Freedom of Expression on Social Media: Fake News and Anti-Vaccine Discourse During the COVID-19 Pandemic

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INTRODUCTION

In 1902, pharmacist Rodolpho Theóphilo, without government support, attempted to combat the smallpox epidemic in Fortaleza by vaccinating the population using his own resources. He faced the challenge of convincing an uninformed public about the importance of the vaccine. On August 26 of that year, he tried to persuade the authorities in a message, stating that "It takes courage and patience to fight with those who are blind in understanding" (Neto, 2022).

During the COVID-19 pandemic, which challenged healthcare systems around the world and catalyzed intense public debates about prevention measures, especially vaccination, the pharmacist's observation proved to be relevant. But it was during the pandemic that health authorities recommended the aggressive implementation of suppression strategies, such as case identification, quarantine and isolation, contact tracing and social distancing, across the world, as well as in Brazil. Mathematical models demonstrated that the spread of COVID-19 could recover quickly if these interventions were relaxed. However, all these preparations did not consider the anti-vaccine movement (Kalichman, Eaton, Earnshaw, Brousseau, 2022).

Anti-vaccine movements have been prevalent worldwide for a long time. In 1904, Oswaldo Cruz faced significant resistance from the population of Rio de Janeiro when he published the regulatory plan for the mandatory smallpox vaccine on November 9 of that year. Today, during the COVID-19 pandemic, the anti-vaccine movement has taken on new dimensions, particularly influenced by social networks (Dos Santos, Carvalho, Rocha, et al, 2022).

The internet has provided a platform for the public to voice their opinions and observe the diverse perspectives circulating within global society on various topics. With alternatives extending far beyond Facebook, Twitter, Orkut, and MySpace, people began spending increasingly more time each day interacting with others through social networks. A ComScore survey conducted in 2023 revealed that nearly 1 billion users of Mark Zuckerberg's network spent an average of 405 minutes per month following Facebook profiles (Veronesi, 2023).

During the pandemic period, social media spaces gained prominence, because it was the means used by movements against mandatory vaccination to publicize their ideas and express themselves against immunization by vaccines. This protagonism aroused concern among health authorities, so much so that the World Health Organization-WHO published in a report the 10 threats to global health, one of which is hesitation in accepting the use of vaccines, which is described as reluctance or refusal to be vaccinated, even when it is available (PAHO,2019).

But what would be the narrative used by the anti-vaccine movement to achieve its attempt to curb the massive vaccination against COVID-19? What would be your strategies to convince and attract supporters to the movement?

This is the objective of this article, which seeks to delve into the complex layers of discourse present in anti-vaccine groups on Facebook, to uncover the underlying ideologies and narratives.

METHODOLOGY

This study adopted a qualitative methodology, utilizing documentary sources of investigation, specifically examining posts on the Facebook platform.

Groups created between 2020 and 2022 on the Facebook Platform were identified and priority was given to those groups that were public and open in nature, in which posts could be read without the need to join the group or prior identification.

The groups were identified on the Facebook Platform itself, using the terms: ‘Anti vaccine’, ‘Anti-vaccines’, ‘Anti-vaccine movement’, ‘Covid victims’, ‘Mandatory vaccination’ and ‘No mandatory vaccine’.

Groups were selected according to the following criteria: (i) minimum of 200 participants; (ii) operation exclusively in Portuguese, (iii) activity from the second half of 2020 to the first half of 2022. 4 groups were found for the research.

The groups' posts were read according to the time frame, giving priority to the oldest ones, followed by those in subsequent periods.

After reading the posts, those most related to the object of the investigation were separated, that is, the most prevalent narratives of the movement identified in a previous study. To this end, inclusion criteria for posts were established: speeches about conspiracy theories, individual freedom, state tyranny, appeals to fear and supposedly scientific arguments.

To analyze the selected posts, the Critical Discourse Analysis (CDA) method was used, which allows the investigation of discursive and ideological structures. This method focuses on language as a social practice, considering how discourses reflect and reproduce power relations and ideologies. The analysis focused on identifying and examining the four most common narratives within the selected groups, with the aim of understanding how these narratives contribute to the construction and dissemination of anti-vaccination ideologies.

According to Wodak and Meyer (2009), Critical Discourse Analysis, depending on its Epistemology, will follow a supporting theory for methodological issues, but the fact of analyzing a certain social phenomenon, making issues of power and ideology visible, makes the research critical.

Considering Fairclough's Dialectic-Relational Approach (Fairclough, 2001), the Social Theory of Discourse presents a model that considers three dimensions: Text, Discursive Practice and Social Practice, noting that discourse is part of a social practice and, therefore, we should not analyze it as something isolated but rather thought of as a network, in which there are implications between the elements of social practice.

The text is the materialization of a social practice, through linguistic mechanisms making it possible to identify ideological and hegemonic issues.

Given the public nature of the information analyzed and the focus on publicly accessible groups on Facebook, this study was not submitted to a Research Ethics Board. However, strict ethical practices were adopted to ensure the anonymity of participants. All personal identification, participant names or any other information that could lead to identification were omitted or anonymized.

RESULTS AND DISCUSSION

In the posts analyzed, lexical items were found that refer to specific discourses, including the discourse of manipulation through technologies, such as the implantation of “nano-robots” for population control, as can be seen in figure 1:



Free translation by the authors: *Those who still don't understand how a nano-chip can be introduced into our body, through the covid vaccine, here's a basic photo. The nano-chip will be mixed into China's vaccine. Once this is in your body you will never be free again, but never again, they will control you and with 5G they will be able to create diseases in you, reduce your immunity and know your location.*

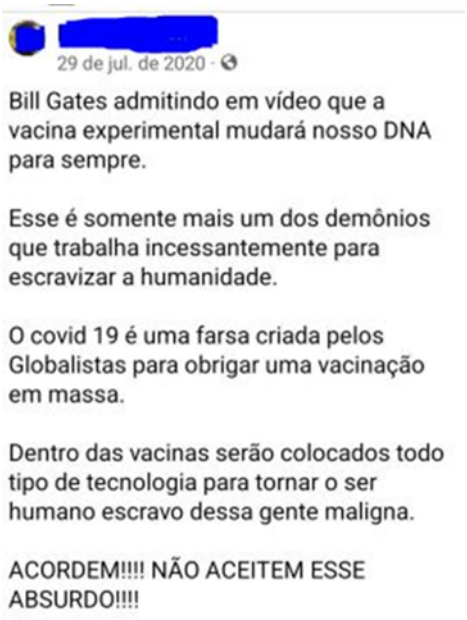
The lexical expression 'Nano-Chip' is seen, indicating that it would be "mixed in the vaccine".

Through the lexical choice and the intensifier, there is an appropriation of scientific discourse as a form of social control, corroborating the anti-vaccine discourse, since the objective of vaccination would not be to control the disease, but social control, through other technologies such as the "Nano-Chip".

Brotas, Costa et al. (2021) in research work, they also identified the intention of associating the vaccine with poison, risks and death and from a political point of view, with individual freedoms, power plans to reduce population and profits from big pharma.

Another discourse used as a form of argument, in the same community, was the scientific discourse based on DNA changes.

The figure 2 shows another mention of the covid vaccines



Free translation by the authors: *Bill Gates admitted in a video that the experimental vaccine will change our DNA forever. This is just another of the demons that work incessantly to enslave humanity. Covid-19 is a hoax created by globalists to force mass vaccination. All types of technology will be placed inside the vaccines to make human beings slaves to these evil people. Wake up! Don't accept this nonsense!*

Figure 2 presents two discourses considered antagonistic as the basis for the anti-vaccine argument. Through the lexical items “demons” and “evil people”, religious discourse is perceived. Through the lexical items “DNA” and “vaccination”, there is scientific discourse.

The use of verbal processes such as “change”, “force”, “become”, intensify a possible social change of submission and “enslavement” of human beings by a supposed movement of “globalists”, a discourse that will be explained in social practice.

In community B, representations of the “globalist” movement were found through specific lexical items.

There are posts, with the indication of a possible elite “the SYSTEM/Deep State/Hidden Government/Black Caballa/Illuminati/Freemasonry/Owners of the World/Zionist bankers (call them what you want)”. Through lexical choices, there is a mix of representations of figures related to government and capitalism “Deep State”, “Hidden Government”, “Owners of the World” and “banker”, with representations related to religious discourse, present in “Cabala Black”, “Illuminati”, “Freemasonry” and “Zionist”.

The argument for the “globalism” discourse is based on the use of lexical items related to scientific discourse, present in the lexical item “chipar” as a form of verbal process, indicating a possible action that would be developed by this elite. Chipar is a neologism in Portuguese that mixes the noun with the suffix ar, to form a verb, which in this case is non-existent. “chipar” would be putting a chip in someone.

A mixture of religious and scientific discourse was also found, through the lexical items “side effects” and “evidence”, related to the scientific, and “miracle serum” and “sacrifice”, related to the religious.

Maciuszek, Polak, et. al. (2021) in published work, they emphasize that vaccination supporters support science, trust conventional medicine and are concerned about threats to the population resulting from unvaccinated people. Anti-vaccinationists, on the other hand, have more diverse motivations and, therefore, have a weaker group identity. However, the authors did not identify the religious bias of the anti-vaccine movement in their study.

The next figure 3 presents the most common hastags found on Twitter



Free translation by the authors:@NO TO THE NEW WORLD ORDER # AGAINST THE NEW WORLD ORDER; #AGAINS THE GLOBALISM #NO TO THE GLOBALISM #LETS RETURN TO WORK #COVID19 #BOYCOTT CHINA #NACIONALISM FLAG #GLOBO NETWORD#NATIONAL SOVEREIGNTY …….

Still in relation to the “globalism” such as “#againstnewworldorder”, “#counterglobalism”, “#no to globalism” are added.

Most hashtags related to vaccination were negative, according to Khadafi R, Nurmandi A et al. (2022), the most popular hashtags opposing vaccination were #covidiots (Brazil), #covivaccine (USA) and #antivaccine (Indonesia). The authors identify a strong relationship between the hashtags used in the three countries, indicating a connection between anti-vaccine groups.

As for “#BoycottChina”, the vaccine developed by the country had a lot of resistance in being accepted in Brazil. The association of a vaccine against Covid-19 with China reduced the population's intention to immunize by 16.4% (Ferrari, 2021).

The intertextuality present in a text makes it possible to analyze discursive practice, as several voices are articulated as a way of composing what is called discursive practice.

Resende and Ramalho (2006), present that: “Intertextuality is a very complex and potentially fertile category of analysis. Bakhtin (2002) emphasized the dialogical of language, postulating that texts are dialogical in two senses: first, even apparently monological texts. like written texts, they participate in a dialogical chain, in the sense that they respond to other texts and anticipate responses; According to discourse, it is internally dialogical because it is polyphonic, every text articulates different voices”.

In the texts of Facebook communities, some intertextualities were noticed, sometimes explicit, sometimes implicit with speeches and texts. The most evident way of validating an argument is intertextuality with scientific texts.

Texts promoting vaccination were used as a form of invalidation, using side effects as the main arguments against vaccination, in addition to playing a role in comparing other diseases with the act of vaccinating.

Figure 4 recalls the harmful effects of thalidomide on people born with deformities. remembering that the development of the drug also took place quickly, alluding to the rapid development of vaccines against covid.



Free translation by the authors: Thalidomide was a fast-approved drug introduced in 1957 to counteract nausea and insomnia in pregnant women. It was marketed in more than 50 countries before being withdrawn between 1961-1062 due to malformations in newborns.

It is appropriate to mention that despite the different opinions on the matter provided on the Internet, the discourse presented by the anti-vaccine movements is that vaccination could cause other diseases, considering that in the past there have been indications and validations by the medical community, which led to malformations in newborns.Thalidomide, in the case of the figure mentioned above, and the relationship between vaccines and autism, demonstrating that the fraudulent study by Andrew Wakefied (2013) continues to propagate this belief to this day.

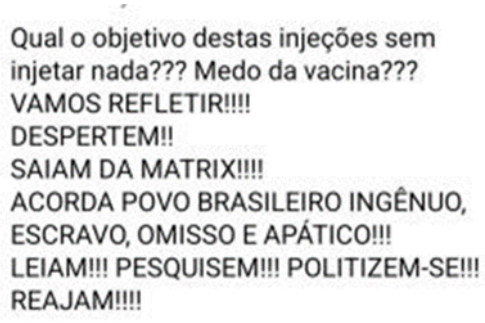
The voice of one of the vaccine manufacturers, indicating that they themselves indicate to “stay away from the vaccinated”, as in Pfeizer. This way validation becomes more effective, since the guidance is supposedly from one of the manufacturers.

Using intertextuality and voices of science, the authors of the posts legitimize their voices, contributing to a new representation of the act of vaccination.

Another intertextuality used was with a specific film: The Matrix. The film presents a character who is trapped in an environment that seems real, but who, after making a choice, understands that reality is being programmed by machines that use human beings as batteries.

Anti-vaccine messages predominantly used anecdotal stories, humor/sarcasm, and celebrity figures as persuasion techniques, and focused primarily on values related to the categories of safety, political/conspiracy theories, and choice. Anti-vaccine messages mainly used perceived severity and perceived susceptibility, which are elements of fear appeal, according to studies by Scannell, Desens et al (2021).

In the following figure we even talk about Matrix



> ***Free translation by the authors*** *What is the point of these injections without injecting anything??? Fear of the Vaccine??? Let's reflect. Awaken! Get out of the Matrix!! Agreement naive, slave, omissive and apathetic Brazilian people!!! Read!!!Research!!! Get political!!! React!!!*

In the text of the figure there is an intertextuality associated with the film Matrix, as well as aspects of Covid-19 vaccination. In the post there is a direct order, indicated by the phrase “get out of the Matrix” which uses intertextuality with the film production.

Through intertextuality with film production, there is a representation that people would not be in an environment conducive to choices, they would be without freedom. Only through an anti-vaccine ideology could a new possibility of action emerge.

Another discourse presented is the discourse of freedom, which was used using an intertextuality with the law. There are arguments used in several posts that state that people would be free to choose not to be vaccinated and that if any authority intended to force inoculation, people could show the law to justify their refusal. They even cite the Civil Code for disobedience.

Broniatowski, Jamison, Johnson et al (2020), in their study, state that the narrative of anti-vaccine pages on the internet alternates the discourse of vaccine safety with civil liberties. The use of a provision from the Civil Code only reinforces this understanding.

There was also a post presenting an intertextuality with a speech presented by the media about what a police approach would be like, indicating that everyone would simply have “the right to receive the vaccine and remain silent regardless of what happens to you”.

It should be noted that the argument in favor of individual freedom is not a recent phenomenon. Historical personalities such as Lauro Sodré, Vicente de Souza, Barbosa Lima and Rui Barbosa, who during the health crisis in the city of Rio de Janeiro, in 1904, demonstrated against mandatory vaccination. These speeches emphasized respect for the individual right to choose, highlighting the importance of preserving personal autonomy in the face of public health interventions (2019).

Using intertextuality with scientific, cinematographic and legal texts, the posts manage to establish a relationship of trust with the reading public, allowing a representation of the vaccination proposed by the State.

The fact is that the anti-vaccine movement turned against capitalist hegemony, despite presenting arguments against communism. An elite was established, made up of the government, global businesspeople and even scientists who would be promoting a global enrichment industry.

Conspiracy theories have received a new boost, especially with the COVID-19 pandemic, through fringe conspiracy media. Thomas E, Zhang A. (2020), reinforces that the most widespread allegations are that Bill Gates is involved in a global conspiracy, part of the New World Order and the Great Reset, to implant microchips in vaccines against coronavirus disease. According to proponents of this theory, these microchips would function like the 'Mark of the Beast', mentioned in the biblical apocalypse, allowing not only tracking, but also absolute control over the world's population. These claims are completely unfounded and have been refuted by public health and technology experts around the world.

It is possible to establish parallels between the discourses found in the research and the narratives adopted by anti-vaccination movements in previous times.

During the period of the smallpox health crisis at the beginning of the Republic in Fortaleza, Brazil the immunization campaign led by pharmacist Rodolpho Theóphilo faced resistance from the population, the local press and the local government at that time (Neto, 2022). There was widespread fear among the population, with beliefs that Theóphilo was injecting 'smallpox poison' into his arms. During the solitary vaccination promoted by Theóphilo, who went from house to house trying to convince residents to get vaccinated, he encountered barriers such as popular arguments that “the true vaccine was the one provided by God” (Neto, 2022) and that they did not want to “introduce the disease into bodies of their children.” In each new place he passed, Theóphilo noticed people fleeing, fearful at the sight of the man in a black jacket riding his horse, almost as if he were a messenger of the Beast, one of the

four Horsemen of the Apocalypse (1). Narratives that are based on religious beliefs that were also found in the research posts.

On October 2, 1901, the government-aligned newspaper, A República, released a note from the Fortaleza government expressing that “What the government cannot do is force our population to be vaccinated, when unfortunately, their spirit is imbued with prejudices. rooted against this prophylactic means” (Neto, 2022). Similar narratives found in research that claim individual freedom to choose not to vaccinate.

Even at the beginning of the Brazilian Republic, in Rio de Janeiro, similar speeches were made against vaccination. Vaccination was performed on the arm, but critics such as one of the founders of the Collectivist Socialist Party, Vicente de Souza, spread the false information that it was administered to the buttocks (Goulart, 2005). In a meeting at Centro das Classes on November 5th, in which more than 2 thousand people were present, Vicente de Souza stated that the head of the family, upon returning to work, is “without being able to say that the honor of his family is unharmed, for having entered there unknown, supported by the proclamation of the law of violation of the home and the brutalization of the bodies of his family and his wife” (Goulart, 2005). This century-old speech is similar to several publications found in the research that use decontextualized or even false information to convert supporters to the anti-vaccine movement.

Senator Lauro Sodré warned of the tyrannical nature of the law and the affront to freedom: “an arbitrary, iniquitous and monstrous law, which amounted to the violation of the most secret of all rights, that of freedom of conscience” (Sevcenko,2018), which there should be resistance even if “the bullet”. The senator's speeches are like the publications found in the research, which argue that it would be a right and would preserve individual freedom to refuse the vaccine.

The information collected from the literature in comparison to the speeches analyzed in Facebook groups makes it clear that the anti-vaccine movement is not new and that political actors from different spectrums have already been against or in favor of vaccination, use anti-vaccine speeches depending on their own political interests, and can influence the population about vaccine hesitancy.

What is observed is that the anti-vaccine movement uses its denialist narratives, defined as the refusal of well-established scientific consensus, without repeatedly providing solid arguments or arguments based on evidence. Science deniers believe that scientific consensuses are mere opinions agreed upon by professionals who have obscure common interests (Pilati, 2022), contributing to the discredit of science.

There are several examples throughout history of misuse or prejudiced interpretations of scientific knowledge that help to understand the distrust among the population. Science has already been used as a justification for racial segregation, abusive research, genocide and several other harmful examples. Among scientists, there are those who engage in unethical practices to gain an advantage, especially in drug development laboratories where they improperly manipulate scientific discoveries to maximize their profits. Furthermore, there are charlatans who abuse their scientific authority and people's trust to achieve financial benefits and power (Pilati, 2022). All these situations contribute to distrust in science in the eyes of the lay public.

Furthermore, dissatisfaction with academic knowledge has other reasons. We live in a world shaped by modern science, but its usefulness is often not shared equitably (Takimoto, 2021), that is, the supposed benefits are often not democratized and do not reach ordinary citizens.

In Brazil, a survey by the Center for Management and Strategic Studies revealed a significant drop in the percentage of people who see science and technology as beneficial to humanity. In 2015, 54% believed that science brought benefits to society, but this number fell to 31% in 2019 (Takimoto, 2021).

In another study where approximately 140 thousand people were interviewed, the conclusion was that in Brazil, 73% distrust science and 23% believe that scientific production contributes little to the country's economic and social development. Religious issues significantly influenced responses, with almost half of respondents stating that science contradicts their religious beliefs and the majority preferring to follow religion in these cases (Takimoto, 2021).

Over time, science developed in such a way that it ended up becoming embedded in its world, research and debates became isolated in bubbles where distancing from the public became a reality, leading to a vacuum of representation, since the public that is not specialized in science is not represented. This perception contributes to a general crisis of legitimacy, like the distrust.

towards the government, institutions, and the press, fueled both by somewhat valid criticisms and by unfounded speeches and personal convictions (Takimoto, 2023).

There are demonstrations of this gap between the scientific community and the non-scientific community, and it is evident in different ways. Scientific ghettos end up having a communication dynamic only between individuals who belong to that community. One example is the perception that frequent changes in guidance from health authorities during an outbreak are the result of incompetence or confusion, when in fact they consist of the uncertainties inherent in the development of scientific knowledge, but which are unsatisfactorily communicated to the population. The difference between the knowledge of experts and non-experts is based on two main aspects (Peres, Rodrigues, Silva, 2023).

The first aspect is the discrepancy between the time it takes scientific knowledge to evolve and the time it takes society or social groups to absorb this knowledge, which limits people's ability to understand information related to science and technology. Rapid scientific and technological advancement, especially in recent decades, means that knowledge and technologies quickly become obsolete, including in the health area. A medicine that was considered the best treatment for a disease may suddenly be discouraged due to the arrival of a new medicine on the market. Likewise, a food previously viewed as unhealthy may overnight be recommended as part of a healthy diet, and the best strategy for preventing a communicable disease may change from one day to the next (Peres, Rodrigues, Silva, 2023.

The second aspect deals with the different forms of knowledge production between scientists and the general population. Scientists and non-specialists learn in different ways. A scientist, for example, spends many years in formal knowledge acquisition environments, such as schools, universities, and postgraduate courses, and becomes accustomed to basing the production of his knowledge on the search for evidence, analysis of trends, estimates based on existing data and observation of patterns, in addition to other aspects specific to the construction of scientific knowledge. The scientist also becomes accustomed to two basic principles of science: uncertainties and the process of constant evolution of scientific knowledge. Therefore, for a scientist, the almost daily review of guidance during a health crisis and changes in guidance resulting from the emergence of new evidence are natural and expected processes. On the other hand, for the general population, this situation is often viewed with suspicion, as if it indicated unpreparedness, lack of knowledge and/or insecurity on the part of scientists, technicians, or specialists (Peres, Rodrigues, Silva, 2023).

There is a growing gap between the demands for scientific knowledge present in health information and the degree of knowledge that the people for whom this information is intended possess. This is the starting point and the main justification for developing and implementing health literacy strategies for individuals and groups (Peres, Rodrigues, Silva, 2023), which could bring the public closer to the scientific community.

On the other hand, during the pandemic, speeches from politicians in various regions of the world were observed that corroborate the anti-vaccine thesis, as well as influential figures and opinion makers, which impacted the population's beliefs and attitudes in relation to trust in vaccines. Notable examples include Donald Trump in the United States, Jair Bolsonaro in Brazil, Boris Johnson in the United Kingdom and Narendra Modi in India (25), revealing the politicization of healthcare.

Politicization, or why not, partisanship, has become even clearer in the American state of Texas, where the anti-vaccine movement has established itself in an even more evident way, as it exerts significant influence in the political sphere. The article "Lessons from the Front Line” (Lakshmanan, Sabo, 2023) demonstrates the organization and financing of anti-vaccine activists, who managed to implement anti-vaccination legislation in a turbulent political environment, putting public health security at risk. This movement began to gain momentum in the early years of the 21st century, reaching a pivotal point in 2003 with the passage of Act 2292 during the 78th Regular Legislative Session. This law allowed parents to opt out of vaccinating their children in schools based on philosophical convictions. movement has expanded its influence on Texas vaccination policies, working with Republican legislators to weaken established immunization policies (Lakshmanan, Sabo, 2023).

As delusional as the scientific denialism and conspiracy theories contained in anti-vaccine discourse may seem and which continue to be repeated even when there is contrary evidence, this phenomenon cannot be understood exclusively because of psychological problems or people who are in a vulnerable situation. to fear and mistrust. In addition to sociocultural factors, which may in fact be present, scientific denial is generally formulated and influenced by deliberate political-ideological actions of certain groups, which act by promoting doubt and fear, distorting, and manipulating information with the aim of capturing emotions, attracting individuals to fictional versions of reality and mobilizing them in favor of their own interests.

Giuliano da Empoli (2019), a French-Italian political scientist, uses the metaphor of Carnival to clarify certain political phenomena. In the populist Carnival, which reflects the politics of many countries, anyone can imagine themselves as King, using performances and masks to mock seriousness, vandalize institutions and democracy itself. Those who participate in this populist Carnival feel an "intense sense of plenitude and rebirth – the feeling of belonging to a collective body that is renewing itself." (Empoli, 2019). From being a mere spectator, each one becomes an actor,

regardless of level of education. Anyone's opinion is worth as much, or even more, than that of an expert. The collective mask moved to the internet, where anonymity works like the Carnival costume, disinhibiting people. "Trolls are the new jumping jacks, fueling the liberating fire of populist Carnival" (Empoli, 2019). Instead of texts and ideas discussed in depth and seriously, populist politicians focus on the intensity of the narrative, rather than the accuracy of the facts. For the followers of these politicians, "the truth of the facts, taken one by one, does not count. What matters is the message, which corresponds to their feelings and sensations" (Empoli, 2019).

Max Weber's book "Economy and Society" (Weber, 2022) is one of the most important and influential works of sociology and social theory. In this work, Weber focuses on economic sociology and the theory of domination. He argues that domination is an essential aspect of society and can manifest itself in many ways. Weber identifies three ideal types of domination: traditional, charismatic, and rational-legal. Each of these forms is defined by different principles of authority and social organization.

Charismatic dominance is based on the leadership of exceptional individuals who attract followers through their captivating personality, unique skills, or ability to inspire devotion. The legitimacy of this authority does not come from traditions, but from the admiration and dedication that the leader manages to arouse. These charismatic leaders gain followers and inspire devotion based on their charisma and personality. Charismatic domination being "specifically irrational in the sense that it does not know rules" (Weber, 2022), by virtue of which the leader is attributed "supernatural, superhuman or, at least specific extra-daily powers or qualities, inaccessible to another, or else, considered as sent by God, as exemplary" (Weber, 2022). In other words, the charismatic domination exercised by current political leaders exerts influence through anti-vaccine discourse, contributing to vaccine hesitancy.

The difficulty in connecting science with the everyday world generates denial of itself and charismatic speeches take over these gaps. In other words, we have two situations: it is very difficult for science to talk to the public, on the other hand we have charismatic leaders who exert influence on the population.

Therefore, the population, far from scientific production researchers, is vulnerable to anti-vaccine speeches disseminated on the networks and often endorsed by charismatic politicians who position themselves and are identified as the holders of the truth. In this context, adding the profusion of information on the internet and the popularization, polarization and partisanship of social networks, the urgent need to establish a more effective dialogue between Health and the population becomes evident. Science needs to become popular; it needs to get closer to people.

The anti-vaccine movement was present at the historic moment of the Covid-19 Pandemic. Although it is not a new movement, there is no doubt that the advent of the internet and, especially, social networks, from the 1990s onwards, gave space for the dissemination of the movement's objectives on a global scale.

The study demonstrated that the anti-vaccine movement used a powerful way of disseminating narratives to society, to disseminate its ideology, through the social networks Facebook.

Through Critical Discourse Analysis, it was possible to identify the social problem, vaccine hesitancy on the part of the population, which ended up being heightened by the influence of anti-vaccine discourse.

It is agreed that the way in which the anti-vaccine movement positions itself is paradoxical: on the one hand, it rejects science, evidence-based medicine and clinical trials related to vaccines; on the other hand, it paradoxically uses statements from scientists to legitimize its positions.

The work identified and established an analysis of the discursive and social practice of the movement, in addition to the patterns in anti-vaccine discourse, in communities on Facebook.

The anti-vaccine discourse is based on discourses such as the "globalist" thesis, mostly non-existent side effects, mutations promoted by DNA alteration and the right to individual freedom of choice. It establishes an aggressive tone for its arguments, using data from science, religion and politics as a basis.

The findings of this study reveal that current discourses on health have many similarities with narratives from the past, adapting to contemporary contexts only when necessary. This pattern suggests that by

understanding and avoiding past misconceptions, we can discover effective approaches to resolving current dilemmas related to healthcare communication.

The distancing of science from ordinary citizens in combination with the charismatic speeches of politicians contribute to vaccine hesitancy, demonstrating the need to improve health communication, with clear, simple, direct language and, above all, based on evidence, aiming to elaborate content that enlightens the population in a more assertive way. Avoiding the simple invalidation of anti-vaccine arguments, preferring to promote a dialogue free from ideological or political inclinations, is imperative to ensure that the message is accessible to all segments of society. A biased speech

can compromise the universality of communication, resulting in resistance to vaccination. Health education from the perspective of vaccination must be expanded to different audiences and on digital social platforms, health literacy is urgent.

The key is in health education: it needs to be simple, direct and, above all, evidence-based. We need to understand that health does not belong to this or that political group. She is ours, all of us.

It's about having the chance to live a full and healthy life, because at the end of the day, taking care of your health is about taking care of the people around us, it's about building a stronger and more united community. Because when it comes to well-being, we're all in the same boat.

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