under examination, freedom of conscience needs to be balanced with the defense of the life and health of all (articles 5 and 196), as well as with the priority protection of children and adolescents, as stated in article 227 of the Federal Constitution (BRASIL, 1988).

Since the Vaccine Revolt, which took place in 1904, it has become mandatory in the country. In the following years, scattered laws were enacted on the subject, also instituting the vaccination command, such as:

- Law No. 6,259/1975, which provides for the National Immunization Program;
- Law No. 8,069/90 (Statute of the Child and Adolescent);
- Law No. 13,979/2020 regarding measures to combat the Covid-19 pandemic (BRASIL, 2020).

In the same sense, as an example, it is noteworthy that the Federal Supreme Court (STF) decided on the mandatory nature of childhood vaccination, when judging Extraordinary Appeal RE No. 1267879, a case in which vegan parents refused to submit their underage child to vaccinations



defined as mandatory by the Ministry of Health, due to philosophical convictions (BRASIL, 2020).

From what can be seen, the compulsory nature of vaccination is legitimate from a legal point of view, which, according to the STF in the aforementioned appeal, is supported by:

- a) the State may, in exceptional situations, protect people even against their will (dignity as a community value);
- b) vaccination is important for the protection of society as a whole, and individual choices that seriously affect the rights of others (need for collective immunization) are not legitimate; and
- c) family power does not authorize parents, invoking philosophical conviction, to put the health of their children at risk (CF/1988, arts. 196, 227 and 229) and the best interests of the child must be protected (BRASIL, 2020).

Also according to the STF:

It is constitutional to require immunization by means of a vaccine that, registered with a health surveillance agency, (i) has been included in the National Immunization Program, or (ii) has its mandatory application determined by law or (iii) is subject to determination by the Union, State, Federal District or Municipality, based on medical-scientific consensus. In such cases, it is not characterized as a violation of the freedom of conscience and philosophical conviction of parents or guardians, nor of family power (BRASIL, 2020).

As can be seen, the main bioethical problems involving the vaccine context consist of dealing with the possible coercive role of the State as opposed to conflicts and personal moral rights through case-by-case identification, as well as the provision of decision-making parameters.

CONCLUSION

The reported case highlights the relevance of vaccination as a fundamental measure to prevent serious complications. However, the bioethical dilemma involving the autonomy of parents



who choose not to vaccinate their children, often influenced by medical advice, creates a conflict between the right to self-determination and the responsibility to protect the health of the child and the community. In the study, non-immunization against chickenpox led to an avoidable scenario, highlighting the importance of medical action that prioritizes the principle of beneficence and non-maleficence. This report highlights that, although respect for autonomy is fundamental, it must be balanced with the collective good, especially in the context of vaccination, where the protection of vulnerable individuals and the community depends on adherence to immunization policies.

Vaccine hesitation is increasingly becoming a major public health problem worldwide, providing the shrough numerous immunopreventable diseases and causing invaluable damage to the adult and pediatric population. Thus, guidelines provided by health professionals should be based on solid scientific bases and evidence -based medicine. Consequently, these professionals should be technically trained since undergraduate counseling anti-science postures and fallacious notifications.

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