

Vaccination: obligation or choice?

European countries have a long tradition concerning the vaccination of their population. For the majority of the European Citizens, vaccinations are one among the most important tools of primary prevention. It is widely believed that vaccinations are responsible for the marvelous decrease, or even extinction, of illnesses which were responsible for the death of millions of people globally. On the other hand, there is an increasing tendency of people being skeptical about vaccinations in general. They believe in conspiracy theories according to which vaccinations are tools of great pharmaceutical companies which allow them to make profits and make population sick or more vulnerable to illnesses at the same time.

Vaccinations are not something new. Population have been vaccinated for centuries¹. We use vaccines to protect ourselves against diseases such as *Diphtheria*, *Haemophilus influenza type B*, *Hepatitis A*, *Hepatitis B*, *Human papillomavirus*, *Influenza*, *Pertussis*, *Polio*, *Rotavirus*, *Tetanus*, *Tuberculosis*, *Varicella* etc. Each country has a vaccination policy, i.e. the health policy a government adopts in relation to vaccination. This policy can be either mandatory, or voluntary. It would be quite useful to have a look at a survey which was conducted by the Vaccine European New Integrated Collaboration Effort (VENICE) regarding the various Vaccination Policies around the European Union. The results make

¹Edward Jenner was largely responsible for introducing vaccination to the medical community, and widespread vaccination began in the early 1800s, although the first vaccine was laboratory created in the late 1800s by Louis Pasteur. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1123944/>

clear the level of cooperated efforts towards the **vaccine programme implementation between countries²**.

Every vaccination policy, no matter if mandatory or voluntary has three certain goals. The first goal is to be able to prevent diseases. Individuals will be sufficiently protected from getting ill and they will become immune to preventable diseases³. When adequate number of people consisting a population is vaccinated, then the community is provided with herd immunity. This refers to the fact that the illness will face trouble spreading among an immune population. This is the second goal of every vaccination policy and it is essential to be achieved in order to protect all those community members who are unable to get the vaccine due to health reasons, such as age, allergies and having received an organ transplant. Having achieved all that, there comes the third and most important goal of vaccination policies. This is the complete extinction of the disease. It has been proved that coordinated efforts have managed to eradicate numerous diseases from the planet⁴.

The top pro's arguments are the following⁵:

"Vaccines can save children's lives."

"The ingredients in vaccines are safe in the amounts used."

"Major medical organizations state that vaccines are safe."

"Adverse reactions to vaccines are extremely rare."

² The article is entitled *"MANDATORY AND RECOMMENDED VACCINATION IN THE EU, ICELAND AND NORWAY: RESULTS OF THE VENICE 2010 SURVEY ON THE WAYS OF IMPLEMENTING NATIONAL VACCINATION PROGRAMMES"* and it can be found at the following link: <http://www.eurosurveillance.org/images/dynamic/EE/V17N22/art20183.pdf>. The most interesting results that came out are the following: **"Information was collected from all 27 EU Member States, Iceland and Norway. In total 15 countries do not have any mandatory vaccinations; the remaining 14 have at least one mandatory vaccination included in their programme. Vaccination against polio is mandatory for both children and adults in 12 countries; diphtheria and tetanus vaccination in 11 countries and hepatitis B vaccination in 10 countries. For eight of the 15 vaccines considered, some countries have a mixed strategy of recommended and mandatory vaccinations"**.

³ The term preventable disease refers to an infectious disease for which an effective preventive vaccine exists.

⁴ <https://www.historyofvaccines.org/content/articles/disease-eradication>.

⁵ <http://vaccines.procon.org/>.

"Vaccines protect the herd."

"Vaccines save children and their parent's time and money."

"Vaccines protect future generations."

"Vaccine-preventable diseases have not disappeared so vaccination is still necessary."

"Vaccines provide economic benefits for society."

On the other hand several people tend to believe that vaccines are not effective. In addition they are neither safe nor necessary. It is also believed by those individuals that mandatory vaccination violate individual rights to medical decisions and religious principles. This dispute is not recent though. There is evidence that people have been choosing sides against or in favor of vaccinations for over a century. These arguments tend to reduce the rates of vaccinated people between certain communities and therefore the danger of outbreaks and deaths from preventable childhood diseases is still present.

The most common general arguments of all those people against vaccinations are the following:

"Diseases had already begun to disappear before vaccines were introduced, because of better hygiene and sanitation".

"The majority of people who get disease have been vaccinated."

"There are "hot lots" of vaccine that have been associated with more adverse events and deaths than others. Parents should find the numbers of these lots and not allow their children to receive vaccines from them."

"Vaccines cause many harmful side effects, illnesses, and even death - not to mention possible long-term effects we don't even know about."

"Vaccine-preventable diseases have been virtually eliminated from my country, so there is no need for my child to be vaccinated."

"Giving a child multiple vaccinations for different diseases at the same time increases the risk of harmful side effects and can overload the immune system".

These arguments have been proved totally wrong and therefore World Health Organization (WHO) has released the so called "Global Vaccine Safety Initiative", in order to make things clear to everybody and prevent any misunderstanding⁶.

In addition some other arguments against vaccines are the following⁷:

"Vaccines can cause serious and sometimes fatal side effects."

"Vaccines contain harmful ingredients."

"The government should not intervene in personal medical choices."

"Mandatory vaccines infringe upon constitutionally protected religious freedoms."

"Vaccines can contain ingredients some people consider immoral or otherwise objectionable."

"Vaccines are unnatural, and natural immunity is more effective than vaccination."

"The pharmaceutical companies should not be trusted to make and regulate safe vaccines."

"Most diseases that vaccines target are relatively harmless in many cases, thus making vaccines unnecessary"

Having expressed WHO's opinion about vaccine's safety, we would also like to refer to their effectiveness. It goes without saying that vaccines tend to eliminate some illnesses which used to kill millions of people in the past. For example smallpox was completely eradicated and polio is about to extinct. In addition *Haemophilus influenzae*, a major cause of bacterial meningitis and other serious diseases in children, have decreased by over 99% in the US since the introduction of a vaccine in 1988⁸. Having approved that vaccination is not only safe but also

⁶http://www.who.int/vaccine_safety/initiative/detection/immunization_misconceptions/en/

⁷ All of those arguments seem to be faulty <http://vaccines.procon.org/>.

⁸<http://content.time.com/time/magazine/article/0,9171,1808620,00.html>

effective and also having explained that most of the arguments against vaccination are not solid, we believe that we have given positive response to all those who question their necessity.

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