

**\*Corresponding author**

Cristiane Aparecida Silveira, R. Gabriel  
Monteiro da Silva, 700 - Centro, Alfenas -  
MG, 37130-001, Brazil

**Keywords**

Fake News, COVID-19, Coronavirus  
Infections, Health Repercussions

**Distributed under** Creative Commons  
CC-BY 4.0

## Fake News and the Covid-19 Pandemic: Repercussions on Nursing Assistance

Maria Lucia do Carmo Cruz Robazzi<sup>1,2</sup>, Andressa Fernanda Silva<sup>1,3</sup>, Cristiane Aparecida Silveira<sup>4</sup>, Fabio de Souza Terra<sup>4</sup>, Isabelle Cristinne Pinto Costa<sup>4</sup>, Marcia Teles de Oliveira Gouveia<sup>5</sup>, Maria Adelaide Silva Paredes Moreira<sup>2</sup>, Rita de Cássia de Marchi Barcellos Dalri<sup>1</sup>, Susanne Pinheiro Costa e Silva<sup>2</sup> and Vanessa Augusto Bardaquim<sup>1</sup>

<sup>1</sup>University of São Paulo at Ribeirão Preto College of Nursing (EERP/USP), WHO Collaborating Center for Nursing, Brazil

<sup>2</sup>Federal University of Paraíba (UFPB), Brazil

<sup>3</sup>Estácio University Center Ribeirão Preto campus, Brazil

<sup>4</sup>Federal University of Alfenas (UNIFAL-MG), Brazil

<sup>5</sup>Federal University of Piauí (UFPI), Brazil

### Abstract

**Objective:** To carry out a theoretical reflection on how fake news related to the COVID-19 pandemic had an impact on health and nursing care.

**Method:** theoretical-reflective study about fake news related to the COVID-19 pandemic and the impact on health and nursing care. To search for articles/texts, the descriptors Fake News, COVID-19, Coronavirus Infections, Health Repercussions extracted from Descriptors in Health Sciences (DeCS) and Medical Subject Headings (MeSH) were used in Portuguese and English. and the keyword Repercussions in Nursing. The search took place in scientific databases and databases, with a thorough reading of articles related to the theme.

**Results and Discussion:** Three guiding points/categories were elaborated to support the theoretical-reflective text of this article: "The Fake News in the COVID-19 pandemic"; "Some interferences of Fake News in the population", with four subdivided categories and the last category "The impact on nursing care." Final considerations: discrediting the recommendations of health professionals, especially nurses, had an impact on their health due to the stress they experienced, the disrespect and the violence they suffered, in the face of disbelief in relation to the correct guidelines that they verbalized and followed. It is understood that educational programs to stimulate critical thinking and online behavior are important strategies for the management of Fake News, helping to further prevent the dissemination of erroneous information about relevant topics related to the pandemic.

### Introduction

An outbreak of an unknown disease from the East in 2019 took the world by surprise; the affected cases originated in China and later spread around the world, to the point that the World Health Organization (WHO) in 2020, after more than 100,000 cases, considered the situation as a pandemic [1-2]. Evolving vertiginously, COVID-19, a disease caused by Sars-Cov-2, caused a global deceleration. Humanity has practically stopped; the initial absence of a vaccine gave rise to several strategies to face the pandemic that referred to the measures used to prevent respiratory transmission diseases, such as regular hand washing, disinfection of hands with alcohol and the use of masks. In addition, the guidelines regarding the need to stay at home, especially for risk groups, and the fear of viral contamination caused losses in several aspects [3-4], including personal and economic ones. The monitoring of the population by the health services was affected and generated a reduction in the reach of health promotion and prevention of other diseases and lines of care [4]. With the adoption of social restriction measures, given the magnitude that COVID-19 has assumed, developments were observed for the health of the population, which was even vulnerable to certain diseases [3], some of which were previously little experienced. Consequently, aiming to minimize the effects of the serious health problem and break the chain of viral transmission, there was the growth of technologies, in an attempt to replace the personal contact between humans [5], with examples being conveyed by the media, such as design thinking in Italy [6], robot-assisted percutaneous coronary intervention in Japan [7], the StepOne project in India [8], among many other technological processes in different countries. Added to the health problem, the appearance of various news in the media began. This volume of news, sometimes true, sometimes false (Fake News), caused insecurity and behavior change in the population, which often did not know exactly what to do and how to proceed. Thus, Fake News is "fabricated" misleading information, without proof of reality, but presented as correct [9-11]. They have been happening for many years, but their use has become common and widespread, impacting the population, especially in the development of the pandemic that is still ongoing. The right to correct information is relevant for the future of democracies and is even included in the list of fundamental rights. So, Fake News or "fraudulent information" does not have a sufficient and exact definition of what it really represents in the social context. Its propagation contributes to the generalized feeling of disbelief in the level of reliability of the information obtained online by the citizens themselves, who feel the real effects/consequences of this practice. Although this problem puts at risk several issues of the population's private life, it is disturbing when it affects topics relevant to the development of the contemporary public sphere [12]. In addition, during crises, Fake News can favor negative behavioral responses from consumers, such as unnecessary purchases or the adoption of false medical precautionary measures. The dissemination of incorrect and excessive



information has been one of the main challenges that have occurred in the early stages of the pandemic [9].

At a time when reliable information was vital for public health and safety, Fake News related to the pandemic spread quickly and managed to cause confusion and risk people's lives [13]. Idleness and the need to stay at home increased the use of social media and thus endorsed the explosion of fake news [14]. The situation became alarming and the WHO, the United Nations (UN) and the United Nations Educational, Scientific and Cultural Organization (UNESCO), including the Ministry of Health (MOH) of Brazil, among others, mobilized and they prepared reports in which the topic was broadcast, issuing recommendations to combat it. The untrue news spread worldwide, favoring negative consequences for the health of populations, as well as the assistance provided by health professionals. In Brazil, this dissemination led the Ministry of Health to create the "Health without Fake News" Program [15]. Among the professionals who had difficulties in dealing with these untrue news were health workers, including nurses. These professionals are, and still are, faced with mistaken situations generated by misinformation on the part of the patients they attend, who often reject or are reluctant to their guidelines. Many attitudes contrary to those recommended by science were taken by the population and understood as true and popularized, despite their potential to harm their own health. Given the above, the objective of this study was to make a theoretical reflection on how fake news related to the COVID-19 pandemic had an impact on health and nursing care.

## Methods and Materials

In the elaboration of this article, the theoretical-reflective method was adopted regarding fake news related to the COVID-19 pandemic and the impact on nursing care. It is noteworthy that, due to the characteristics of the study, there was no need for consideration by a Research Ethics Committee. To search for articles/texts, the descriptors Fake News, COVID-19, Infections by Coronavirus, Health repercussions, extracted from Descriptors in Health Sciences (DeCS) and Medical Subject Headings (MeSH) were used in Portuguese and English. ) and the keyword Repercussions in Nursing. The search took place in the following bases and databases: Medical Literature Analysis and Retrieval System Online (Medline) via Public Medline or Publisher Medline (Pubmed), Science Direct, Scientific Electronic Library Online (SciELO) and Scopus, in addition to the Virtual Health Library (VHL). After defining the selected materials that would help the elaboration of this text and the theoretical reflection on this topic, the article was constructed. This construction took place after a thorough reading of these materials, in order to identify the excerpts and contents that corresponded to the attributes researched and related to that theme. It was supported by national and international literature, as well as WHO and UN documents, since this topic has a global scope. With this, three guiding points/categories were elaborated to support the theoretical-reflective text of this article: "The Fake News in the COVID-19 pandemic"; "Some interference of Fake News in the population", which was divided into four subcategories, namely: "Vaccination hesitation"; "Use of protective measures"; "Use of therapeutic agents" and "Stress, anguish.

## Results and discussion

### Theoretical reflection

#### Fake news in the covid-19 pandemic

In Brazil, the information and news posted on social media related to the pandemic led to a variety of shares, creating a network with content and pseudo-information (Fake News) that were published on social networks quickly and multiplied among the population, facilitating promotion of actions and behaviors contrary to the guidelines of the technical health authorities [16]. Below are some studies carried out in some other countries that demonstrated the presence of Fake News during the COVID-19 pandemic. In Malaysia, 869 respondents aged 18-59 reported reasons for sharing fake news during the COVID-19 pandemic. Ignorance and altruism had a major effect on this, while entertainment had a weak effect on this spread. The behavior of sharing this news is determined by different reasons, which must be understood in order to develop solutions to solve them [17]. In Nigeria, the issue of Fake News and its impact has gained prominence in recent times. In Kano State, the spread of COVID-19 among social media users was evaluated. It emerged that 65.6% of respondents were aware of fake news about the pandemic, 41.3% agreed that this number was an important topic/key area of discussion, 30.1% believed that trending topics about the COVID-19 influenced the spread of fake news on the subject and 41.8% consider that the consequence of the spread referred to non-adherence to security measures [18, 19]. Therefore, 74.2% of respondents agreed that social media helps spread fake news about the pandemic; however, they seem

not to have fully understood to what extent they were influenced by these news that happened. In a sample of 509 Romanian adolescents and adults aged between 11 and 67 years, moral disengagement and cyberbullying in the dissemination of fake news and the relationship of these variables with compulsive internet use were evaluated.

Among adolescents, the indirect effect of compulsive internet use on cyberbullying through moral disengagement was an important factor; adolescents scored higher than adults on all primary variables; there were no gender associations, regardless of the age of the participants, in terms of this compulsive use, moral disengagement or cyberbullying. It became clear the importance of having online education programs designed to engage teenagers and adults in critical thinking, to assist in the Fake News detection process. In Morocco, fake news on social media has plagued the country since the beginning of the epidemic. Such news spread at an accelerated pace and began to confuse people because of their presence on social networks, influencing public opinion; it becomes important to have some kind of protection in relation to this range of disinformation and Fake News [20]. In Spain, the impact of fake news and pseudoscience was determined in 1129 doctors working in primary and emergency care, from five different Spanish communities. In Fake News detection tests, the use of critical thinking predicted a 46.9% reduction in stress levels; skeptical attitudes and critical thinking predicted 56.1% of occurrences; stress levels during the pandemic were significant; the effectiveness of detecting fake news increased by 30.7% if the individual was a doctor [21]. A study with North American and Canadian authors indicated that there is an important disconnect between what people believe and what they share on social networks, and such dissociation seems to be largely motivated by inattention rather than the intentional sharing of misinformation [22]. Often, these fake news can encourage actions and behavior contrary to the guidelines of technical authorities, associated with a fragile socialization, in addition to a lack of knowledge, peer pressure and attention seeking. This list of elements can increase health risks; in this sense, those who use social media need to verify the authenticity of the information they find before forwarding it or accepting it as true [23], as the dissemination of such news impacts communication about health [24]. Fake News can therefore cause many problems for the population in practically all countries and some are reported below.

#### Some interferences of fake news in the population

Next, we present some interferences of Fake News in the general population and important reflections on how they occur and what they can cause in the change of behavior of these people.

#### Vaccination hesitation

Hesitation to vaccinate against COVID-19 occurred in several countries and the spread of misinformation and fake news on social media fueled public concern about the potential side effects of vaccination and its actual effectiveness [25]. This reluctance has occurred in Bangladesh [26], France [27-28], Western Europe [29], Israel [30], the United States of America (USA) [31], Pakistan [32], Ireland and in the United Kingdom [33] and Brazil, including in relation to childhood vaccination [34], among other places. Research into the main factors involved in vaccine hesitancy in general has shown that these include mistrust, misinformation, belief in conspiracy theories and negative attitudes towards vaccines [35]. Continuing education aimed at the general population and communication campaigns focused on improving information about vaccines can increase the proportion of people who accept vaccination and seek health services to be vaccinated with all available doses recommended by public bodies [28].

#### Use of protective measures

In different countries and continents, Fake News has represented and can still incur health risks. They worry scientific authorities, especially because they are installed in large and diverse population contexts and constitute untrue information. The use of glasses in the population, such as face shields, may be unnecessary; Face shields provide different protection than standard prescription eyewear could provide and should not be considered eye protection for the coronavirus. Insufficient evidence was found to support this type of recommendation for the general population [36]. However, this type of equipment, at least in Brazil, was found being used by workers in pharmacies, supermarkets, commerce in general, taxi drivers, among others. Also in Brazil, the authors of the present study found, on a daily basis, that the use of masks was widespread, being used by the population inside and outside institutions, including homes. With the lack of knowledge and the intense dissemination of the most varied news, people were found with different masks (fabric, paper, decorated or not, colored or not) protecting only mouths, only noses, forgotten between chins and mouths, covering necks, discarded in streets and also inappropriate containers. As for the recommended hand washing, in many circumstances, it was found to be replaced by gel alcohol, applied numerous times



and without needing to do so.

### Use of therapeutic agents

Fake News produced a series of information electing certain drugs as effective in combating the virus, and there is no scientific evidence for this. Since the beginning of the coronavirus pandemic 2, several therapeutic agents have been repurposed to treat patients with COVID-19 and used empirically before carrying out adequate clinical studies, demonstrated by some studies presented below. Thus, an investigation carried out in the Northeast of Brazil, which aimed to assess the reach of Fake News in the city of Aracaju (State of Sergipe) and its impact on public health, showed the following data: of 266 people interviewed, 71.1% were women, with a median age of 23 years (21 to 26), 64.5% had completed high school 99.2% knew the term Fake News and 64.5% obtained health information on the internet; 53.9% checked this information. Among the allegations circulating about COVID-19, 87.9% defended the use of the drug ivermectin to prevent the most serious forms of the coronavirus; 80.1% believed in the effectiveness of hydroxychloroquine in preventing and curing this infection and 66% reported that the numbers of cases and deaths from coronavirus were false. They believed that the use of vitamin C and D would prevent the virus (62.1%) and 5% thought it was enough to just isolate the population from the risk group [37].

In Belgium, a study indicated the vicious progression of anti-science, sowing doubts about vaccination and promoting treatments with therapeutic agents of unproven efficacy, such as hydroxychloroquine and ivermectin; however, it also identified that a firm condemnation of this topic by the scientific community is not enough. Scientists could try to vulgarize medical information in newspapers and social media and even accept debates dealing with Fake News, explaining to audiences without scientific knowledge, using non-polarized arguments about the complexity of treating COVID-19 [38]. Contemporary instances of the so-called "pharmaceutical messianism" were analyzed, a manifestation of medical populism, based on medical heterodoxy, including claims made by alternative scientists, and the announced cures are often transnational, covering other countries and cultures, considering a phenomenon recurrent. It exists as part of populist actions during disease outbreaks, where attempts are made to offer 'miracle cures' or 'wonder drugs' that supposedly can treat or prevent certain diseases and, in this case, COVID-19. This messianism has four characteristics: it arises in times of extraordinary health crisis; it is based on pre-existing knowledge, practices and feelings; borrows information from medical authority, often unorthodox and involves accessible and/or known substances. Thus, during the COVID-19 pandemic, this phenomenon was manifested in France, with the use of hydroxychloroquine, in the Philippines with the use of ivermectin [39], in Brazil with the use of hydroxychloroquine [40], in Madagascar, with the use of Covid-Organics [39], among others. The recurrent and inevitable nature of messianism signals an unfulfilled challenge of recognizing its logics, understanding its contexts and contributing to mitigate its consequences [39]. between others. The recurrent and inevitable nature of messianism signals an unfulfilled challenge of recognizing its logics, understanding its contexts and contributing to mitigate its consequences [39]. The use of hydroxychloroquine became an instrument of populist rulers, who built an alternative science network, understood as a diffuse movement of truth seekers, public defenders of their scientific convictions at a crossroads between partial evidence, pseudoscience and conspiracy theories. The composition of this network is made up of scientists, entrepreneurs and celebrities united by their distrust of governments and conventional science, forming a comprehensive alliance of influencers and leaders [40].

### Stress, anguish, emotional tension

The COVID-19 pandemic has brought challenges to mental health for adults, older people and young people alike. The volume, negative content, potential for misinformation and the spread of news about the pandemic may have been an additional cause of anguish, stress, tension and even episodes of suicide. In this sense, a review study aimed to synthesize the results of research on the relationship between news about COVID-19 and distress in young people. The PubMed, Web of Science and Psyc INFO databases were searched in 2021 for articles with empirical research examining the association between COVID-19 news consumption and mental health in samples of youth with an average age of 10 to 24 years. The 13 studies included in this review involved 760,474 participants in predominantly cross-sectional surveys, with data collected during pandemic lockdowns in seven countries. Increased news consumption was associated with a decline in mental health and the results showed that the literature reviewed supports the association between increased consumption of pandemic-related news and decreased mental health in young people [41]. The need for social distancing brought on by the pandemic has

increased the use of social media for societies to stay connected. A study conducted by researchers from the US, Norway and the UK investigated the psychological problems that societies experienced when using social media during the critical pandemic period. Cross-sectional online surveys were used to collect data from 1,991 respondents who lived in these countries during April to May 2020, when stay-at-home policies were in place. As a result, concerns about disinformation, conspiracy theories and fake news have been repeatedly raised as a critical challenge associated with reports of negative psychological consequences during the COVID-19 pandemic. Generally, 1 in 3 respondents expressed concern about misinformation as the top challenge, with a higher prevalence among respondents from the US (41%) than the UK (35%) and Australia (32%). While some thought social media facilitated social connections, others pointed out that differing opinions from friends and family put stress on relationships and created negative psychology. Conflicting information caused additional stress and anxiety. The spread of disinformation, fake news and conspiracy theories have provided psychosocial challenges and community disconnects. Special attention is needed to address psychological issues caused by the spread of disinformation on social media during crises [42]. with higher prevalence among respondents from the US (41%) than from the UK (35%) and Australia (32%). While some thought social media facilitated social connections, others pointed out that differing opinions from friends and family put stress on relationships and created negative psychology. Conflicting information caused additional stress and anxiety. The spread of disinformation, fake news and conspiracy theories have provided psychosocial challenges and community disconnects. Special attention is needed to address psychological issues caused by the spread of disinformation on social media during crises [42]. with higher prevalence among respondents from the US (41%) than from the UK (35%) and Australia (32%). While some thought social media facilitated social connections, others pointed out that differing opinions from friends and family put stress on relationships and created negative psychology. Conflicting information caused additional stress and anxiety.

The spread of disinformation, fake news and conspiracy theories have provided psychosocial challenges and community disconnects. Special attention is needed to address psychological issues caused by the spread of disinformation on social media during crises [42]. Others pointed out that differing opinions from friends and family put stress on relationships and created negative psychology. Conflicting information caused additional stress and anxiety. The spread of disinformation, fake news and conspiracy theories have provided psychosocial challenges and community disconnects. Special attention is needed to address psychological issues caused by the spread of disinformation on social media during crises [42]. others pointed out that differing opinions from friends and family put stress on relationships and created negative psychology. Conflicting information caused additional stress and anxiety. The spread of disinformation, fake news and conspiracy theories have provided psychosocial challenges and community disconnects. Special attention is needed to address psychological issues caused by the spread of disinformation on social media during crises [42]. Given the above, it is clear that health professionals should be careful when disclosing information and in this context, there is the nursing team, which provides its assistance directly to the population. This team has experienced situations related to the entire context caused by the COVID-19 pandemic, with people, daily, verbalizing beliefs and fanciful information, demanding greater care with regard to health education, especially.

### The impact on nursing care

Health professionals realize that the current reality, resulting from the digital and technological era and the ease of disseminating information, is a fertile field for Fake News [43]. This is because the data, after being distorted, manipulated and/or simply invented, create a current of disinformation or lack of information, incapable of being reversed [44]. This situation was evidenced daily by workers in the nursing area. During the COVID-19 pandemic, Fake News created an exposure situation for health professionals, especially nurses. Several situations of violence and clashes were recorded: due to untrue information about COVID-19, nursing professionals were attacked [45] impacting nursing care. The violence experienced by nursing affects the health of workers and patient safety [46]. In the patient-health professional relationship, Fake News, in some cases, creates a situation of discredit, as patients lose confidence in the proposed treatment and in the guidelines that are provided [43], delaying or preventing effective care and even, in some situations, threatening the lives of individuals [47]. Finally, some participants highlighted that Fake News has a negative impact at the individual and collective level, as such news has the potential to generate fear and anxiety in the population or make a large part of people discredit protection measures [43]. Nursing, guided by a set of ethical-political values and a set of professional competences, needs to base its conduct on Evidence-Based Practice (EBP). For many, PBE became synonymous with nursing [48].



However, between what the public academy and what is disseminated there is a reality permeated by political interests and planned disinformation [49]. That said, nurses play an important role in reducing the harm caused by health misinformation. It is part of the ethical duty of nurses to ensure that patients have access to credible information, which can be defined simply as information that is consistent with the best scientific evidence available at the time [50]. By accessing and disseminating reliable information, nursing, as a profession committed to the health needs of the population, does not become a hostage to “reliable evidence concealment processes, nor outside of qualified, critical, respectful and plural political debate” [49]. Considering that science is not understood by a large part of the population, this fact contributes to making it unattainable, clashing with the cultural standards belonging to many. Particularly in Brazil, such disbelief – especially related to COVID-19 – has provided fertile ground for the propagation of untrue news, generating fear, anxiety and other types of emotional illness [51]. For nursing professionals, who provide direct assistance to the population, the challenge is to bring, in a language easy to understand to the general public, the results of research and scientific evidence so that Fake News does not continue to threaten the lives of so many Brazilians and citizens around the world [52].

## Conclusions

In this peculiar world moment, whether in the social, economic or health sphere, it is urgent to reflect on the news spread on social networks related to COVID-19, since the results presented here indicate that the subject has been widely discussed. Although technology is a great foundation for overcoming the social distance initially imposed, it also allowed countless Fake News to be disseminated, profoundly impacting personal decisions and health care provided, causing damage to the population that, in the face of so much information across the globe, was not sure how to behave to avoid contamination by Sars-CoV-2. The contradictory political position in relation to international organizations greatly influenced the dissemination of illogical standards, with the adoption of mistaken behaviors that despised both isolation and the use of protective measures. As a result, discrediting the recommendations of health professionals, especially nurses, has had a great impact on their health due to the stress they experience, suffering from disrespect and violence. In addition, there was a high rate of suicide in several countries for all groups and a vertiginous increase in morbidity and mortality from COVID-19. In this way, it is understood that educational programs to stimulate critical thinking and online behavior are important strategies for the management of Fake News, helping to further prevent its dissemination on relevant topics such as the pandemic. It is essential that there is awareness of society and scientific research that deals with this reality as a problem to be investigated, aiming at guaranteeing the right to health and minimizing the risks and consequences of this period for all health professionals and the general population.

## References

- Silva SPC, Maciel MJL, Matos KKC, Santos SS, Espíndula DHP, et al. (2020) Elderly, COVID-19 and news media. *Kairos Gerontology* 23: 287-307.
- 2020 World Health Organization. Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV]. Geneva: World Health Organization.
- Moraes CL, Marques ES, Ribeiro AP, Souza ER (2020) Violence against the elderly during the Covid-19 pandemic in Brazil: contributions to its confrontation. *Ciência & Saúde Coletiva* 25 (2): 4177-4184.
- Garcia LP, Duarte E (2020) Non-pharmacological interventions to face the COVID-19 epidemic in Brazil. *Epidemiology and Health Services* 29 (2): e2020222.
- Mohammed IB, Isa SM (2021) The Role of Internet of Things in the Containment and Spread of the Novel COVID-19 Pandemic. In: Raza K (edn.). *Computational Intelligence Methods in COVID-19: Surveillance, Prevention, Prediction and Diagnosis*. Singapore: Springer 109-119.
- Massari S, Principato L, Antonelli M, Pratesi CA (2021) Learning from and designing after pandemics. CEASE: A design thinking approach to maintaining food consumer behavior and achieving zero waste. *Socio-Economic Planning Sciences* 101-143.
- Yamaji K, Mitsutake Y, Nakano M, Nakamura T, Fukumoto Y (2021) Robotic-assisted percutaneous coronary intervention in the COVID-19 pandemic. *Journal of Cardiology* 79 (4): 455-459.
- Seethalakshmi S, Nandan R (2020) Health is the Motive and Digital is the Instrument. *Journal of the Indian Institute of Science* 100: 597-602.
- Bermes A (2021) Information overload and Fakes News sharing: A transactional stress perspective exploring the mitigating role of consumers' resilience during COVID-19. *Journal of Retailing and Consumer Services* 61: 102-555.
- Ember S (2017) This Is Not Fakes News (but Don't Go by the Headline). *The New York Times* Editorial 3.
- Allcott H, Gentzkow M (2017) Social Media and Fakes News in the 2016 Election. *Journal of Economic Perspectives* 31(2): 211-236.
- Rais D, Fernandes Neto RA, Cidrão TV (1996) Political Psychology and Fake News in the 2018 presidential elections. *Revista do TRE-RS / Regional Electoral Court Rio Grande do Sul* 1 (1).
- Paka WS, Bansal R, Kaushik A, Sengupta S, Chakraborty T (2021) Cross SEAN: A semi-supervised cross-stitch neural attention model for COVID-19 Fakes news detection. *Applied Soft Computing* IT HURTS: 2102.08924.
- Iwendi C, Mohan S, Khan S, Ibeke E, Ahmadian A, et al. (2022) Covid-19 fake news sentiment analysis. *Computers and Electrical Engineering* 101: 107-967.
- RC Matos (2020) Fake news in the face of the COVID-19 pandemic. *Health Surveillance in Debate* 8 (3): 78-85.
- Neto M, Gomes TO, Porto FR, Rafael RMR, Fonseca MHS, et al. (2020) Fake news in the context of the Covid-19 pandemic. *Cogitare sick* 25.
- Balakrishnan V, Ng KS, Rahim HA (2021) To share or not to share-The underlying reasons of sharing Fakes news amidst the COVID-19 pandemic in Malaysia. *Technology in Society* 66: 101-676.
- Mercy OA, Andover EM (2021) Assessment of the spread of fake news of Covid-19 amongst social media users in Kano State, Nigeria. *Computers in Human Behavior Reports* 6: 100-189.
- Maftai A, Holman AC, Merlici IO (2021) Using Fakes news as means of cyber-bullying: The link with compulsive internet use and online moral disengagement. *Computers in Human Behavior* 127: 107-032.
- Mohammed YM, Bouikhalene EB (2021) Using artificial intelligence techniques for detecting Covid-19 epidemic fake news in Moroccan tweets. *Results in Physics* 25: 104-266.
- Escalà-Gascón A, Dagnall N, Gallifa J (2021) Critical thinking predicts reductions in Spanish physicians' stress levels and promotes Fakes news detection. *Thinking Skills and Creativity* 42: 100-934.
- Pennycook G, Rand DG (2021) The Psychology of Fake News. *Trends in Cognitive Sciences* 25 (5): 388-402.
- Apuke OD, Omar B (2021) Fakes News and COVID-19: modeling the predictors of Fakes news sharing among social media users. *Telematics and Informatics* 56: 101-475.
- Moscadelli A, Albora G, Biamonte MA, Giorgetti D, Innocenzio M, et al. (2020) Fakes News and Covid-19 in Italy: Results of a Quantitative Observational Study. *International Journal of Environmental Research and Public Health* 17(16): 5850.
- Iacobucci G (2019) Vaccination: “Fakes news” on social media maybe harming UK uptake, report warns. *BMJ: British Medical Journal (Online)* 364: 1365.
- Abedin M, Islam MA, Rahman FN, Reza HM, Hossain MZ, et al. (2021) Willingness to vaccinate against COVID-19 among Bangladeshi adults: Understanding the strategies to optimize vaccination coverage. *Plos One* 16 (4): e0250495.
- Peretti-Watel P, Seror V, Cortaredona S, Launay O, Raude J, et al. (2020) A future vaccination campaign against COVID-19 at risk of vaccine hesitancy and politicisation. *The Lancet Infectious Diseases* 20 (7): 769-770.
- Montagni I, Ouazzani-Touhami K, Pouymayou A, Pereira E, Texier N, et al. (2022) Qui est hésitant vis-à-vis des vaccins against Covid-19? Profile of the participants à une cohorte en ligne Française. *Revue d'Épidémiologie et de Santé Publique* 70 (3): 123-131.
- Kennedy J (2019) Populist politics and vaccine hesitancy in Western Europe: an analysis of national-level data. *European Journal of Public Health* 29 (3): 512-516.
- Dror AA, Eisenbach N, Taiber S, Morozov NG, Mizrahi M, et al. (2020) Vaccine hesitancy: the next challenge in the fight against COVID-19. *Eur J Epidemiol* 35: 775-779.
- Ali K, Li C, Zain-ul-abdin K, Muqtadir SA (2022) The effects of emotions, individual attitudes towards vaccination, and social endorsements perceived motivations on fake news credibility and sharing effects. *Computers in Human Behavior* 134: 107-307.





32. Chaudhary FA, Ahmad B, Khalid MD, Fazal A, Javaid MM, et al. (2021) Factors influencing COVID-19 vaccine hesitancy and acceptance among the Pakistani population. *Human Vaccines & Immunotherapeutics* 17(10): 3365-3370.
33. Murphy J, Vallières F, Bentall, RP (2021) Psychological characteristics associated with COVID-19 vaccine hesitancy and resistance in Ireland and the United Kingdom. *Nat Common* 12 (1): 29.
34. Albuquerque TR, Macedo LFR, Oliveira EG, Neto MLR, Menezes IRA ( ) Vaccination for COVID-19 in children: Denialism or misinformation. *Journal of Pediatric Nursing* S0882-5963 (22): 26-34.
35. Payberah E, Payberah D, Sarangi A (2022) COVID-19 vaccine hesitancy in patients with mental illness: strategies to overcome barriers-a review. *J Egypt Public Health. associate* 97 (5).
36. Gonzalo C (2021) From evidence to fake News. *Journal of Optometry* 14 (1): 100-101.
37. Souza GBV, Lima BJS, Santos JVP (2022) Assessment of the impact of fake news on public health in times of a pandemic caused by the new coronavirus in Aracaju. *The Brazilian Journal of Infectious Diseases* 26 (1): 102-018.
38. Taccone FS, Hites M, Dauby N (2022) From hydroxychloroquine to ivermectin: how unproven “cures” can go viral. *Clinical Microbiology and Infection* 28 (4): 472-474.
39. Lasco G, Yu VG (2022) Pharmaceutical messianism and the COVID-19 pandemic. *Social Science & Medicine* 292: 114-567.
40. Casarões G, Magalhães D (2021) The hydroxychloroquine alliance: how far-right leaders and alt-science preachers came together to promote a miracle drug. *Journal of Public Administration* 55(1): 197-214.
41. Strasser MA, Sumner PJ, Meyer D (2022) COVID-19 news consumption and distress in young people: A systematic review. *Journal of Affective Disorders* 300: 481-491.
42. Leung J, Schoultz M, Chiu V, Bonsaksen T, Ruffolo M, et al. (2021) Concerns over the spread of misinformation and fake news on social media – challenges amid the coronavirus pandemic. *Proceedings. International Electronic Conference on Environmental Research and Public Health - Public Health Issues in the Context of the COVID-19 Pandemic session Mental Health*.
43. Barreto MS, Caram CS, Santos JLG, Souza RR, Goes HLF, et al. (2021) Fake news about the COVID-19 pandemic: perception of health professionals and their families. *Rev Esc Enferm* 55: e20210007.
44. Carr E (2020) Combating Fake News. *Clin J Oncol Nurs* 24 (2): 121.
45. Federal Nursing Council. 'I haven't seen my daughter for a month': long hours, low wages and loneliness. Brasília.
46. Barreto FA, Oliveira JV de, Freitas RJM de, Queiroz AAO de (2020) Repercussions of the covid-19 pandemic in institutional labor violence to nursing professionals: covid19 and labor violence lived by nursing. *SciELO Preprints*.
47. Wang Y, McKee M, Torbica A, Stuckler D (2019) Systematic Literature Review on the Spread of Health-related Misinformation on Social Media. *Social science & medicine* 240: 112-552.
48. Sellman D (2017) Fake news, truth and ideology: Galileo, censorship and nursing. *Nursing Philosophy* 18 (2): e12172.
49. David HMSL, Martínez-Riera JR (2020) Fake news and small truths: a reflection on the political competence of nurses. *Text Context Sick* 29: e20190224.
50. Villarruel AM, James R (2022) Preventing the spread of misinformation. *American Nurses Association* 2: 22-26.
51. Aires CP (2022) Regarding science, disinformation cycles and fake news: Possible ruptures 18 (1): 5-6.
52. (2020) Pan American Health Organization. Understand the infodemic and misinformation in the fight against covid-19: digital transformation toolkit: knowledge tools.