

# Fake news e vacinas na era “pós-verdade”

## Fake news and vaccines in the “post-truth” age

### *Fake news y vacunas en la edad “post-verdad”*

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**ABSTRACT:** The production and dissemination of fake news in the health field has grown and compromised the ability of public officials and citizens to mitigate the effects they could cause. With a mixed approach, this paper analyzes the texts classified as fake news about vaccination available through the portal of the Brazilian Ministry of Health, called “Saúde sem *Fake News*”. From August 24, 2018 to September 3, 2019, eleven vaccination news, classified as fake on the portal, were selected and analyzed: four focus on adverse effects of vaccines, two deal with the HPV vaccine and the others address to the prevention of yellow fever, measles and cancer, as well as affecting the production of vaccines, the effectiveness of vaccination strategies, adverse events after vaccination, among other subjects. These fake news topics are the result of widespread vaccination hesitation at different times in the sanitary history of Brazil and the world. The impact of this goes

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beyond individual health into the epidemiological profile of an entire society. Considering the importance of this theme in the field of health prevention, it is urgent that we be able to establish regulatory mechanisms on the production and sharing of fake news.

**Keywords:** Fake News; Communication; Health; Vaccine.

**RESUMO:** A produção e a disseminação de notícias falsas, ou *fake news*, no campo da saúde têm crescido e comprometido a capacidade dos agentes públicos e cidadãos para atenuarem os efeitos que elas podem causar. De abordagem mista, este estudo busca analisar os textos classificados como *fake news* sobre vacinação disponibilizados pelo portal do Ministério da Saúde do Brasil e chamados de “Saúde sem *Fake News*”. Foram selecionadas, entre 24 de agosto de 2018 e 3 de setembro de 2019, onze notícias sobre vacinação classificadas como falsas pelo portal e analisadas a partir dos discursos veiculados: quatro focam em supostos efeitos adversos de vacinas, duas tratam da vacina contra HPV e as demais abordam a prevenção da febre amarela, sarampo e câncer, além de perpassarem a produção de vacinas, a efetividade das estratégias de vacinação, eventos adversos pós-vacinação, entre outros assuntos. Tais tópicos são resultado da hesitação vacinal generalizada em diferentes épocas da história sanitária do Brasil e do mundo. O impacto disso vai além da saúde individual, adentrando o perfil epidemiológico da sociedade. Considerando-se a importância que o tema possui no campo da prevenção em saúde, urge que sejamos capazes de estabelecer mecanismos de regulação sobre a produção e compartilhamento de notícias falsas.

**Palavras-chave:** *Fake News*; Comunicação; Saúde; Vacina.

**RESUMEN:** La producción y difusión de noticias falsas en el campo de la salud ha crecido y comprometido la capacidad de los funcionarios públicos y los ciudadanos para mitigar los efectos que pueden causar. Con un enfoque mixto, son analizados los textos clasificados como noticias falsas sobre vacunación disponibles en el portal del Ministerio de Salud de Brasil, llamado “Saúde sem *Fake News*”. Del 24 de agosto de 2018 al 3 de septiembre de 2019, fueron seleccionadas y analizadas once noticias sobre vacunación, clasificadas como falsas en el portal, a partir de los discursos: cuatro se centran en los supuestos efectos adversos de las vacunas, dos tratan sobre la vacuna contra el VPH, y las otras abordan la prevención de la fiebre amarilla, el sarampión y el cáncer, además de temas como la producción de vacunas, la efectividad de las estrategias de vacunación, los eventos adversos después de la vacunación, entre otros. La producción de *fake newses* el resultado de miedos generalizados sobre la vacunación en diferentes momentos de la historia sanitaria del Brasil y del mundo. El impacto de esto va más allá de la salud individual y está relacionado con el perfil epidemiológico de toda una sociedad. Considerando la importancia de este tema en el campo de la prevención de la salud, es urgente que sea posible establecer mecanismos reguladores sobre la producción y el intercambio de noticias falsas.

**Palabras clave:** *Fake News*; Comunicación; Salud; Vacuna.

## INTRODUCTION

There is no novelty in attempting to falsify politics by distorting facts and information. The novelty is that we are in a new era, turbo-powered by the internet and social networks, with a viral growth and an exponentially explosive effect. The new is Facebook, Google and Twitter, not trying to tell lies or falsifying information, which has always existed in the history of the world<sup>1:46</sup>.

The current information age, inaugurated by the digital revolution, provides special emphasis to interactions and shares via social networks. Whether by the speed, practicality or ease with which they operate, social networks acquire an important role in the dissemination of information, providing that any connected subject can share, interact, produce and publish different news and reviews<sup>2</sup>.

In this context, the ability of users to distribute authorial production or from the most diverse sources pluralizes discussions. However, while broadening the debate on different facts and news, this phenomenon brings to the scene a series of information without support or verification, whose content may cause some kind of impairment (moral, economic, social, political etc.). Thus, we have a scenario in which the internet becomes a powerful space for dissemination of false information, also known as fake news. The possibility of a common user to become a content producer, besides the potential of distribution and sharing between different subjects, is pointed out as one of the main reasons why social networks are full of fake news, “false or incomplete information”, “false news” or “facts known to be untrue”. Recently, in Brazil, due to numerous denunciations referring to the electoral period, the crime of libelous denunciation for electoral purposes was typified in the law that became known as the Law of Fake News<sup>3</sup>. Although it opens precedents for persecutions of social movements and people contrary to the government, the Law no. 13,834 of July 4, 2019 predicts that, if it is proven, anyone who shares false news involving elections and candidates can get arrested for two to eight years<sup>4</sup>.

It is important to emphasize that society has dealt with false news planted in the media for a long time. It occurs that the traditional press is no longer the only or the main informational source, since the processes of digital mediatization increase the scope and dissemination of both rumors and so-called “truths” based much more on opinions and beliefs than in objective facts, a characteristic phenomenon of the post-truth times. As highlighted by Silveira<sup>5:10</sup>: “in a connected society, networked, public opinion circulates and forms in waves without the old filters of mass media. Interestingly, the opinion control was weakened, but the possibilities of modulation and manipulation increased”.

Regarding health, the main interest of this article, distorted or misleading information may represent real risks to population. The appeal of miraculous cures or the distortion about the use of medicines, foods or procedures may cause users to propagate information as true without having the ability, possibility or interest to ascertain whether they are real or what risks they bring to health.

For Vasconcellos-Silva and Castiel<sup>6</sup>, the consumerist avidity for online health information produces communities that seek cure or prevention of diseases in parallel spaces to the traditional biomedical knowledge. In this context, the need to maintain individual truth in detriment of consolidated scientific information stands out. While the excess of information permeates social networks, there is also the lack of cognitive and interpretative capacity that leads to the creation and propagation of fake news.

Thus, according to Delmazo and Valente<sup>7</sup>, this disinformation can reach a new level nowadays, since the shares made possible by social networks facilitate the delivery of false news that induce mistake, resulting in rapid effects in the field of health. Erroneous and strongly persuasive data, in addition to misleading information, can lead to various behaviors and attitudes that generate risk, either by inducing the use of inappropriate technologies, such as medications and vaccines without indication or, on the other hand, by refusing the necessary technologies and protective measures.

Thus, the objective of this work is to analyze the texts classified as fake news about vaccination provided by the Ministry of Health's online portal and called *Saúde sem Fake News* (Health without Fake News – free translation).

### **THE “POST-TRUTH” AGE AS A FAKE NEWS BOOSTER**

In 2016, the Oxford Dictionary<sup>8</sup> chose “post-truth” as the international word of the year, even though it is used since 1992, according to the dictionary itself. The term becomes evident amid Donald Trump's presidential campaign in the United States and the Brexit plebiscite in Europe with much false news that involved both elections. Fake news that circulated in the period are said to have been, if not determinant, at least conditional on the results obtained, raising discussions about the political and social implications of this type of content.

Generally speaking, the “post-truth” relates to circumstances in which objective facts are less influent on shaping public opinion than appeals to emotion and personal beliefs. At the beginning of the entry, the Oxford Dictionary classifies it as an adjective, but, as Guareschi et al.<sup>9</sup> highlight, its appropriation in Portuguese has been obtaining more the meaning of a noun. Its use in the current discourses leads to the understanding that the post-truth would be a “layer”, an external element added to our time or a euphemism for falsehood. However, even though they admit the difficulty of critically analyzing the phenomenon without historical distance, the authors advocate another position. They suggest the contours and strength that the post-truth have as a harbinger of a new era.

To understand the intricacies of the post-truth, Silveira<sup>5</sup> builds the argument recalling that modernity created the belief of truth born of reason. This rationality has opened space for the scientific method and for the undoubted neutrality and objectivity of Positivism. Although the positivist theory and its rigid truth have long been overcome, we continue to deal with the notion of “existence”, i.e., even though the interpretations are no longer unambiguous, the facts need at least to *exist*. In the current context, the “simple idea” of factual truth disappears, which, in the

understanding of Silveira, is potentiated by the spreading of neoliberalism, with its dispensable and changeable truths, and by accelerating the exchange of information by digital pathways.

In a social and anthropological perspective, Amon<sup>10</sup> also emphasizes the fact that the assumptions of modernity collapse in the current context. The author develops her argument by sustaining that contemporaneity opens space and, in a certain way, even claims the loss of meaning of the truth. In other words, for her, Postmodernity is a stage in which it is necessary to give a dignified place to the ambivalence that the project of modernity insisted on overcoming. Therefore, Amon<sup>10</sup> traces a parallel between the ideal of absolute truth, which guided the construction of the modernity's knowledge, and the post-modern consciousness, which questions the superiority of any truth. As a consequence, there is a lightening of the modern intention of suppressing or tolerating ambivalence. However, total acceptance of the post-modern program presents risks: "tolerance resulted in the unconcern in judging (at risk of excluding) and hierarchizing (at risk of subordinating), thereby opening space for the unconcern in determining what is truth (at the risk of having to determine what is lie)"<sup>10:35-36</sup>.

The hypothesis of Amon<sup>10</sup> and Silveira<sup>5</sup> that we are facing a new context, with more serious implications than a simple debate on dictionary entries, echoes in the proposition of another chapter of the book *Psicologia, comunicação e pós-verdade* (Psychology, communication and post-truth – free translation). In the book, Guerra and Barbosa<sup>11</sup> propose the understanding of the phenomenon as a new environment, an "existential ambience" of our time or even a key for reading the current "ontoepistemological" code<sup>8</sup>. In this proposition, we will discuss the notion of fake news, comprising it both as a result and a producer as well as a booster of the current socio-historical moment.

Therefore, our perspective involves the philosophical, social, and anthropological aspects that led us to a post-truth age and that are allied to a continuous process of social mediatization that begins in the 1960s and greatly accentuates in the 21st century<sup>9</sup>. As overview, we have the presence of the media in the transformation and constitution of the cultural fabric, with the consequent expansion and penetration in everyday life and in the so-called mediatization processes<sup>12-15</sup> – in a certain way, we have already discussed the role that social networks acquire in face of the proposed object of analysis: the fake news about vaccination –, but we must acknowledge that it is not only the technology that enables the existence and dissemination of fake news, for a new social scenario is interrelated in the articulation of a new perception of truth associated with the potentialities of the technique. In this way, we are interested in Martín-Barbero's<sup>16-17</sup> perspective on technicality, a strategic mediation in our time, for he considers it more than the technical capacity of the new media, since it "is less subject of apparatus than of *perceptive operators* and discursive skills"<sup>16:18</sup>,

8 Guerra and Barbosa<sup>11:111</sup> resort to such notion, defending "the inseparable character between ontology (the statute of reality, of what is real or not) and epistemology (the statute of the knowledge process, of how one gives the understanding of reality and its phenomena)" to understand the complexity implied in the post-truth age.

9 In the essay of Guerra and Barbosa<sup>11</sup>, one of the paths to read the post-truth is the process of mediatization, but with authors distinct from those who guide us here.

to the extent that it is a “powerful scope that includes languages and actions, social, political and cultural dynamics”<sup>17:148</sup>.

After designing the wider theoretical frame that guides us, the concept of fake news should be addressed. For Chadwick<sup>18:1</sup>, fake news may be defined as “actions deliberately fabricated and presented as nonfiction with the intent to induce recipients to treat action as a fact or as a doubtful verifiable fact”. This proposition repeats itself in the understanding of other authors, such as Burshtein<sup>19:399</sup>, who defines the expression as “a fictitious account of the current events that are fabricated and often titled in a deceptive manner, with the deliberate purpose of deceiving users and motivating them to disclose the information”. In his review of the academic approach of the term, Burshtein cites Tandoc et al.<sup>20:11</sup>, indicating that the similarity between common news and the fake versions is in the fact that these “appropriate the appearance and sensation of real news; of how the websites are displayed; how the articles are written; how the photos include credits”. In other words, in the definitions of the term there is always a component of intentional falsehood, a fabrication without concrete references in its entirety. However, an indifference with the truth of the facts is common in post-truth times, not affecting the preferences or judgments of individuals<sup>21</sup>.

As we have stated, the dissemination of false information in the media is not characterized as something new, but we start from the new environment created by the processes of mediatization to defend the unprecedented character of the phenomenon or even the amplitude it assumes. In this context, we propose to analyze the news about vaccination classified on the website of the Brazilian Ministry of Health as fake news.

## METHODOLOGICAL PROCEDURES

In this mixed-design study, we selected false news about vaccination in the web portal *Saúde sem Fake News*. After the search for news in the portal filter, we proceeded to a descriptive and thematic analysis, following the assumptions of content analysis<sup>22</sup>.

The portal *Saúde sem Fake News* was created by the Brazilian Ministry of Health in August 2018, in order to receive news from the population by instant messaging application and analyze their truthfulness:

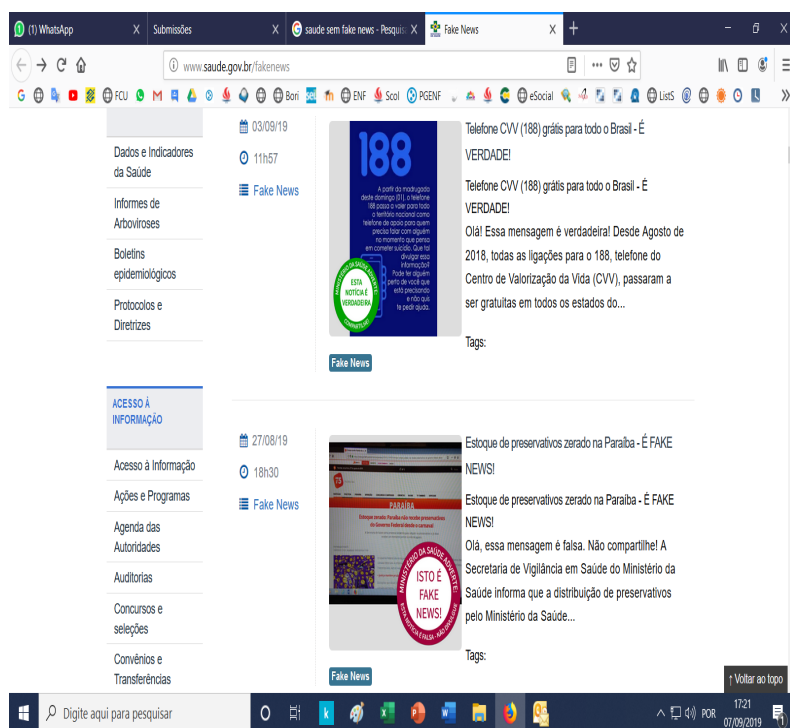
To combat the Fake News about health, the Ministry of Health, innovatively, is providing a WhatsApp number to receive messages from the population. It is noteworthy that the channel is not a customer service nor will answer questions of the users, but it is an exclusive space to receive viral information, which is analyzed by the technical areas and officially answered whether they are true or false. Any citizen may send free messages with images or texts they have received on social networks to confirm the veracity of the information, before continuing to share. The number is (61) 99289-4640<sup>23</sup>.



In the period between August 24, 2018 and September 3, 2019, the portal presented 108 pieces of news. Among them, 90 were considered false, 17 true and 1 partially true. The months with the highest number of publications were: February 2018 (25 false, 10 true and 1 partially true), July 2019 (11 false and 2 true), and August 2018 (9 false and 3 true). Regarding these themes, both false and true pieces of news have different themes, ranging between food intake and the possible correlation of certain foods with the cause or cure of diseases, new medications and side effects, as well as those related to vaccines, a topic on which we will focus on the next part of the article.

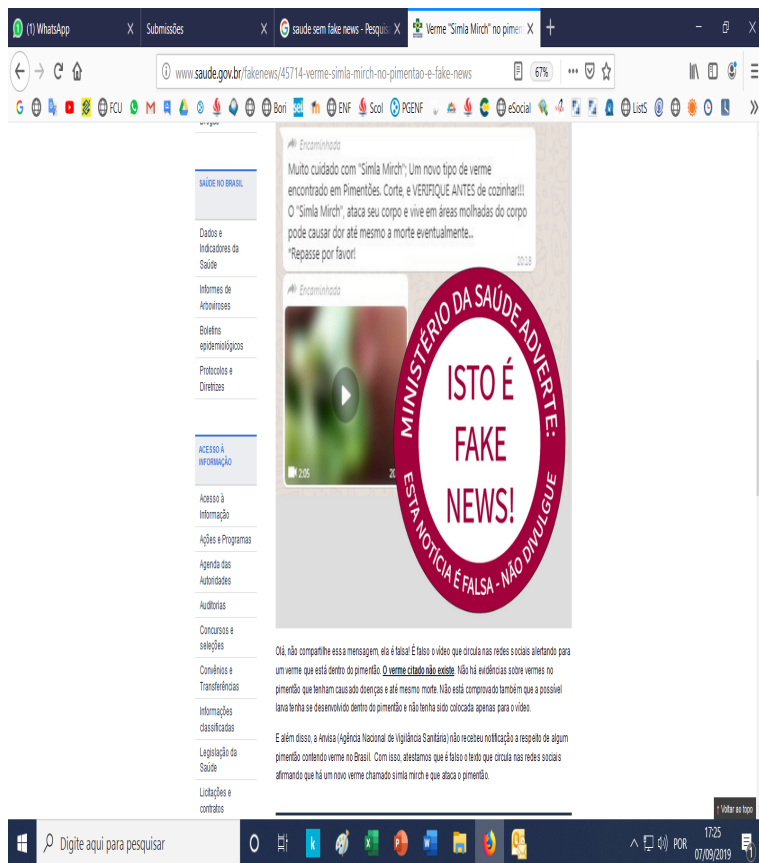
In the portal, the piece of news is presented as it is shared in the application, e-mail or another medium, and in image format –it is not possible, for example, to view a video or read the full text. Each image has a seal that indicates whether it is true (green color) or false (red color), as shown below.

**Figure 1.** Images of true and false news in the Brazilian portal *Saúde sem Fake News*



Source: Brazil<sup>23</sup>

When one clicks the image, they are taken to a second page where they can view the explanatory text about the information and the request for non-sharing (in the case of false news) or sharing (in the case of true ones). This text is produced by the technicians of the Ministry of Health. The images of the false news (as reproduced below) are usually in low resolution, being difficult to understand or even see exactly what it is.

**Figure 2.** Image and a fake news text in the portal Saúde sem *Fake News*

Source: Brazil<sup>23</sup>

The choice for the subject of vaccination to the detriment of the (also important) others presented in the portal is due to two factors: first, because it is – along with cancer and food ingestion – one of the most frequent themes in the portal, in the creation of both true and false pieces of information. The second reason – perhaps more important – is the urgency and the necessity we have, as health workers, to educate, communicate, discuss and analyze the consequences of anti-vaccine movements in our society. Although this is not a new theme, this choice is related to the current reemergence of preventable diseases that are not only affecting the Brazilian population, but also leading to avoidable deaths<sup>24</sup>.

## RESULTS AND DISCUSSION

The news about vaccination with the fake news seal of the Brazilian Ministry of Health website brings different issues to be analyzed, as shown in Chart 1.



**Chart 1.** News classified as fake news about vaccination

Date	Title
08/28/2018	Brazilian Federal Public Prosecutor's Office prohibits HPV vaccine
08/28/2018	Japan: HPV vaccine under trial due to horrific side effects
08/28/2018	Yellow fever vaccine
08/30/2018	Anticancer vaccine
09/05/2018	Compulsory vaccines
09/25/2018	Vaccines cause autism
01/31/2019	Vaccine is harmful
02/06/2019	10 reasons why you should not vaccinate your child
02/11/2019	D-day of vaccination against measles on 02/16
07/29/2019	Influenza vaccine causes hole in arm
08/13/2019	Campaign banner about second-dose vaccination is fake

Source: Adapted from Brazil<sup>23</sup>

Certainly, it is a controversial theme in contemporaneity, although not recent in the world history of health. The controversies about the benefits and potential risks caused by immunobiologicals negatively impact the public opinion and, consequently, the adherence to immunization campaigns and the basic vaccination regimen of children.

If we analyze historical facts, criticisms and controversies related to vaccination have always existed. Takata and Girardi<sup>25</sup> highlight that since the prevention of smallpox in England – with the creation of the first vaccine by Edward Jenner in the late 18th century – there was resistance of the population. Sectors of society were opposed to its inoculation, for they judged the compulsory vaccination as an act against the individual freedoms of English citizens. In turn, the advent of mandatory vaccination of children as a law culminated in the North American anti-vaccination leagues. As in the United States in the early 20th century, in Brazil, with the historical Vaccine Revolt<sup>10</sup>, compulsory vaccination was rejected by the population. Vasconcellos-Silva and Castiel<sup>26</sup> highlight that, in countries where individual autonomy is respected, popular rejections were more frequent.

At the end of the 1980s, the controversial study published in the magazine *The Lancet* by British physician Andrew Wakefield inflated the suspicion about the risks of vaccination, serving until nowadays as a basis for many supporters of the anti-vaccine movement. The alleged relationship between the MMR (measles, mumps and rubella) vaccine and the emergence of autism promoted a significant reduction in the rates of immunization in the UK and, consequently, the return of measles in the country<sup>25</sup>. Even after the study being refuted as a scientific fraud<sup>11</sup>, there are some

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10 Popular movement occurred in the city of Rio de Janeiro between November 10 and 16, 1904 against the law establishing the compulsory vaccination against smallpox, among other sanitation measures led by Oswaldo Cruz<sup>27</sup>.

11 After the analysis of the work, the UK General Medical Council published a report stating that the data were manipulated and that Wakefield acted ethically inappropriately and with

fake news referring to the topic nowadays.

Despite this scenario, it is emphasized that Brazil presents one of the most complete immunization programs in the world. The Brazilian National Immunization Program (PNI–*Programa Nacional de Imunizações*) was created in 1973 and is responsible for the control, elimination and/or eradication of immuno-preventable diseases in the national territory. The PNI coordinates immunization actions and expanded, starting in the 1990s, the area of vaccine coverage in the country, reaching averages higher than 95% for the children calendar. In 2015 some results indicated the elimination of poliomyelitis as well as the sustained transmission of measles and rubella in the country<sup>28</sup>.

The great concern regarding the Brazilian vaccine coverage, however, starts in mid-2016, with a decline between ten and twenty percentage points. According to Sato<sup>29</sup>, the new reality was unexpected and brought the increase in maternal and infant mortality, in addition to the epidemic of measles in Amazonas and Roraima. In the period between 2014 and 2017, there was a decrease in vaccine coverage for measles in Brazil. In 2018, the coverage was 84.01% for the triple viral vaccine (measles, rubella and mumps), below the percentage recommended by the WHO, which directs rates above 95% to guarantee the safety of immunization<sup>30</sup>.

Based on the perspective of scientific and technological security, vaccines are monitored by the health systems of the countries where they are administered and tested with technological rigor by the manufacturers. To be marketed, there is a need for specific regulators agencies and rigorous clinical studies (phases I, II, III and IV) performed in research centers of excellence and with previously accredited volunteers<sup>31</sup>. Phase IV studies detect post-vaccination adverse events and these studies occur only after approval for the commercialization of the supply. In Brazil, the National Surveillance System for Post-vaccination Adverse Events (VEAPV–*Sistema Nacional de Vigilância dos Eventos Adversos Pós-Vacinação*) is responsible for detecting adverse events after vaccination and the National Institute for Quality Control in Health (INCQS), in partnership with the Sanitary Surveillance (ANVISA), confers and guarantees quality in immunobiologicals distributed in national territory<sup>31</sup>.

Despite the rigorous quality criteria and monitoring of adverse events, there is a growing concern with the vaccine hesitancy in the country. The relevance of the subject was based on the 10 goals for 2019 of the World Health Organization (WHO), among which the hesitancy to vaccinate assumes important emphasis. For Sato<sup>29</sup>, hesitancy is understood as the reluctance or refusal to vaccinate, even with the availability of the immunobiological. This practice endangers the progress achieved in the control of diseases preventable by vaccination and even eradicated in national territory.

The systematic review published by Jarrett et al.<sup>32</sup> highlighted the hesitancy/refusal to vaccine as a complex theme; according to them, there is not a unique strategy able to solve it. In general, multiple strategies work better than those directed, which theoretically would have a better cost-evident conflict of interest. His medical record was repealed, and The Lancet was forced to publish a retraction regarding the case<sup>26</sup>.

benefit ratio. Studies agree that the most indicated strategies are educational, and it is essential to listen to the patients' motivations and to inform safe data regarding immunizations<sup>33</sup>. According to WHO data<sup>34</sup>, the goal includes eliminating cervical cancer worldwide, increasing HPV (Human Papillomavirus) vaccine coverage, among other measures.

The reasons why people choose to not vaccinate are plural and supported on cultural, political and religious issues, among others, even including belief in certain fake news. For Iriart<sup>35</sup>, contemporary individualism, transversalized by autonomy and freedom, defends health as a specific responsibility of each person. In this context, the individual search for information related to health in the media, especially on the internet, becomes the basis for decision-making. The author also highlights the distrust in health institutions, physicians and the pharmaceutical industry, especially regarding manipulations by commercial interests, as enhancer of suspicions about vaccine credibility.

The major myths about vaccines are usually those related to their adverse events – among them, the side effects of vaccines, which, in the long term, may be fatal, or even the belief that the Influenza vaccine may be causing a new flu process. This sort of information works as an important fake news catalyst, as it goes against the guidance of health professionals and proven scientific data. Therefore, this information foments the environment for anti-vaccine movements that, according to Sato<sup>29</sup>, despite having existed for a long time, are strengthening in the world, with visible increase in high-income countries. However, the negative impact on vaccines will be stronger in middle and low-income countries.

Based on a study by Barbieri et al.<sup>36</sup> with middle-class Brazilian families, one can observe a possible profile of those who approve vaccination and those who disapprove it. Those parents who approve state vaccination as an act of duty and responsibility and do it without questioning, being influenced by family tradition and social norm. Those parents who disapprove do not attribute a positive value to vaccination and emphasize values related to more natural life practices, such as fewer medicalizing interventions, in view of the good health of their children. In the narratives of these couples the legal standardization of vaccination in a universal way diverges from their private conceptions, admitting a positioning in the family context that goes against the dominant cultural value associated with vaccination in the country.

Therefore, it is necessary to think about the individual and collective rights regarding the act of vaccinating. The rejection of vaccines does not only represent an individual risk to public health, because it has an important impact on the collectivity through the return of diseases that were eradicated or under epidemiological control, and higher costs and overload in the health system. In this sense, health professionals, especially those who work in primary health care, have a fundamental role in reversing this situation. The approximation of science to the different spaces of care is urgent, in order to promote moments of dialogue and scientifically reliable information, starting by carefully listening to the population's counterpoints.

## CONCLUSIONS

We sought to analyze fake news about vaccination gathered in the portal of the Brazilian Ministry of Health, whose efforts are to oppose simplified information or discourses seeking to legitimize practices based on guesswork, placebos, or interpretative errors. We emphasize that access to quality and secure information permeate the navigability of the websites. And, although it was not our goal to evaluate this requisite, we consider that the Brazilian Ministry of Health website has imposed challenges on the ease and quality of search engines. Such tool improvement is important because this initiative has transformative power and the access modes need to follow such potentiality.

The “post-truth” age imposes a movement that was once unthinkable: the legitimation of information that is already born delegitimated, without reliable references or logical basis. In this way, our researches reinforce that the existence, production, and dissemination of fake news transcend the existence of simple lies to act as devices of mass impact. Thus, we should highlight that fake news, along with bots (programs designed to simulate human actions again and again from a previously established standard) and the massive and sometimes perverse use of algorithms, have been used in different communication strategies for decision-making in recent years.

In this sense, it is necessary to consider that the recurrence of the vaccines theme in the bulge of the fake news is not random. This discussion is urgent, for it deals with life and death and crosses national health history, especially in the episode known as the Vaccine Revolt, triggered in the early 20th century. As a health instrument, there are criticisms aimed at vaccines – advocating for its non-use –, along with the questioning of its productive process and the distrust of its post-application effects. Perhaps fake news may work, as devices, differently, if we consider their topics as objects, instruments or other categories that might emerge from the analyses undertaken.

When discussing the consequences experienced in relation to the post-truth age, Guareschi et al.<sup>9:17</sup> argue:

Then, a “run for your lives” begins to emerge: there is no more belief in anything nor anyone, and consequently an attachment to personal convictions and a certain skepticism to the possibility of a true dialogue begin to manifest, where the truth becomes dispensed and no longer necessary, the dispute between those in favor of and those against builds a world moved by passions and beliefs and people become hostages of this war, and as in any war the first victim is always humanity.

This corroborates the finding of our research because, in the case of vaccination, social, cultural and political practices, as well as dynamics, are potentiated, going beyond textual aspects to conform ways of apprehension and understanding of reality. This situation leads us to reflect whether the desire for critical consciousness has been distorted by the criticism of the current institutions of knowledge and by the adoption of truths produced by people, passions or family groups.

We must inform that our research has limits that derive from the relatively restricted spectrum of fake news analyzed, since our corpus was formed by news on the knowledge of the Ministry of Health – how many have not reached such a level and continue to affect families and communities? Moreover, the static character of our research does not reach the fluidity and production speed of fake news, shared at all times and that may have been sent to you while you read this article.

In addition to this study, other researches need to advance to understand the functioning of fake news in the health profile of the population, as well as of other informational tools, such as the bots.

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