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Review Article

The Importance of Vaccination in Times of Pandemic

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Abstract

Communication project work, carried out in Santa Clara de Saguier, Santa Fe, Argentina, and its nearby towns. Its main objective was to address the issue of vaccination to obtaina high percentage of inoculated. Inform the general population about the importance of vaccination and compliance with the complete vaccination schedule for COVID-19, with emphasis on vulnerable groups. Treatment and special approach to risk groups.

Keywords: Communication; Vaccines; Risk; Message; Objective; Covid

Specific Objectives (Introduction)

- Inform the population, making use of massive dissemination with national, regional and local scope, prioritizing the well-being of individuals, families and communities in relation to timely and complete vaccination.
- Provide informative materials, by audience segmentation, with accessible language, which favors information and acceptance of vaccination.
- Promote co-responsibility and social participation of the different organizations and key actors, in the planning, organization, execution and evaluation of concerted actions in favor of immunizations at the national, regional and local levels.

Target audiences

General population. From the vaccination of the entire target population in a staggered and progressive manner, according to the prioritization of risk and the availability of vaccine doses.

Introduction

Vaccination is the best tool to prevent some infectious diseases and is one of the public health measures that has saved the most lives throughout history. Vaccines help people survive. Vaccines save 5 lives every minute. The eradication of smallpox serves as an example, a serious disease that left even survivors with lifelong consequences, saves approximately 5 million lives each year. If a vaccine hadn't eradicated smallpox, someone would die from smallpox every 6 seconds every day. Before the introduction of a vaccine, as recently as 1980, measles caused more than 2.6 million deaths worldwide. Vaccines can only save lives if people are vaccinated. Fortunately, most people get vaccinated. For example, 85% of children around the world are vaccinated against diphtheria, tetanus and whooping cough, and in 125 countries that figure exceeds 90%. In most countries, the vast majority of people vaccinate their sons and daughters, which is an important contribution to public health and to people's lives. Vaccination is the best way to be protected against diseases that we can prevent. Protect and protect yourself with vaccines.

It is very important that there are many people vaccinated against each disease, since the microorganism that causes it circulates much less and thus people who, for various reasons, have not been vaccinated, will also be protected. This is what is called herd immunity. Vaccination protects our health and that of the people we care for. Protect future generations.

On December 31, 2019, China reported the appearance of laboratory-confirmed cases of a novel coronavirus infection (SARS-CoV-2) that subsequently spread to various countries on all continents. On January 30, 2020, the WHO Director General declared that the outbreak of the new coronavirus constituted a public health emergency of international importance (ESPII) within the framework of the International Health Regulations 2005 (IHR 2005) and finally on March 11 In 2020, the World Health Organization (WHO) declared the state of a pandemic. COVID-19 has been shown to present with a higher risk of hospitalization, complications and death in individuals belonging to certain risk groups (adults over 60 years of age, people with obesity, diabetes, chronic heart, respiratory and kidney diseases, immunocompromised, among others). In those older than 60 years, diabetes and heart failure were the associated risk factors that occurred most frequently; while in those under 60 years of age they were diabetes and obesity. The number of people who have died in the world, and what has been described above, shows that the pandemic caused by this new coronavirus (SARS- CoV-2) is causing enormous human, health, social and economic costs in the world.

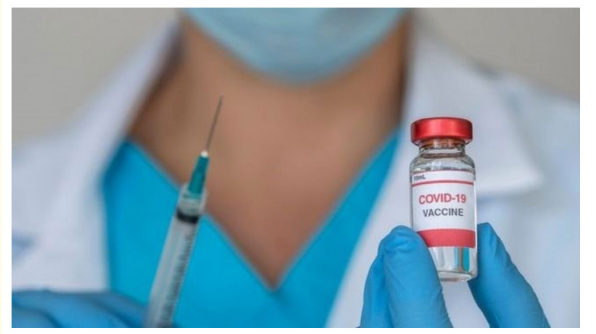

Figure 1

The vaccine as a tool

The World Health Organization (WHO) recommends vaccination against COVID-19 as a fundamental primary prevention tool to limit the health and economic effects of the pandemic. As a consequence, having effective and safe vaccines available in the short term, which can be used in a national strategy, will help reduce the incidence of illness, hospitalizations and deaths related to COVID-19 and help to gradually restore a new normality in the functioning of our country. The development of vaccines with these characteristics, their acquisition, distribution and administration represents an unprecedented challenge worldwide. Vaccination against COVID-19 is an important tool to help stop the pandemic.

- Vaccines against COVID-19 are safeVaccines against COVID-19 were developed based on scientific knowledge used for decades.
- Vaccines against COVID-19 are not experimental. They went through all the required stages of clinical trials. Extensive testing and monitoring have shown these vaccines to be safe andeffective.
- Vaccines against COVID-19 have undergone and will continue to undergo the most intensive safety monitoring in history.

It is increasingly necessary to reinforce the risk communication component as an essential tool to adequately transmit all the information about the immunization process to the population, from clinical trials and the production of new vaccines, to the introduction, distribution and prioritization of groups to which one or several vaccines must be administered; as well as universal access to them, once priority groups have been immunized. There is no doubt that vaccines will help save lives and contain the pandemic. However, this growing hope should not weaken the continuity of other well-known health measures that are helping to reduce the transmission of the virus, including the correct use of the mask, hand hygiene and physical distance.

Vaccines and vaccination are only the beginning of a long road to contain the pandemic, but by no means the end. The challenges we face in this process are multiple, and a correct communication strategy will allow us to raise awareness and achieve greater global acceptance of vaccines.

Vaccines against COVID-19

The speed with which the COVID-19 pandemic was installed and the severity of its consequences has generated a race to obtain effective and safe vaccines, which is unprecedented in the history of immunizations. In less than a year, more than 250 different re-

search projects were launched, some of which have already obtained emergency authorization for their application on a population scale. In its updated overview as of April 13, 2021, the WHO lists 88 candidate vaccines against COVID-19 that are already being investigated in humans, and another 184 that are in the pre-clinical investigation stage. All of them seek to stimulate the host's immune system by exposing it to SARS-CoV-2 proteins. To achieve this, different "platforms" are used that use both traditional and new technologies, which are described in RACIM: COVID-19 Vaccine Platforms. Within this haste to speed up research as much as possible, in many cases the initial clinical stages (Phases 1 and 2) have been brought together in a single study, and Phase 3 investigations have been initiated, with a minimum of 2 years of follow-up. All the results known so far of the vaccines that are already being applied correspond to the initial findings of these Phase 3 studies, whose final result will have to wait until the follow-up period is completed in 2022 or 2023. For this reason, all the Use authorizations from regulatory agencies are of an "emergency use" nature. Within this haste to speed up research as much as possible, in many cases the initial clinical stages (Phases 1 and 2) have been brought together in a single study, and Phase 3 investigations have been initiated, with a minimum of 2 years of follow-up. All the results known so far of the vaccines that are already being applied correspond to the initial findings of these Phase 3 studies, whose final result will have to wait until the follow-up period is completed in 2022 or 2023. For this reason, all the Use authorizations from regulatory agencies are of an "emergency use" nature. Within this haste to speed up research as much as possible, in many cases the initial clinical stages (Phases 1 and 2) have been brought together in a single study, and Phase 3 investigations have been initiated, with a minimum of 2 years of follow-up. All the results known so far of the vaccines that are already being applied correspond to the initial findings of these Phase 3 studies, whose final result will have to wait until the follow-up period is completed in 2022 or 2023. For this reason, all the Use authorizations from regulatory agencies are of an "emergency use" nature.

In this context, it is expected that the profile of adverse effects of each vaccine will become better known as they are applied to tens of millions of people. Thus, infrequent adverse reactions arise, which must be assessed to decide whether or not they represent an effect attributable to the vaccine, or a casual coincidence. It may be necessary to interrupt the use of the vaccine until doubts are cleared up, and eventually reformulate the indications or precautions for that particular product.

The vaccines against COVID-19 that are currently approved by the WHO or in Phase III, are being developed under 4 main platforms:

- **Vaccines with inactivated viruses:** They use a previously inactivated virus, so that it does not cause the disease, but still generates an immune response.
- **Protein-based vaccines:** They use harmless protein fragments or protein structures that mimic the virus that causes COVID-19, in order to generate an immune response.
- **Vaccines with non-replicative viral vectors:** They use a genetically modified virus other thanSARSCoV-2 that cannot cause the disease, but can produce coronavirus proteins to generate a safe immune response.
- **Vaccines with messenger RNA**: A pioneering approach that uses RNA to generate a protein that by itself triggers an immune response against the coronavirus.

The vaccines that are in use are: messenger RNA vaccines (tozinameran from Pfizer-BioNTech and mRNA-1273 from the company Moderna), inactivated coronavirus vaccines (BBIBP-CorV from Sinopharm, BBV152 from Bharat Biotech, CoronaVac from Sinovac WIBP from Sinopharm), vaccines from other viral vectors, (Sputnik V from Gamaleya, AZD1222 from Oxford -AstraZeneca, Ad5-nCoV from CanSino Biologics, Ad26.COV2.S from Janssen-J&J), peptide antigen vaccine EpiVacCorona from Vektor Institute.

The highest efficacy against symptoms obtained so far by a vaccine against COVID-19 is 95%, a value similar to the natural immunity obtained when infected with the SARS-CoV-2 virus. Other vaccines, however, have a lower efficacy, some of only 50%. 4 Another important difference between the different vaccines is their storage temperature. While inactivated adenovirus or coronavirus vaccines are stored in refrigerators, messenger RNA vaccines require freezers at -20ºC (Moderna) or even - 80ºC (Pfizer), which complicates their distribution. Due to the limited production capacity of vaccine manufacturers, states have had to implement phased distribution plans, which prioritize the population at risk, such as the elderly, and to people with a high degree of exposure and transmission, such as health workers. The most widely used

vaccines today have been in use for decades, and millions of people safely receive them each year.

In addition, there are several new vaccines in development. If approved, they will help prevent more deadly diseases – for example, COVID-19 or diseases caused by the Zika virus for example – or improve the effectiveness of existing vaccines. Like any other medicine, vaccines must undergo extensive and rigorous testing before they can be introduced into a country. Once they are in use, they must remain subject to ongoing surveillance to ensure that they are safe for the people who receive them. As with all medicines, the safety of vaccines must be subject to continuous surveillance, even after trials and the introduction of a vaccine. This monitoring takes into account reports from various sources. At the national level, These sources include people receiving the vaccines, their parents or caregivers, and health care workers. The reports obtained are sent to the national health authorities. At the regional and global levels, WHO and UNICEF assist countries in collecting and tracking such information, and ensure that countries have the most up-to-date evidence on available vaccines.

Risk communication

It is common for new vaccines to be received with initial doubts that are later resolved as the program consolidates. Transparent and effective risk communication can help in this process. Communicators need to be aware of cultural and emotional differences, but also recognize that some people are adversarial or misinformed and resist vaccination. Risk communication should recognize that COVID-19 vaccines have transient but bothersome side effects, such as fever and muscle pain. Ironically, these side effects show that the vaccine is working because it prepares the body to fight the disease. Life is risky, and some tragic events will happen after a vaccination, even when the vaccine had nothing to do with it. It is important not to jump to the conclusion that there is a connection between vaccination and these events. The only way to determine whether vaccines have serious side effects is through scientific methods, looking at data from many vaccinated people and comparing it to what would be expected in that age group just by chance. When this is done, scientists find clear evidence that vaccines do not cause the vast majority of serious diseases and conditions that have been attributed to them in the media. looking at data from many vaccinated people and comparing it to what would be expected in that age group just by chance. When this is done, scientists find clear evidence that vaccines do not cause the vast majority of serious diseases and conditions that have been attributed to them in the media. looking at data from many vaccinated people and comparing it to what would be expected in that age group just by chance. When this is done, scientists find clear evidence that vaccines do not cause the vast majority of serious diseases and conditions that have been attributed to them in the media.

Risk communication is considered an essential axis to deal with emergencies that affect public health and is one of the components required of the Member States of the World Health Organization (WHO) by the International Health Regulations (IHR). Through it, the community knows the risks and makes informed decisions to protect their health and that of their loved ones. Likewise, risk communication allows a two-way dialogue between the authorities and their audiences with the aim of generating behavioral changes. Proper management of this process contributes to a better emergency response and reinforces the leadership of the authorities in charge and the confidence of the population in them and in the established measures. Also very important at a communicational level is the recommendation of a health professional, which is one of the most determining factors for the acceptance of the vaccine. However, health professionals often underestimate the importance of their recommendations. A strong recommendation to be vaccinated, which assumes that the person is willing to do so, has been shown to increase uptake. The professional's message must be clear and effective and the listening approach must be active.

Engage communities

Community leaders can play a crucial role: group norms and habits have a strong influence on group members, so having community leaders mention positive norms towards vaccination is helpful. Community leaders must engage with empathy, transparency, and honesty to build and maintain public trust and communicate effectively. It is important that there is a large representation of diverse community groups in the engagement activities.

Role of social networks

Involving the public in spreading the message can be helpful. Social networks can also be an advantage. The use of social networks brings a new dimension to the science of health communication, since it is a medium used by professionals, patients and by any Internet user, which allows infinite interactions between the

actors involved. There are some excellent videos on YouTube, for example Side Effects of Vaccines: What's the Risk? and Inside the lab that invented the COVID-19 vaccine. The official page of the WHO has many animations and tips for raising awareness on social networks; https://who.canto.global/s/HVD3V?viewIndex=0&from=fitView&display=curatedView

Social networks allow us to work a powerful channel of social interaction, to achieve a dynamic exchange between people, groups and institutions in complex contexts. Our intervention through this virtual communication tool opens up a communication platform for us in the permanent construction of messages and concepts that strengthen the positioning of those that involve social groups that identify with the same needs and problems and that are organized to enhance their resources.

Information about the uses, benefits, and limitations of social networks for health communication among the general public, patients, and professionals regarding vaccines is still limited. Despite the fact that networks such as Facebook or Twitter are widely used communication tools, data recently obtained in our country show how it is still one of the least used channels among Internet users when it comes to obtaining information on health issues. Social networks are currently also used by groups that are resistant to vaccines, where the emotional impact is such that it ensures great media visibility for anti-vaccine arguments, helping to expand the area of the so-called undecided, that is, people who refuse vaccinations or are unsure.

Media

The media have an impact on collective and individual health, and are essential to shape beliefs and behaviors. Currently there are thousands of mass media, the technological and computer revolution allows thousands of hours of videos to be uploaded to the internet every hour, a new blog is created every minute, it seems that access and the possibility of producing information is multiplied and democratized, however, the sheer concentration of media ownership is alarming and makes the uniformity of content overwhelming. Indeed, thousands of these media are in the hands of a few people and their concentration is increasing. In the health sector, the mass media play a very important role, and the corporations-media-governments triad continues. Media content creates and consolidates behaviors, beliefs and values, many of which are aimed at creating individualistic, violent, competitive and over-consuming beings. The media assume the media messages that are going to influence, to a lesser or greater degree, in adopting certain attitudes and behaviors, collective and individual, for this reason it is very important to spread messages of awareness and sensitization about vaccination in various media through of all possible platforms so that your message is massive.

Due to their relevance and scope, social networks can be excellent allies if handled properly:

- Appoint a person responsible for its management, who has the criteria to identify critical knots or strengths for the institution.
- Closely follow the news on the networks and key influencers. Monitor the conversation about vaccines and vaccination.
- Prepare a social network plan that includes what messages will be broadcast and their daily frequency. For example, in the first week, broadcast informative messages three times a day: what is the benefit of vaccines, where to go to get vaccinated and care that must be considered.
- Identify allies and opponents. Monitor their accounts, what they post, the reach of their messages, and measure their impact. Define what actions must be taken in each case.
- Take advantage of the opportunity offered by social networks to dialogue with the population, answering their questions and clarifying doubts.

New models of communicating in health

It is necessary to understand, as we have pointed out before, that communication transcends what we know as the mass media (press, radio and TV), and a good prevention or health promotion campaign can be much more effective if it has constant contact with the population we want to reach. For this reason, it is not only necessary to emphasize communication programs from health centers, but also to structure communication campaigns that prioritize the aspect of participation of society and direct contact. The proliferation of community radio and television stations is striking, which, in addition to confronting hegemonic thought, have been promoting values and principles different from those that dominate capitalist society. These media can be an important tool for health promotion and for confronting harmful and harmful behaviors and habits. These initiatives force us to rethink the communication model. This implies incorporating people and communities

as active subjects in this process. It is essential to understand the need for a new development and consumption model, different from the one promoted by the mass media controlled by big capital. It is necessary to promote a reflection that allows us to build new communication models, more democratic and participatory, which will surely have a better impact on the life and health of the population. This implies incorporating people and communities as active subjects in this process. It is essential to understand the need for a new development and consumption model, different from the one promoted by the mass media controlled by big capital. It is necessary to promote a reflection that allows us to build new communication models, more democratic and participatory, which will surely have a better impact on the life and health of the population. This implies incorporating people and communities as active subjects in this process. It is essential to understand the need for a new development and consumption model, different from the one promoted by the mass media controlled by big capital. It is necessary to promote a reflection that allows us to build new communication models, more democratic and participatory, which will surely have a better impact on the life and health of the population.

The importance of the message

The objective is that the person who sends the message transmits it in a clear, transparent and direct way, without there being any room for confusion, misunderstanding or erroneous interpretation.

- Identify two to three key messages to communicate. Citizens do not retain much information and the central messages may be diluted. Avoid talking more than necessary.
- It is advisable to direct messages to audiences that are willing to be vaccinated and need to be informed, as well as to convince those who are undecided. Avoid wasting energy on those who won't change their minds.
- Avoid getting into fruitless public discussions. You have to respond with data, validated information and evidence, and based on clear ideas. Be more proactive than reactive.
- Use a language according to the audiences. Learn the idioms, slang and others that allow a connection with the public.
- Speak with empathy, recognizing that the population may have questions or doubts.
- Do not minimize the concerns of the audience. Every question serves to clarify or repeat conceptsor information that may not have been completely clear.
- Work on the emotional aspects of the audience, such as the perception of risk and contagion, distrust in vaccines and in the system, regulatory agencies and the pharmaceutical industry, fear, uncertainty, concern, expectations, anger and frustration, among others. Generate a simple and easy dialogue with citizens, respond to their concerns, reduce their fear and increase adherence to vaccines and vaccination. Answer questions such as do we know if vaccines are safe and effective? What will the vaccination process be like? Where and when should I get vaccinated? If I get vaccinated, will I no longer be infected? If I am vaccinated, should I abandon protective measures such as wearing a mask, hand washing and physical distance? Why are there priority groups? Do vaccines have side effects?
- Use clear and simple speech. Explain the technical aspects surrounding the vaccine in a simple way.

Increase their discursive scope around security and make people's fears or concerns their own. Show empathy.

- Put the information in context. Communication about vaccines and vaccination cannot be done in isolation, it is part of a comprehensive policy. Show that vaccines and vaccination against COVID-19 are part of a broader public health strategy. It must be connected with the reality of the people and the vaccination plan of the countries and how this has contributed to the health of the population. Show successful examples of other vaccination processes.
- Add the responsibility of the vaccination process to the families and the community. Appeal to what has been lived. "We are all in this together". “Getting vaccinated is taking care of yourself and taking care of others, and one more step to control the pandemic”.
- Prepare a media plan. This allows installing the thematic agenda in public opinion. Manage interviews, offer reports, publish opinion columns. Appoint a person to be in charge of press management (calling the media and offering topics). Have a good team and writers to develop the content. Plan the spokespersons that will be part of that plan.

Storytelling for the vaccine

When getting vaccinated is a voluntary option and people need to be quickly convinced to do so, it is essential to build stories that give confidence. Especially to motivate "pioneers" and "early adopt-

ers" to try. But then, in everyone's interest, we must facilitate communication between these two groups and those who have misgivings. And, in this, I think that we all play a critical role: political authorities, scientists, the media and vaccine producers. But also you and me, as citizens.

When the authorities, the scientific community and the media spread success stories and normalize the image of the vaccine, they do a great job. Manufacturers who present favorable and certified results of their products also do well.

The truth is that in many democratic countries vaccination is not compulsory, so for the campaign to be effective, people must want to be vaccinated. And the less time we take to convince ourselves, the faster we will reach the "herd immunity". So what can we do to combat the fear and rejection of these people?

The answer to the question has to do with an already classic theory and with social storytelling. Roger's theory. In 1962, he published a theory that went around the world: that of the "Diffusion of Innovations".

It goes something like this: whenever an innovation appears in a society of well-connected people, five attitudes can be expected to manifest successively and over time. These are:

- That of innovative or pioneering people. They are the ones who, without hesitation, will adopt the innovation the minute it is available.
- The one of the first followers. They are the group of those who could not be pioneers, butwho will immediately accept that they can.
- That of the precocious majority. A massive group waiting to see how innovation goes for theprevious two groups.
- The late majority. Another massive group, but reticent (or without access) to innovation.
- The one of the laggards. People who will not accept innovation for fear of change or mistrust.

Addressing COVID-19 vaccine misinformation

Despite the wide public acceptance of vaccines, anti-vaccine activists have tried to undermine vaccines since their invention more than 200 years ago. Though rarely prevalent, when anti-vaccineactivists find a temporary traction in a society, vaccination rates can drop, and preventable diseasesrise. Misinformation related to anti-vaccination is characterized by flaws in reasoning and fallacies, and often by belief in conspiracy theories.

Therefore, it is important to protect the public against misinformation and anti-vaccine propaganda. Here are some key steps to keep in mind when dealing with disinformation:

- Determine if misinformation is gaining ground. Before spending time and resources to address specific misinformation, it is important to know if it is actually having an impact or is likely to have an impact. Remember that every time you tackle disinformation, you are talking about someone else's agenda, not your own.
- Protecting against disinformation: "Prebunking" or inoculation Since disinformation can spread quickly and far, it is best that people are prepared for it. This can be achieved by explaining deceptive or manipulative argumentation strategies to people, a technique known as 'inoculation' or 'prebunking' which makes people resistant to subsequent attempts at manipulation. The inoculation process includes a warning that people may be misled, followed by a preemptive refutation of the misleading argument. Inoculation thus follows the biomedical analogy; By exposing people to a weakened dose of the techniques used in disinformation and preemptively refuting them, "cognitive antibodies" can be stimulated.
- Correcting misinformation: How to debunk If the misinformation has already caught on, thenext option is to debunk it. Debunking can be challenging because even though corrections appear to reduce people's belief in misinformation, misinformation often still influences people's thinking. Debunking or correcting misinformation based on best practices and recommendations has been shown to be effective in combating vaccine-related misinformation, although vaccine misinformation can be expected to be resistant to corrections. may conflict with people's emotions and moral values.

Information monitoring

Information monitoring is key throughout the emergency process and the implementation of the strategy. It allows to identify rumors and false or inaccurate information, design messages appropriate to the needs of different audiences and detect unexpected events early, among others. For these purposes you can use:

- **Reports from call centers:** Request a daily report with the main queries. Use it to close disinformation gaps. Incorporate these needs in the messages that the authorities issue the next day.
- **Vaccination follow-up reports:** Analyze how vaccination coverage is going and the causes of what is happening. For example, if coverage in certain groups is low, incorporate messages calling for vaccination and clearing up any doubts that may exist.
- **Social networks:** Use daily or weekly metrics to analyze the main issues that have been addressed at the national level and, in particular, in the institution's networks. Build messages with graphic support materials such as GIFs, videos, cards or others to address them through that same channel and close the gap.
- **Consider how to respond to anti-vaccine groups or individuals:** For example, in the face of statements such as "vaccines don't work", consider taking charge of the response indirectly, avoiding confrontation, with information and evidence. Remember to direct people to the official website for more information.
- **Observe what is happening in other countries:** This will allow you to have additional information to handle possible critical knots that have to be faced.

Monitoring and evaluation of the strategy

Monitoring and evaluation is key to learning, adapting and guiding communication. Monitor the activities included in the strategy, the team and the communication process with the population and its impact.

- Plan moments of evaluation of the strategy (short, medium and long term) based on the establishedobjectives.
- Analyze if the strategy runs along the desired line. If not, adjust it to the stage.
- Document good practices, which allow risks to be reduced and constitute learning for futureexperiences.

Conclusion

As a conclusion of this applied work, we distinguish the high percentage of vaccinated people who have developed high levels of protection and followed the proposed scheme.With this situation, there was better control of subsequent outbreaks and a lower rate ofseverity in infected patients.

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