Fake news and patient-family-physician interaction in critical care: concepts, beliefs and potential countermeasures

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Abstract

Fake news has been defined as fabricated information mimicking media content in form but not in organizational process or intent. Science and medicine are deeply affected by this increasing phenomenon. Critical care represents a hot spot for fake news due to the high risk of conflictive communication, the rapid turnaround of clinical news and high prevalence of unpleasant information. Communication with patients' relatives is one of the hardest aspects. The relationship between physicians and families is pivotal to improve relatives' comfort, and reduce anxiety and pain. Fake news may undermine this relationship, posing an alternative truth between the critical care physician and relatives, which must be countered without worsening their suffering. The aim of this review is to provide intensivists an overview of concepts, characteristics and risk to better understand the fake news phenomenon and counter its potentially devastating effects.

Key words: critical care, communication, emotional distress, fake news.

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One of the most difficult tasks in critical care medicine practice is talking about patients' clinical conditions with relatives [1]. This is a complex phase, where parents, friends, and relatives are held in the grip of their emotional, sentimental and psychological experiences [2, 3]. Very often, critical care physicians clash against a thick and impermeable wall, which hinders the message getting through without misunderstandings [4].

Fake news represents a rapidly increasing phenomenon consisting of various forms of misinformation being provided by non-legitimate sources to laypeople about several "official" topics, such as science, politics, and the economy [5]. Since clinical truth is characterized by a specialised nature for its technical connotations, the credibility of the physician and, more generally, science is put on the line [6, 7]. Science is increasingly retained by mass culture as a highly disputable branch of knowledge, a truth amongst many truths. Physicians' work is necessarily limited and influenced by their knowledge, which is often considered in the same way as an opinion [6, 7]. And that is why, very often, relatives consult more specialists, with the purpose to question them about the same problem. Moreover, although clinical opinions have great values, especially when the evidence from the literature is not supportive [8], subjectivity of clinical judgment may be seen as a weak point.

The critical care setting is a "hotspot" for fake news for several reasons, such as the high risk of conflictive communication, the rapid turnaround of clinical news, the stressful working setting, and high prevalence of unpleasant information [3, 4, 9–12]. It is common to contend with the relatives' desire to snatch clinical news from different medical consultations, hoping to get a custom-made truth, which better fits emotional desires regardless of their positive or negative value. This phenomenon underpins a wide range of ambiguous communications and medico-legal impasses, directly influencing the care process, and undermining the relationship of trust between the physician and the patient's relative [7].

Our aim is to describe how scientific fake news may influence the relationship between relatives brimming with expectations for patients' future health perspectives, and critical care physicians inevitably facing awaited hopes. In the era of the "social fever", we sought to evaluate the role that the so called "alternative truths" smuggled on social-media platforms has in building the background of beliefs, false expectations and general distrust towards criti-

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cal care medicine with potential solutions to limit this phenomenon.

FAKE NEWS DEFINITIONS AND GENERAL CONCEPTS

Fake news has been defined as "fabricated information mimicking media content in form but not in organizational process or intent" [6]. Fake news outlets, in turn, lack the news media's editorial norms and processes for ensuring the accuracy and credibility of information [6]. Loosening of journalistic norms of objectivity (potentially attributed to counteraction against propaganda overuse during World War I), as well as the liberality of their diffusion, has progressively been a conquest of the prevailing digital technocracy, which has drastically lowered the impact of competitiveness on news feeds. Therefore, the unscrupulous news business has triggered an uncontrolled proliferation of information, whose degree of truthfulness is no longer easily verifiable [13, 14]. Little by little, the most accurate and reliable sources of news have been replaced by online fake-news robotic agencies, which are able to provide a greater trade value.

Recently, Vosoughi *et al.* [15] discussed the diffusion of all of the verified true and false news stories published on Twitter from 2006 to 2017. There were about 126,000 news story cascades tweeted and then over time re-tweeted by approximately 3 million people, more than 4.5 million times. Integrated information was retrieved from six independent "fact-checking organizations", exhibiting 95 to 98% agreement on the "true/false" story-news classification. The authors noted that false news appeared to travel significantly much more, deeper, and more broadly than any other category of true information. Moreover, false political news exhibited more pronounced effects if compared to false news about terrorism, natural disasters, science, urban legends and financial information. In fact, falsehoods were 70% more likely to be retweeted than the truth, and false news was perceived as novel information. In this perspective, misperceived information has a better chance to be widely shared.

Turning to health and medicine, fake medical news should be considered a threat for public health. Fake health news achieves success because it brings hope and offers easier solutions to common concerns. In contrast, the medical truth is often characterized by nuanced perspectives, offering limited hopes and uncertain success. A recent work assessing how social media contribute to the spread of medical misinformation showed that links containing fake medical news were shared more than 450,000 times over a 6-year period. These observations reveal how social media contribute to the dissemination of medical misinformation. Authorities and international medical organizations should therefore implement control measures and promote health education to limit the spread of fake and miseducating medical news [16].

TRUTH AND FALSEHOOD: HISTORICAL AND PHILOSOPHICAL ISSUES

The impact of fake news on everyday communication between critical care physicians and relatives may not be clear if we do not provide a sociological and philosophical perspective.

The Oxford Dictionaries Word of the Year 2016 is "post-truth" [5], an adjective "relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief" [15]. As for other compound nouns, the use of the prefix "post-" has a specific temporal connotation, regarding the time elapsed after a given situation or event, which has lost its value in present time. Post-truth and fake news mark the beginning of the "continuum era". In other words, a time of historical changes, facing progressive fading of boundaries between *truth* and *falsehood*. Although a clear demarcation between true and false persists, the modern era and the development of social medias have brought to a sort of distinction disorder, where multiple gradations appear between the two opposite categories, so that distinction seems to be no longer relevant.

Mass individualism and development of neoliberal philosophy have progressively led to disappearance of the demarcation between objectivity and opinion. In contrast to what was stated by Hannah Arentdt in *Truth and Politics* [17], lies are not accepted as truths and truths are not defamed as lies. The absence of truth and falsehood categories leads to the loss of a guide in human lives.

The notion of truth is nowadays bounded by its logical, historical, geographical and political values, because it is influenced by scientific progress, positivist philosophy and human sciences achievements. Jeremy Bentham made truth as a strange character, elusive like an eel, a fictional entity not less essential than others [9]. Friedrich Nietzsche considered the distinction between *truth* and *falsehood* as an original violence against reality [18]. Jacques Lacan invented the term *Varitè* (variable truth), mocking the pretentions of those who thought that there is a difference between knowledge and belief [19]. There are plenty of *de-constructor* authors, maintaining that truth is not unique and absolute. According to Frege [20], truth exists regardless of whether the observer believes, thinks or even recognizes it as a truth. Hannah Arendt focuses on these matters in her work *Truth and Politics* [17], identifying two different truths: the "truth of facts", opposed to "falsehood" (reminiscent of the "being truth" of Frege) and the "rational truth", which derives from

thought and has its contraries in science, ignorance, mistakes, philosophy, opinion or illusion.

Our world denies a distinction between scientific and philosophical truth, refusing differences between truth of facts and rational truth. The result is that both truth of facts and scientific truth are rearranged and perceived as simple opinions. The wise person is soon conceived as the only source of possible truth, which derives from his visceral feelings and personal opinions.

Ten years before the word "post-truth" was invented, the American humourist Steven Colbert created a neologism, declared "word of the year 2006": *truthiness* [21]. This term refers to the belief that a particular statement is true based on the intuition or perceptions of some individuals, without regard to evidence, logic, intellectual examination, or facts. "Post-truth" has a superimposable meaning, offered by the following Oxford Dictionary definition: *circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief*.

"*Truthiness*" and "*post-truth*" [22] dominate a world where falsehood is used more and more as an ideological and political tool. Our epoch is irreversibly marked by individuality of truth and the power of *de-reasoning*, so that certainty of facts is no longer established based on reason. Competing "neo-realities" are continuously offered to public consumers, who become responsible for their own choices. Truth is merchandised and its trade is guided by the principles of capitalization and economics: consumers should promptly choose the more convenient truth among truths, making compromises with their own prejudices. The real consequence is that personal and arbitrary decisions are inevitably considered as truths.

Craving to experience their own preferred sensations (either positive or negative), thought, reasoning and meditation are considered to be barriers to personal desires. Therefore, people might legitimately adopt or reject options, according to their sensations. Therefore, gut feelings and instincts are more and more prevailing over rational truth.

CAUSE OF FAKE NEWS SPREAD

There are three complementary mechanisms contributing to the spread and success of fake news [23]:

1. Reduction in the cost of publishing information. Source reliability was controlled by specific editorial quality assessment systems. In the case of unfounded news that evaded controls, it was possible to trace it back easily to its source. The democratization process of news publication and ability to avoid authentication has currently permitted diffusion and viral replication of strategic contents on the web.
2. Different versions of the same news may be conveyed using a wide range of communication tools. This creates "alternative communities", where individuals gather together after selecting what kind of information suits them better. The more a news item becomes accepted, the larger the group of people supporting it regardless of its truthfulness.
3. The information system's structure and the ubiquitous access to information can create hordes of opponents invoking news credibility. Fake news may be changed to a true reality thanks to social media sharing, numbers of tweets and re-tweets (*clickbait debunking*). Therefore, using the previously described mechanisms, true news is vulnerable to manipulation and may be regarded as unreliable.

Applying a biological model, news can be compared to reproducing cells. Having their genetic heritage of truth, the transcriptional errors and the inherited genetic mutations would increase in line with the news' replication rate. Therefore, news circulating on high-speed social media has structural anomalies, resulting from high rates of replication. Reliable information is prone to misinterpretation, leading to different reading possibilities. These various misinterpretations may assume an ontological independence, thus becoming an alternative truth. As a result, alternative truths can be turned into successful truths and replace truth itself.

Propagation of fake news involves two other possible effects: a dramatic distortion of truth and the creation of "masks" able to cover and, at the same time, to vivify communication. In this never-ending masquerade, where information is turned upside down and distorted, human beings become clicking machines, unaware of the infinite jest continuously turning back to themselves. Addiction to this infinite jest is one of the main problems that must be faced.

POTENTIAL COUNTERMEASURES TO FAKE NEWS EFFECTS

It is very difficult to define the influence that the "fake system" has on the relationship between intensivists and patients' relatives. There are a lot of elements to consider. First of all, physicians often get involved with a varying audience, in relation to social class, culture and latitudes [24, 25]. The psychological literature has largely dealt with communication styles and techniques, allowing comprehension of defined aspects through the physician's stories and personal experiences. Moreover, it highlights the importance of "non-technical skills" that the intensivist should have in order to approach their daily job with dignity. How is it possible to counteract a false assumption, the fake counter-

TABLE 1. Potential effect of fake news in patient's relatives and potential countermeasures that physicians can adopt to limit the deleterious effects

Effect of fake news	Potential countermeasures
False hopes	Gently deconstruct *alternative truths* providing credible "official" data and information. Always report the same information.
Loss of trust in the care team	Do not create "fights" and do not put in contrast the "alternative truths" with physicians' one. Instead, support the scientific views with data and reliable sources. Avoid letting relatives think of themselves as a "victim".
Loss of attention to physician's words	Create a "scenography" around the physician with medical books, information sheets and official sources.
Tension toward care team	Let relatives understand that the care team is needed to provide best care and less suffering to their beloved.
Contrast medical decision	Gently explain that it is not the idea of a single physician but of the whole care team, which consist of humans that try to provide best care according to current science and ethics.

culture, if it is exhibited with pride and certainty (Table 1)?

Avoiding conflicts

Abstention is probably the first relational measure to apply. Although it may be considered that opposing falsehood with the strength of reason may be a decisive method, it is worth avoiding this sort of wrestling fight, where false conviction and clinical-scientific truth are competing for the same space. Contact between humans turns into conflict [4]. Allowing listening time and avoiding our immediate reaction should be our strategy. The first work of rationalization is addressed to the intensivist, who must avoid the provocative effects of falsehoods. People in front of you have to be considered as victims and not as the authors of the system. False ideas and perceptions are often preserving an inner world that leads to a continuous loop. Defence of Science without restraints turns the physician into a persecutor, giving relatives the opportunity to lose their trust. Mediation becomes unproductive. On the other hand, families' trust should shift towards the physician's truthful words after gently proving data and supporting information. This process may need time and several meetings.

Flood of words

Showing attention to interlocutors and their beliefs without judgments and disapproval, one solution could be to invite interlocutors to ask more questions, to further explain their ideas and beliefs. Answers and ideas, even if meaningless, should easily flow. This action will result in a natural depletion of emotions, dissipating aggressiveness that has been previously stored.

Body language

Although moves may characterize physicians' predominant role as far as the relationship with patients and relatives is concerned, authoritarian gestures should be avoided. The health-care provider should progressively prove his determination and desire to provide a cure. Where possible, facial expression should reveal willingness to listen and impassibility toward provocative remarks. Clinicians should wear a "mask", blending his personal experiences and offering medicine's reassurance.

Scenography

Books, magazines, web sources and symbols referring to medical knowledge should be a scenography support, far from being a mere aesthetic decoration. This support will divert the interlocutor's attention to medical knowledge, saving physicians from explicit conflicts. Clinical and scientific knowledge have to be retained as main characters throughout the care process. Physicians should refer to a collective "we", rather than a personal "I". It is important to give the impression of personal and "tailored" therapeutic choices, rather than choices based on cultural experiences.

Gently reply to Quackademic science

As affirmed in 2008 by Robert Donnel, in a great percentage of cases reasons of the Quackademic science will be opposed to reasons of science [26]. Quackademic science is a set of infiltrations and contaminations of pseudo-science and pseudoscientific charlatanism against medical education, academic, research and clinical practice. It is a particular form of complementary and alternative medicine (C.A.M.), which was born from alternative medical practices (e.g. naturopathy, *anthroposophical* medicine), and that has a certain magical inspiration. Imitating the linguistic structure of scientific medicine, this fake science represents a serious threat. Intensivists should therefore reply to pseudo-science by kindly and firmly explaining the scientific substrates of official medicine. Besides, physicians should add some medi-

cal words or terms when giving health information regarding patients, to confirm the truth of official science. Relatives' anxiety and suffering may be limited, creating good communication strategies and basing their relationship with physicians on trust.

CONCLUSIONS

Fake news represents a serious threat to the relationship among patients, families and critical care physicians due to the difficulties in communication in this setting. Understanding the phenomenon is of utmost importance to apply specific countermeasures aimed at improving and strengthening the emotional alliance with patients and relatives.

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