


Regarding science, disinformation cycles and fake news: Possible ruptures

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Science exerted a significant impact on the understanding of the COVID-19 pandemic scenario, officially declared in December 2019: the coronavirus was genetically sequenced only 2 weeks after evidence was found in China, simple sanitary measures were certified as effective for containment of the virus (hand hygiene, social distancing, use of masks, room ventilation) and vaccines were developed less than 1.5 years after the beginning of the pandemic. However, the rapid consolidation of the scientific knowledge was not a determining factor to expand the capacity of the State and of society to maintain coherence around effective strategies to contain the disease. In fact, misinformation (lack of information) and the fake news created have often supplanted the achievements of Science.

It is well established that fake news spreads 70% faster than real news⁽¹⁾. This implies that, while a real post reaches a mean of 1,000 people, the most popular fake posts reach from 1,000 to 100,000 individuals. Frequent exposure to misinformation and fake news is dangerous, as repetition increases reliance on false information. Particularly during the pandemic, the dissemination of myths, ineffective prevention methods and miracle cures caused preventable deaths⁽²⁾, simply by inducing the population to make wrong choices. A recent study concluded that reliance on social media news contributed to increased belief in COVID-19 myths and misinformation, which in turn contributed to less critical posting practices in the social media, exacerbating the misinformation pandemic and maintaining a disinformation cycle⁽³⁾. Therefore, informing is not sufficient; it is also necessary to ensure that people are informed to act in a proper way.

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In his classic book entitled "The Demon-Haunted World: Science as a Candle in the Dark", physicist Carl Sagan brilliantly described a thesis to fight against fake news - not in a professorial tone, but stimulating lay people's critical thinking to recognize fraudulent arguments, using Science as an organic survival tool in society⁽⁴⁾. It is not surprising that he is considered one of the greatest Science popularizers of all times. According to Sagan, Science only makes sense if it is shared as a form of instruction and this would be the first step to break the disinformation cycle. However, recent data show that there is still a lot to be done: Brazilians are not confident in relation to which benefits could be brought by Science development⁽⁵⁾. In other words: Science is not perceived in people's daily lives, contributing to making it unattainable, clashing with the cultural standards to which many Brazilians belong. In turn, this disbelief in Science creates gaps where denial of everything becomes an option, providing fertile soil for the spread of ungrounded news, generating fear, anxiety and other types of emotional illness, further aggravating the COVID-19 pandemic.

Although the current scientific communication practices have implemented a new glow into the social transformations that Science has been leading, it is clear that one of the main challenges of the pandemic is of a communicative nature. However, the effort by the academic community to establish clear communication with society has been remarkable in coronavirus times. Ultimately, if these activities used to be carried out predominantly by journalists in newspapers and magazines, today, in the current context, the position of Science communicator is also significantly occupied by scientists in the different media. The main challenge is to maintain this dynamic in the post-pandemic scenario.

Science communication is capable of changing behaviors, increasing reliance of the non-specialized community on scientific research and influencing decision-making in the most diverse areas. Language reformulation and training of scientific communicators are fundamental steps towards breaking the disinformation cycle, which could contribute to reducing the communication gap between Science and Society. Thus, making information about research studies accessible becomes as important as developing them.

References

- 1- Vosoughi S, Roy D, Aral S. The spread of true and false news online. *Science*. 2018;9;359(6380):1146-51. doi: <http://doi.org/10.1126/science.aap9559>
- 2- Freire NP, Cunha ICKO, Ximenes Neto FRG, Machado MH, Minayo MCS. The infodemic transcends the pandemic. *Ciênc Saúde Coletiva*. 2021;26(9):4065-8. doi: <http://doi.org/10.1590/1413-81232021269.12822021>
- 3- Melki J, Tamim H, Hadid D, Makki M, El Amine J, Hitti E. Mitigating infodemics: The relationship between news exposure and trust and belief in COVID-19 fake news and social media spreading. *PLoS One*. 2021;4;16(6):e0252830. doi: <http://doi.org/10.1371/journal.pone.0252830>
- 4- Sagan C. *O mundo assombrado pelos demônios: a Ciência vista como uma vela no escuro*. São Paulo: Companhia das Letras; 2006.
- 5- Delabio F, Piai C, Mori D, Kioranis M. Divulgação científica e percepção pública de brasileiros(as) sobre ciência e tecnologia. *Rev Insignare Sci*. 2021;4(3):273-90. doi: <https://doi.org/10.36661/2595-4520.2021v4i3.12132>