



COVER
OR
COVID

Vaccines

Myths and Facts: dealing with hesitancy



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A FAIR FUTURE



Vaccines are, in a way, victims of their own success. Most of us have already been vaccinated against polio, measles, meningitis, to name a few devastating diseases.

Massive vaccine campaigns led to the eradication of some of them.

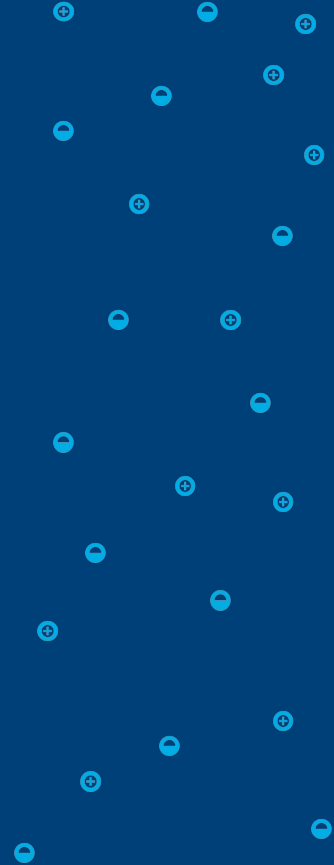
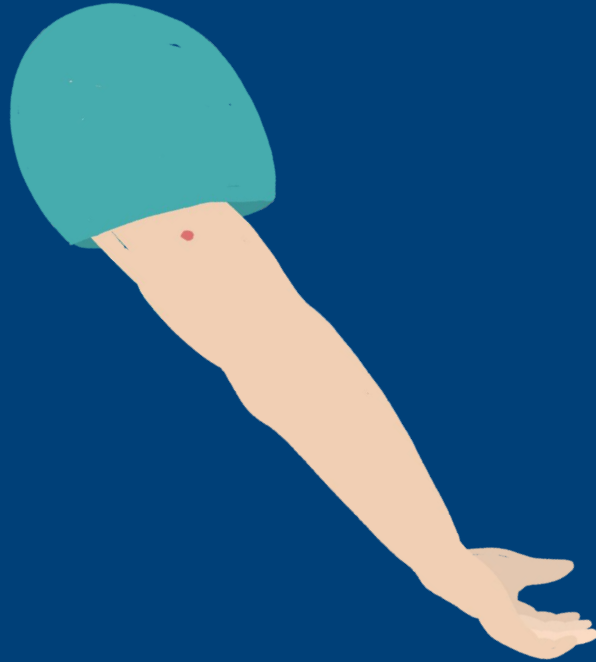
Not many people have witnessed the horrendous effects of, for example, polio (image). Therefore, attention has been shifted to the perceived risks of vaccination.



Most common myths:

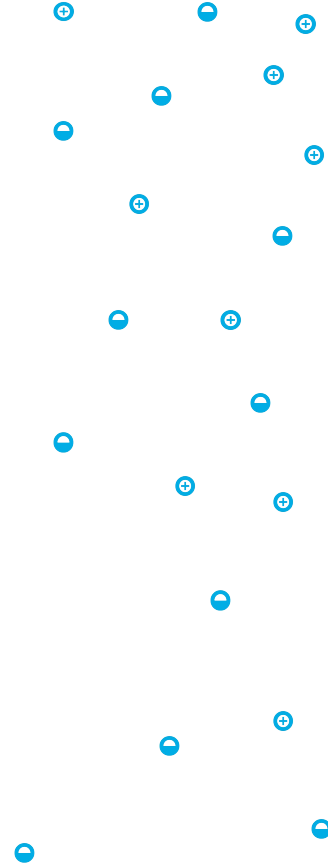


01 Side effects.



01 Most adverse events occur within 1-2 months of immunization.

Therefore, the Food and Drug Administration -FDA- sought 2 months of follow-up data from drug companies with vaccine candidates in order to be considered for an emergency use. The common side effects (pain in the arm, swelling, headache) indicate that the immune system is working towards generating protection. **No serious side effects have been described after vaccinating millions of people around the globe.** Very few people with underlying severe allergies can develop a major allergy to the vaccine or its components (anaphylaxis).



- 02 Lack of trust in government and government-generated safety/effectiveness reports.**
- 03 Vaccines were developed too quickly/politics.**

How to deal with hesitancy against the vaccine: myths and facts

Lack of trust in government and government-generated safety/effectiveness reports
Vaccines were developed too quickly/politics involvement/steps were probably skipped

- 02 As soon as the pandemic was declared,
- 03 many pharmaceutical companies and universities started working to create the most life-saving vaccine of the century.

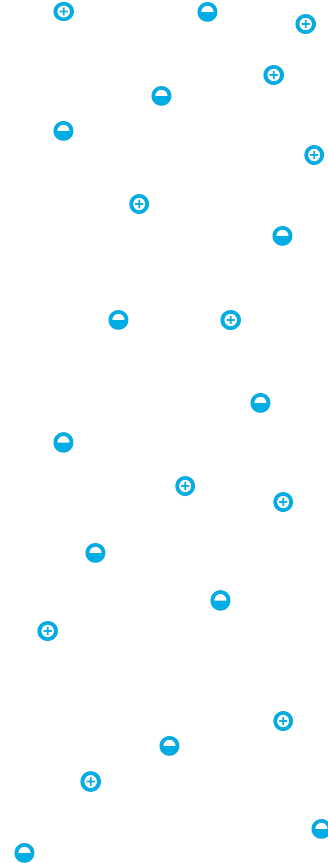
The U.S. and other governments partnered with health institutions, nonprofit organizations, and pharmaceutical companies. **Altogether they worked to prioritize the development of the most promising vaccines.**



How to deal with hesitancy against the vaccine: myths and facts

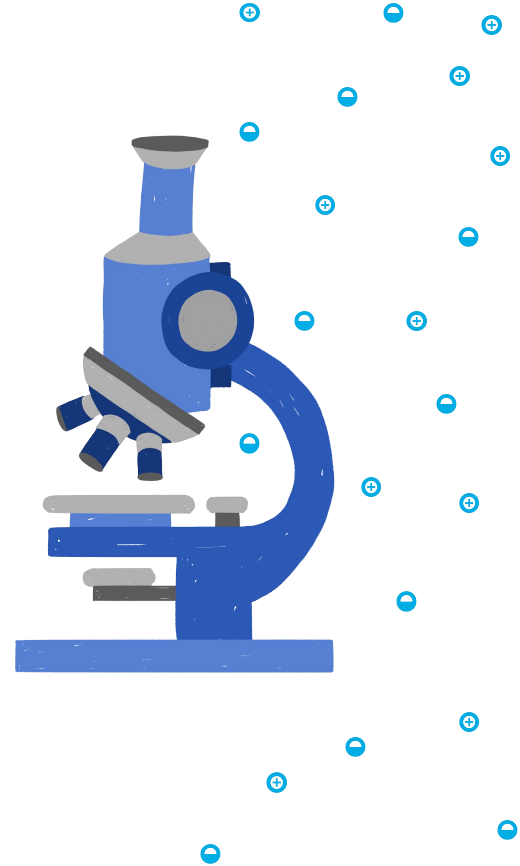
Lack of trust in government and government-generated safety/effectiveness reports
Vaccines were developed too quickly/politics involvement/steps were probably skipped

- 02 World-leading experts scrutinized the vaccine trials
- 03 data, and the vaccines have been approved for emergency use by health oversight agencies from multiple countries, including the United States. No standards were broken during the process: **All FDA rigorous and science-based protocols for quality, safety, and effectiveness have been met. Vaccines went through all three testing phases.**



04 The technology used is too new.

- 04 No. Both vaccines approved for use in the U.S. to date (Pfizer and Moderna) used **technology that has been around for a decade to treat certain types of cancers, and preliminarily for other viral infections.**

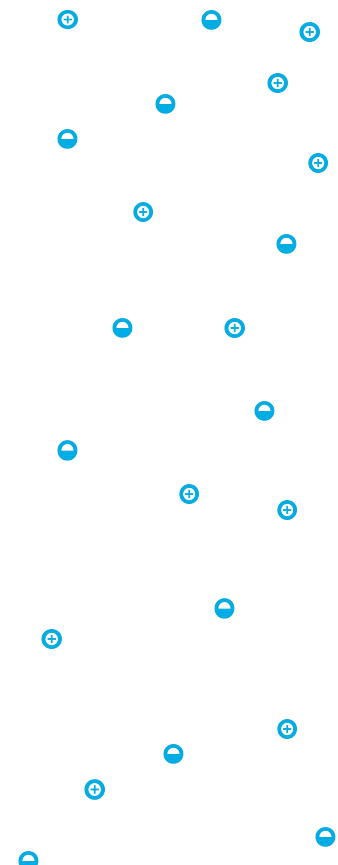


05 Not evidence-based.

05

While it is true that most vaccines use longer investigational phases, the **urgency** of dealing with a disease like Covid-19 that is exhausting all medical resources and killing a great number of people worldwide, forced the scientific community to organize the phases in an overlapped way, rather than sequential.

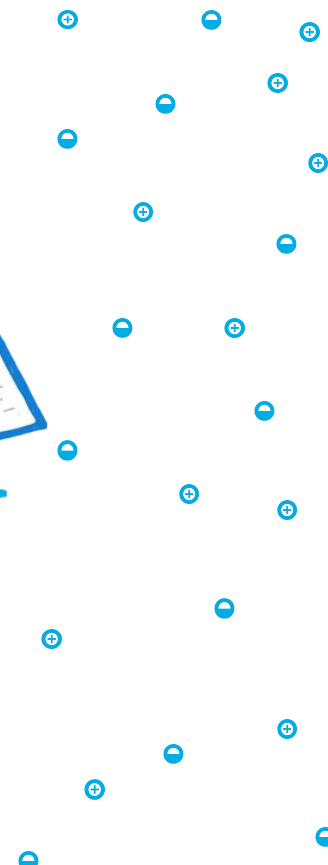
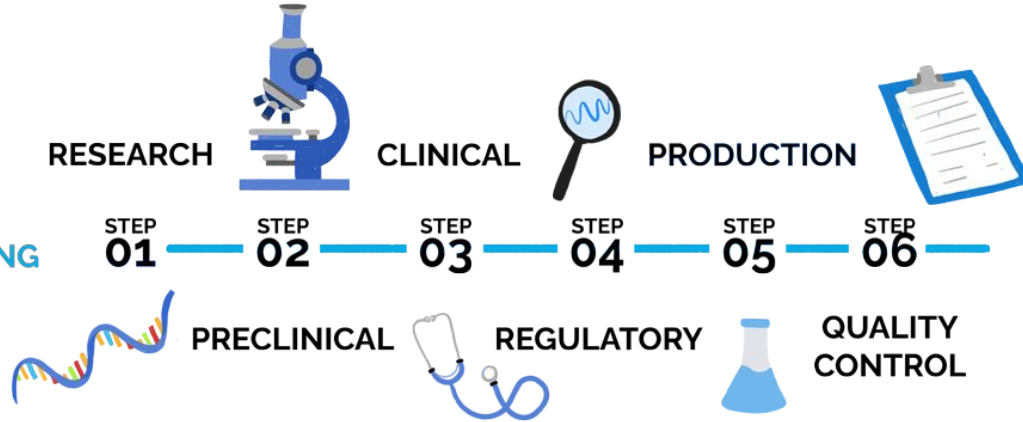
Nevertheless, every investigational phase was completed, and **the entities that authorize the use of the vaccine (like the FDA in the U.S.) analyzed all the data before releasing the vaccine to the public, emphasizing safety and efficacy.**



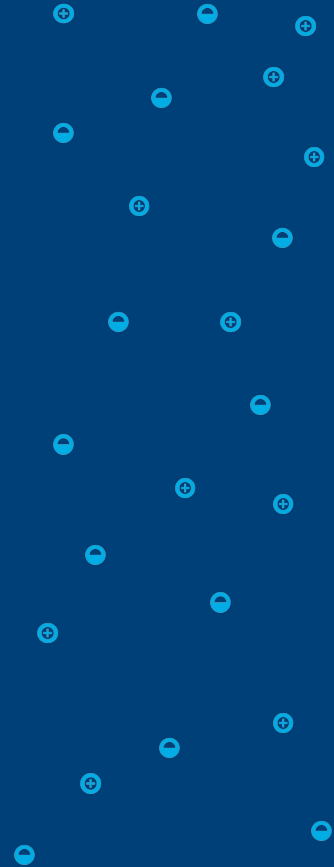
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WHAT ARE
THE **STEPS**
TO **DEVELOPING**
A **VACCINE?**

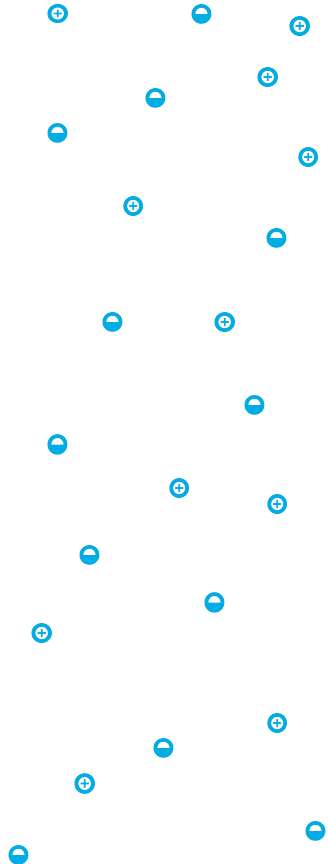


06 Not transparent enough.



- 06 Most of the vaccines used in the world, and certainly the ones approved in the U.S., **went through all the investigational stages.**

The results of the studies during those stages were presented via reputable, peer-reviewed journals, passing the standards necessary for the approval for their use.



07 Will mRNA vaccines change my DNA?

08 I'll get the virus from the vaccine.

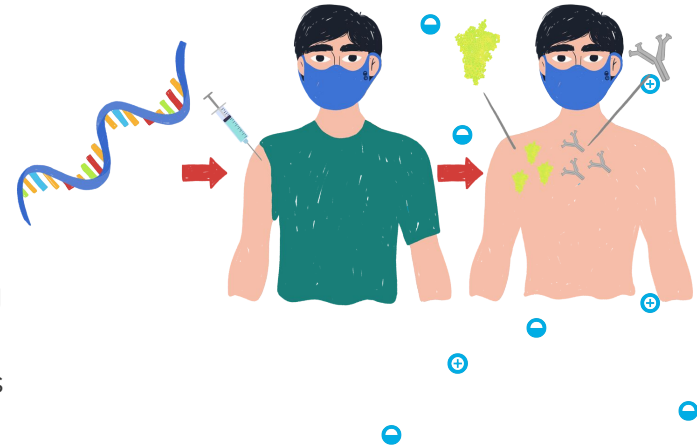
How to deal with hesitancy against the vaccine: myths and facts

Will mRNA vaccines change my DNA?

I'll get the virus from the vaccine.

07 No and no. Injecting mRNA into your body 08 will not interact or do anything to the DNA of your cells.

With "classical" vaccines, a pathogen's antigen is introduced in the body to produce an immune response. **The 2 approved mRNA Covid-19 vaccines in the U.S. do not have living material but only part of the virus. Being incomplete, the vaccine components are incapable of causing Covid-19.** mRNA vaccines work by instructing cells in the body how to make a protein that triggers an immune response. The mRNA can only last for a few days at most before it is destroyed.



How to deal with hesitancy against the vaccine: myths and facts

Advantages of RNA-based vaccines over 'traditional' (subunit, killed, and live attenuated virus) and DNA-based vaccines.

- + Production is flexible: can protect against rapidly evolving viruses****
- + Production can be rapid (within a few months!)****
- + Production is inexpensive and scalable****

**Crucial qualities for a pandemic.

Advantages of RNA-based vaccines over 'traditional' (subunit, killed, and live attenuated virus) and DNA-based vaccines.

+ Efficiency and Safety: Being non-infectious (no potential risk of infection), and degrading rapidly (within 3 days) by normal cellular processes, there is no risk of entering the DNA of those that receive the vaccine.

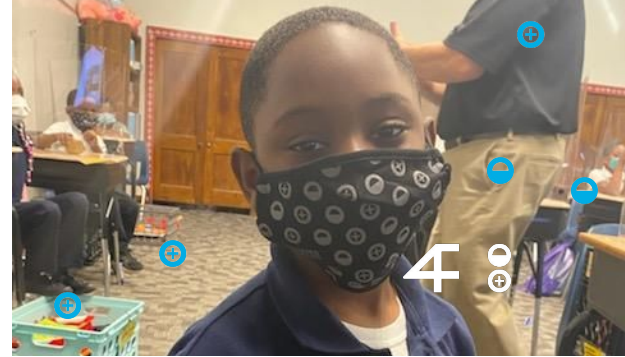
In summary

The vaccine is good for me: it is safe and efficient; it reduces my chance of catching Covid-19 and the side effects are for the most part minor and tolerable.



In summary

It is also good for my community. The more of us that get it, the harder is for the virus to find someone susceptible (herd or population immunity) even if a few of us cannot get the vaccine.



Thank you!

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