

(Mis) Infodemic in the COVID-19 Times. The Point of View of a Medical Microbiologist

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Opinion

Previous to the first three months of 2020, the misinformation was common, but an infectious international health emergency that became a pandemic, change that and create a whole new epidemic (of global proportions), the “COVID-19 misinfodemic”, a “new” term born of the mixture of “misinformation” and “infodemic” (overabundance of information related to the pandemic). Excess of (mis) or (dis) information can be detrimental to public health (physical, mental and social), interfering with the control measures for containment of the SARS-CoV-2 and jeopardizing the ability of countries to one safe management of the pandemic, and becoming a monster of a thousand heads that we threat at every moment of interaction with pieces of information in health and related to SARS-CoV-2 and COVID-19 (and I mean every moment -online and offline-). Now, with all the technology and connectivity available, we are living the pandemic in the “most connected state” and permanently, gaining access to information in real time, but, as you probably know, after almost nine months living with SARS-CoV-2 among us, consuming too much information sometimes is not the best lifestyle for everyone. An easy way to know if you are saturated (or close to being) with information about the pandemic is to simply try to become aware of the number of times you check

your devices in a period of time and perform some search, read or share information about COVID-19; if you get more than 50% of your positive attempts at this match, you may want to consider “disconnecting” your connections to “rest” and breathe a different air.

A former student of mine (now a successful colleague) said that many of us live these times in a “COVID-19 information search mode on”, and I agree with him. It is not a bad idea to be informed, to know what is happening with the disease, the diagnostic tests, the treatments, the vaccines and our new way of life, but here comes a shower of problems, because many “drops” of information are really misinformation, distortions, and opinions, and does not reflect the real world state. Some of us, especially doctors, must “bear the cross” of receiving and trying to be well informed about the truth and falsifications about the pandemic, and it is difficult to separate the two at times. But our responsibility is to our patients, colleagues and communities, to try to provide them with the most accurate information to navigate through this pandemic ocean, so we are like the captain of a ship, the ocean is all the information available and the big waves, eddies and sea monsters are misinformation and fake news. The “infodemiology”

as the study of information and how to handle it is vital these days because we face a tsunami of information (reliable or not), and it is necessary that health professionals know how to communicate effectively the information precise. Some people ask me: what is your obsession with checking the latest information on disease, diagnosis, treatments, vaccines, policies, etc. of the coronavirus?

My answer is simple, as a doctor, I become a source to spread truthful news and verify others, and you cannot believe how many hours of my day are dedicated to doing this, because not only friends or patients ask for information, much of the questions I received every day comes from colleagues, concerned about their patients and communities, so I have a tremendous responsibility to many people who put their trust in my hands (or in my ears, lips, brain!). We fight not only to flatten the epidemiological curve, to avoid the flooding (and overcoming) of the capacities of the health system and allow us to survive the pandemic [1]; we fight the misinformation Tsunami! A really big wave that endangers many policies or plans designed to protect the population, and we must not neglect this “invisible” threat, because the materialization of its consequences could be fatal (disastrous). Therefore, I give you some advice, when you feel tired of reviewing or verifying large amounts of information, take some time away from them, and then return with a fresh and open mind to apply certain strategies that I will comment on and can help you manage the infodemic .

Personally, I follow the advice that a trusted person gave to future scientific communicators , that person is Anthony Fauci, MD, so he said about the three ways to build trust when transmitting information[2]:

- 1) Always follow the data (that is in my opinion one of the critical facts, sometimes we get to the data, but is this data reliable?)
- 2) Admit when you do not know anything (is much better , honest-even elegantly say “no you know” that beginning a mumble jungle that at the end only confuse everyone, I ‘ve learned that if you do not know something can engage your audience in seeking this knowledge with you)
- 3) The goal is not to show how smart you are. It is that people understand what you are talking about (in this item my teachers I taught me “intelligent is the one who can explain a complicated matter to anyone and be understood”).

Some communicational experts say: “Misinformation can spread faster than the virus” and as Medical Microbiologist, I certify that opinion (and I live every day!) So here comes misinformation at the velocity of social media (mis)use or (mis)interpretation, and it could be a bigger problem like the remembered statements of the former president of the USA on prophylaxis with hydroxychloroquine (without medical indication and the increase in

cardiac complications from its use) or poisonings from videos that talk about the “benefits” of ingesting chlorine dioxide to “improve” the immune system, just to name two examples. The ability to share content in real time, on platforms open to the world, to tag key people in those “contributions” or to reproduce them in our “close environment” (and close in quotes to indicate the sarcasm of the use of the expression, because when information is published on social networks, diffusion is faster than a flame in a room full of gunpowder), and worse, the traceability of the origin of the (mis) information is sometimes almost impossible.

Although simple look, “fight” infodemia it becomes a daunting task, because in addition to the enormous amount of medical information relevant to the health professionals should consume every day in these turbulent times pandemic, it should take time to review it, verify it and answer questions, clarify information, sometimes even answer the famous “chains or threads” on Twitter, WhatsApp and even Facebook and Instagram, which go through moments of being allies in the dissemination of relevant messages to becoming staunch enemies that carry the craziest messages, and I confess, it is really exhausting to keep up the pace of giving scientifically-based answers (and as it should be in the ideal of cases, accompanied by published evidence), but we must not lose patience, above all now, another trend that can have harmful effects on public health joins the misinfodemic, the anti-vaccine movement, which historically has generated contents that usually looks very attractive, with simple messages, and ultimately feed from our deepest fears and doubts. One theory attribute the growing hesitancy to vaccines to increasing misinformation and conspiracy theories emanating from the anti-vaccine movement.

In 1840, when the Vaccination Act was introduced in the UK, the now familiar arguments were aired: vaccines cause harm; the alliance between medical science and government is driven by profit; vaccines are a violation of basic civil liberties; healthy lifestyles and homeopathic medicines will offer better alternatives, and if we place this in our current reality, where we are waiting for the results of many vaccines clinical trials anti-SARS-CoV-2, there is a field fertile for those who do not want these drugs to reach a happy port and do not allow to control the pandemic [3]. In the case of COVID-19, conspiracy theorists and anti-vaccines have spread infectious rumors such as the biologically implausible message that the virus spreads through cell phone towers [4]. The notion of crowd control has also emerged, pointing to businessmen and philanthropists (Bill Gates) implanting digital microchips in vaccines or intentionally causing a planned pandemic (“plandemic”) [5]. Many others have misinformed to sell false “natural” cures, from which they obtain a personal benefit.

To help us fight, the World Health Organization has 7 top tips for identifying misinformation or misinformation that help us navigate the ocean of infodemic [6]:

- 1) Evaluate the Source: verify the authenticity of the information, who published it, consult the web pages "About" or "Contact us" to learn more, use tools to verify the origin of videos and / or images - search tools for reverse images - and check spelling, grammar and syntax!
- 2) Go beyond the Headlines: A great headline is sometimes different from the content of the information, for example, "A miracle cure for COVID-19 was found" and in the body of the information in lowercase type it says "in theoretical models that use AI", therefore, it is a disinformation that forces us to diversify the sources to know what is reliable or not.
- 3) Identify the Author: Need to know who generates the information or who share it, and go a step further, see the online professional profiles of the author (scientific).
- 4) Check the dates is key because the relevance of the information in the days of the pandemic need to be updated frequently (e.g. vaccination results) and becomes outdated quickly to new information continue to be generated.
- 5) Examine the Supporting Evidence: It is easy to find the cross references in a real scientific publication (usually hyperlinks, DOI numbers, etc.) and verify it.
- 6) Check your Biases: No one is free from them, so assess your own biases and why you may have been drawn to a particular title or story or a false interpretation or iteration based only on a flashy or controversial title.
- 7) Turn to Fact-Checkers: Consult trusted fact-checking organizations (International Fact-Checking Network for example) and global news outlets focused on debunking misinformation (like Associated Press & Reuters).

I know is not easy to follow all these steps at every time we saw or received a news or an information, but nobody said that goes through a pandemic it will be! At least you can select your information sources (for example follow verified informative channels; ask your physicians friends about your doubts). In this pandemic times, a 2018's videogame by Inner Sloth [7] gains high popularity, I'm talking about "Among Us", an online multiplayer social deduction game, in which players each take on one of two roles, most being Crewmates, and a predetermined number being

Impostors, with simple goals, for the Crewmates is to identify the Impostors, eliminate them, and complete tasks around the map; for the Impostors is to covertly sabotage and kill the Crewmates before they complete all of their tasks. But the power of the game is in the way to the Impostors may be eliminated via a plurality vote, which any player may initiate at any time. The analogy for our comments I simple, you are the Crewmates team and misinformation is the enemy (Impostors), so, you can "vote" searching and verifying information to finally beating the Impostors!

In a very recent publication in JAMA [8] by Bruce Miller, MD (Memory and Aging Center, Department of Neurology, Weill Institute for Neurosciences, University of California, San Francisco, US) he explains the science denial and COVID conspiracy theories focus on the potential neurological mechanisms and possible responses, with a highlight observation "Now, social media-fueled echo chambers amplify these theories, reinforcing false beliefs and discouraging people from seeking the truth", and I belief that part of our increasing "weakness" to pursuit more trustfully information is a very complex phenomena, not only a wasting effect. Therefore, we are susceptible to being misinform in the search for real information, but, in this particular historical moment (pandemic), the need for reliable information is not a luxury, it is a real need of each one of us, to help us to maintain our health. I hope that some of the comments in this article help you to be better informed.

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