

Myths and facts about immunization



How to use this document

It is important to respond to concerns about vaccine safety in a way that does not drive people away but wins them over. It is crucial that people are well informed and are able to distinguish myths from facts.

This document provides suggested answers to some prevalent myths concerning immunization.

Be aware, the messages should not be used as talking points. They should only be used if a stakeholder asks a critical question.

You can use it to prepare yourself for meetings or media interviews.



How was this document developed?

This document is part of a WHO series of supporting documents concerning events that could erode confidence in vaccination. Such events can be related to vaccine safety, adverse events following immunization, changes in the vaccination programme, negative public debate, outbreaks or pandemics.

All documents were developed based on scientific evidence, laboratory research and fieldwork within psychology, social and behavioural science and communication and lessons learnt in countries. For an introduction to the theoretical background and evidence, refer to the WHO publication *Vaccination and trust*, available here: www.euro.who.int/vaccinetrust.

The supporting documents are intended for use by national

- ministries of health
- centers for disease control
- immunization programmes
- regulatory authority institutions.



**World Health
Organization**

REGIONAL OFFICE FOR
Europe

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MYTH: Vaccine-preventable diseases are almost eradicated in my country, so there is no reason to uphold and increase investment in immunization = **FALSE**

FACTS

- Vaccine-preventable diseases may have become uncommon in your country but they still exist worldwide.
- Immunization coverage is not 100%, so groups of underimmunized or unimmunized are still not protected.
- In recent years, outbreaks of measles have occurred in a range of WHO European Region countries with traditionally high immunization coverage.

MYTH: Vaccines are not safe = **FALSE**

FACTS

- Licensing of a vaccine requires exhaustive evaluation and testing to make sure that it is both safe and effective.
- Every batch of vaccine is controlled separately.
- Following prequalification and licensing WHO continues to monitor the vaccine, and any serious side effect reported is thoroughly investigated.

MYTH: Vaccines cause autism = **FALSE**

FACTS

- There is no evidence of a link between measles-mumps-rubella (MMR) vaccine (or any other vaccine) and autism or autistic disorders.
- A 1998 study which raised concerns about a possible link between MMR vaccine and autism was later found to be seriously flawed, and the paper has been retracted by the journal that published it.
- The author of this paper, Andrew Wakefield, was found guilty of serious professional misconduct by General Medical Council in 2010 and can no longer practice medicine in the United Kingdom.
- A Danish study with 537 303 children in 2002 provided strong evidence against any link between MMR vaccine and autism. For all these children there was no link between the age at the time of vaccination, the time since vaccination or the date of vaccination and the development of autistic disorder.

MYTH: Giving a child more than one vaccine at a time could increase the risk of harmful side effects and could overload the child's immune system = **FALSE**

FACTS

- Scientific evidence shows that giving several vaccines at the same time has no negative effect on a child's immune system.
- Through just breathing and eating, children are every day exposed to several hundred foreign substances that trigger an immune response.
- A child is exposed to far more antigens from a common cold or sore throat than they are from vaccines.
- Combined vaccines:
 - save time and money through fewer clinic visits;
 - reduce discomfort for the child through fewer injections;
 - increase the probability that the child will receive the complete set of vaccinations according to the national schedule.

MYTH: Vaccines contain mercury, which is dangerous = **FALSE**

FACTS

- Thiomersal is an organic, ethylmercury-containing compound added to some vaccines as a preservative.
- Only very few vaccines contain Thiomersal.
- Mercury is a naturally occurring element that is found in air, water and soil.
- If used in vaccines, the amount of Thiomersal is very, very small.
- There is no evidence to suggest that the amount of thiomersal used in any vaccines poses a health risk.

MYTH: Diseases will not spread if we just ensure proper hygiene and sanitation = **FALSE**

FACTS

- Many infections can spread regardless of how clean we are.
- If people are not vaccinated, diseases that have become uncommon, such as polio and measles, will quickly reappear.

MYTH: The combined vaccine against diphtheria, tetanus and pertussis (DTP) and the vaccine against poliomyelitis cause sudden infant death syndrome = **FALSE**

FACTS

- There is no causal link between the administering of the vaccines and sudden infant death.
- However, these vaccines are administered at a time when babies can suffer sudden infant death syndrome (SIDS).
- In other words, reported SIDS deaths are co-incidental to vaccination and would have occurred even if no vaccinations had been given.

MYTH: Vaccine-preventable childhood illnesses are just an unfortunate fact of life = **FALSE**

FACTS

- Vaccine-preventable diseases are preventable, not a fact of life.
- Vaccine-preventable diseases are serious and can lead to severe complications in both children and adults, including pneumonia, encephalitis, blindness, diarrhoea, ear infections, congenital rubella syndrome and even death.
- This suffering can be prevented with vaccines. Failure to vaccinate against these diseases leaves children unnecessarily vulnerable.
- Vaccines are cheaper than quarantines, virus identifications and other epidemic restriction activities.

MYTH: It is better to be immunized through disease than through vaccines = **FALSE**

FACTS

- The immune response to vaccines is similar to the one produced by natural infection.
- The price paid for immunity through natural infection can be as high as mental retardation from *Haemophilus influenzae type b* (Hib), birth defects from congenital rubella infection, liver cancer from hepatitis B virus or death from measles.

MYTH: Many people who were not immunized in the past led long and healthy lives. Thus, there is no real need for vaccination = **FALSE**

FACTS

- Before the measles vaccine was introduced, more than 90% of people were infected by the time they reached the age of 10 years.
- As many as 1 in 1000 cases of measles is fatal.
- Many of those who survived the disease suffered serious and sometimes lifelong consequences.
- Even though vaccine-preventable diseases can be mild in some cases, it is better to be protected, as you can never know how seriously a disease will affect you.

MYTH: Vaccinated children experience more allergic, autoimmune and respiratory diseases compared to unvaccinated children = **FALSE**

FACTS

- Vaccines teach our immune system to react to certain antigens. They do not change the way it works.
- There is no evidence of a link between vaccination and the development of allergic, autoimmune and respiratory diseases later in life.

MYTH: Vaccination is partly responsible for the global increase in cancer cases = **FALSE**

FACTS

- Vaccines do not cause cancer.
- The vaccine against the human papillomavirus (HPV) is used to prevent several cancer types, including cervical, anal, penile and oropharyngeal cancer.
- The global increase in cancer cases over the past 50 years has been caused by many factors, including changed lifestyles, longer life expectancy and better diagnostic techniques.

MYTH: Vaccines can contain microchips enabling governments or others to track the whereabouts of an immunized person = **FALSE**

FACTS

- This is technically impossible and does not take place.
- Vaccines are produced in a very restricted setting.
- Many vials contain vaccines for more persons (e.g. 10 doses in one vial), making it impossible to track each person.