

# Vaccination Dilemma: Parents' Vaccine Hesitancy Versus Informed Teenagers' Accept – Case Report

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## ABSTRACT

In Romania, as in the rest of the world, there is an increase in the number of measles cases, a consequence of the vaccine hesitation. In this paper, we propose to discuss a case from our medical practice: the parents' refusal to vaccinate their children against MMR (rubella-mumps-measles) on the one hand and, on the other hand, their teenage son desire to be vaccinated, so that he would be protected of infections that can affect his health.

**Keywords:** MMR Vaccine; Ethics; Family Medicine

**Abbreviations:** MMR: Measles-mumps-rubella; WHO: World Health Organization; CDC: Centers for Disease Control; APA: American Pediatric Association

## Introduction

Vaccination is one the most cost-effective methods to prevent infectious diseases, including measles. Vaccine hesitancy - reluctance or refusal to be vaccinated or to have one's children vaccinated against infectious diseases, despite the availability of vaccines - may reverse progress in addressing vaccine-preventable diseases. In 2019, the WHO announced that the vaccine hesitancy is one of the ten problems of global health [1]. In general the main worrying themes related to vaccines are autism, neurodevelopmental disorders, Guillain-Barre syndrome and the possible association of several vaccines with some chronic diseases that at least potentially have an autoimmune etiology [2].

A 1998 study published in the Lancet, a renowned medical journal, put a universal tool in front of anti-vaccinists [2]. The article stated that the measles-mumps-rubella (MMR) vaccine has caused childhood developmental disorders, including autism spectrum disorders. Nearly two decades of further research failed to prove these claims, and 10 of the 13 original authors in

the paper later withdrew their support for the study's findings [3]. In 2010, the Lancet withdrew the original article when it was revealed that the data in the study had been modified to reach the desired conclusions [4]. However, in the years between the original publication of the Lancet and its withdrawal, this case is credited with lowering MMR vaccination rates from a maximum of 92% to a minimum of almost 60% in some areas of the United Kingdom. As a result, the expansion of the population of susceptible individuals has led to increased rates of measles and mumps infection and is credited with thousands of prolonged hospitalizations and several deaths of infected children [5].

In Romania, as in the rest of the world, there is an increase in the number of measles cases, a consequence of the parents' choice to refuse to vaccinate their own children. The public health authorities of Romania officially declared a measles epidemic in September 2016 and started an information campaign to encourage parents to have their children vaccinated. In our country, the main

reason for this increase is the MMR vaccine hesitancy, given the lack of confidence or satisfaction and less the limitation of access to vaccination [6]. The autism link to MMR started, as we mentioned, with an article that years later was proved to be false, but the misconception continues until our days and this information is perpetuated as a fact and lead to a significant number of preventable death [7].

One of the compounds that has attracted criticism is thiomersal, an antifungal agent used in small amounts to prevent contamination of preparations in some multi-dose vaccines (the same bottle is opened and used for several patients). Although its efficacy is undeniable due to the fact that this compound contains mercury (ethyl-mercury), in 1999 the Centers for Disease Control (CDC) and the American Pediatric Association (APA) recommended vaccine manufacturers, as a precaution, to eliminate thiomersal. The action raised concerns that thiomersal could have been responsible for autism. The idea is now considered unjustified, as incidence rates for autism have steadily increased [8], even after thiomersal has been removed from childhood vaccines [9]. There is currently no scientifically accepted evidence that thiomersal exposure is a factor that causes autism or other neurological disorders [10]. Referring to the vaccine overload, vaccines have a very low immunological load compared to pathogens naturally encountered by a child in a typical year; common childhood conditions, which cause fever and upper respiratory tract infections, are a much bigger challenge for the immune system than vaccines and studies have shown that vaccination, even at multiple concomitant doses, does not weaken the immune system [11].

## Case Discussion

14-year-old boy showed up at the family doctor's office accompanied by his mother to be vaccinated according to the national vaccination schedule. It is the first consultation after about a year and the doctor is pleasantly surprised by the physical and neuropsychic development of the adolescent, although from his ironic tone, one can observe an age-specific conflict with his mother. A short conversation with the young man brings to the fore the interest regarding his health condition and the doctor reminds the mother that a dose of MMR vaccine is overdue. The mother of this young man is a highly educated person with a respected social status. However, she has doubts about the safety of administering this vaccine to her son, being under the influence of articles published years ago (which later proved to be inconclusive), but also of some public figures without medical training affiliated or not religiously.

Driven, probably, by age-specific inner conflict but especially because he is an intelligent and informed teenager, the boy confronts his mother during the discussion and signals to her the lack of accuracy of the facts on which her decision to refuse the vaccine is based. Furthermore, being a participant in school competitions in

the field of natural sciences, he showed that he is concerned about the consequences of the infection on the body if he were infected with the measles virus. Therefore, he decides to inform the doctor that he wants to be vaccinated even if the mother opposes.

## What should the doctor do?

In order to manage the situation in the most delicate way, the vaccine was administered according to the age of 14 and to the mother it was explained that some of the information she has is outdated and that all current scientific evidence contradicts excessively propagated anti-vaccine myths. The mother agreed to reconsider the decision, going to talk to the father and the teenager and a new meeting was scheduled 1 month apart.

## Discussion

Some questions remain related to this case. If the doctor fails to eliminate the parents' vaccine hesitancy, should the authorities be notified, or should they respect the parents' decision? If the parents won't agree to the administration of MMR vaccine, should the adolescent refer to the child protection authorities? Often there are families in which the child is much better informed than the parents who are under the influence of religious or cultural barriers. In our experience [12], educated adolescents are much more careful to comply with SARS-CoV2 infection prevention measures. How will we proceed when the Covid-19 vaccine is available, and the parents refuse the vaccination? Should there be uniform penalties in all states for refusing vaccination? In the context of the lack of vaccination, is it possible that the adolescent and then the young adult will not be allowed access to certain states of the world? Isn't this restriction on the right to free movement a consequence of the decisions taken by parents?

Laws generally assume that parents make decisions based on the best interests of their children. Indeed, parents have the freedom to raise their children in accordance with family beliefs and personal values [13,14]. With regard to health care, laws generally require government agencies and courts to revoke parental authority only when parental decisions amount to child abuse or neglect, and the neglect provisions usually only involve substantial life-threatening situations [15]. The extent to which vaccination hesitation can become life-threatening is a lesson we should already know.

## Conflict of Interests

We have no conflicts of interest to disclose.

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