The Effect of Social Media on Health Information in Times of Crises; the Case of COVID-19; A Descriptive Analytical Study

أثر وسائل التواصل الاجتماعي على المعلومات الصحية أثناء الجوائح المختلفة؛ وباء كورونا نموذجا

(دراسة تحليلية)

Mohammed FEDOUL *
University of Batna1
Mohammed.fedoul@univ-batna.dz

Abstract:

The phenomenon of the infodemic and disinformation on social networks that marked the Covid-19 pandemic crisis is an illustrative example of the complexity of dealing with topics related to health and pandemics on social networks. The interest of this article will focus on the influence and roles of social networks during the Covid-19 pandemic crisis. We have tried to explain the phenomena of the infodemic and disinformation that characterize this type of information through social media. And to achieve the objectives of the study and better analyze this phenomenon, we opted for a descriptive method. The results of the study demonstrated the incredible and inevitable influence of social networks and the complexity of combating false health information. Regarding the recommendations, we can mention among others; the need to be more careful in online research on health information, the obligation for social media companies to fully assume their social responsibilities in times of crisis.

Keywords:
COVID-19 Pandemic, Misinformation, Social media.

* *Corresponding author*

Introduction

A lot of scientific work carried out in recent years confirms that social networks have become an essential means of communication and dissemination of information in various fields. The literature on this topic has highlighted the changes brought about by social media in the lives of citizens and the functioning of the institutions of modern society. Social media are therefore spaces that allow users to hear from their loved ones, find or exchange information, recommendations, opinions, and ask questions about subjects related to several aspects of daily life.

Moreover, several studies on the subject of digital social media in times of crisis are accentuating noting that these media had caused traditional media such as radio and television to lose their power to control information. In the era of New information and communication technologies (NICT), even the field of medicine does not escape social networks. As a proof, we notice a strong demand for health information on social networks in recent years. This is higher and accentuated during pandemics and health crises. Moreover, this is what we noticed during the last Covid-19 pandemic.

Social media constitute, in times of health crises, real sources of information and an essential means for different types of stakeholders in the field of public health. Thus, we see a variety of sources for this type of information and the number of speakers through the different platforms of social networks. Nevertheless, it should be well known that in such an important and critical field, any incomplete or imprecise information, false or lacking credibility risks fatally the relationship of trust between individuals and information sources.

The phenomenon of the infodemic and misinformation on social networks that marked the Covid-19 pandemic crisis is an illustrative example of the complexity of dealing with subjects related to health and pandemics on the internet and social networks. The interest of our article will focus on the roles of social networks during the Covid-19 health crisis, as we will try to explain the phenomena of the infodemic and misinformation and the credibility of sources of this kind of information through social media.

Thus, the Covid-19 pandemic constitutes the first global health crisis since the advent of social media. Moreover, as soon as it appeared, it aroused a strong mobilization on the part of various networks and digital platforms. The extraordinary flow of information on this disease has generated an abundance of information qualified as an infodemic by the World Health organization (WHO). Despite the important role played by social media to share all the information about the different aspects of the pandemic, these same media had a negative influence on its users. Social media was a favorable space for disinformation and the circulation of false information. Something that pushes us to ask questions about the bad influence of social networks on individuals at the time of the Covid-19 crisis

Firstly: **Definitions**

1. Social media: Social media are tools for communication and information sharing in interaction. According to Dalmer Nicole, "social media are tools that allow individuals to communicate, to collaborate, and form online communities; they can be shared, reused, or remixed, and they allow individuals to easily learn based on the behaviors and knowledge of others". [1]

2. Health information: There are two types of information in this field: professional medical information, typically technical and scientific, emanated from health professionals. It's information that relates to health data that concerns the individual or a wider population. Secondly, there is health information for the general public, which brings together general data outside the health profession on subjects as varied as they are succinct, such as vaccination, hygiene, disinfection. [2]

3. Infodemic: It is defined as an epidemic of misinformation that is described as a tsunami of information for the public, exposed in the form of expert opinions on erroneous theoretical bases, and half-elaborated advice, miracle cures, and rumors on social media platforms.

4. Credibility: The credibility of online information is known to be affected by characteristics that relate to different sources on the web. These, associating social media, refer to the sources that publish information about health, such as the owners of websites and personal pages on social media platforms, authors who give information in writing or orally, and videos, as well as the different channels and technological media of communication through which health information is given.

Secondly: **Online health information**

The proportions of Internet use in modern societies, and the availability of health information on the web are factors capable of modifying the information landscape in the health field[3] . Recent research on this topic highlights the upheavals affecting this information, especially with the advent of new actors in the production of health information, which has experienced a clear qualitative and quantitative development. This really poses a problem of its mastery, which is becoming more and more difficult, because it escapes both the medical sector alone and the State.

For this it is necessary to know the characteristics of health information on social networks by trying to explain the factors favoring the increase in demand for this kind of information on the web.

1. Characteristics of health information conveyed by social media

Health information represents one of the important topics discussed on the internet by users with very varied characteristics [4] . Thus, online health information is associated with various actors, and comes from various sites, such as websites managed by several organizations, home pages, individuals and doctors, group supports for the exchange of information online, blogs managed by health advocates, medical assistants, and those seeking assistance[5] .

The popularity of social media is linked to the growing and continuous demand for information, which has become more important in modern societies and is

multiplying at an unprecedented level. However, it is necessary to distinguish between two types of health information:

- Professional, technical and scientific medical information, emanating from health professionals, it relates to health data that concerns the individual or a wider population. This one is generally stamped with the confidentiality seals and rules governing their conservation, their communication and their exploitation and use.

- Popularized health information for the general public, which brings together general data outside the health professional on various subjects, such as vaccination, dietetics.[6]

But, practically speaking, it is difficult to distinguish between the two types when we see the intervention of several stakeholders, in particular health professionals, on digital platforms. Although the health information on the web is varied and improved quantitatively or qualitatively, and despite the ease for its transmission and reception, it nevertheless remains a very sensitive and complicated field, especially in times of health crises. To this, we must of course add the behaviors of users who seek this type of information online and the different factors influencing these same behaviors.

2. The factors influencing the increase in the use of health information on the internet

-The increase in the number of elderly people with proven abilities for the use of the internet, whose health needs are important.

-The efforts provided by the various insurance companies and health institutions to bring their subscribers and patients to the web.

-The speed and anonymity of the Internet as an information environment.

Today, no one can deny the important demand for health information on the web, especially in times of health crisis, nevertheless, it is necessary to note that this kind of information requires a certain mastery not only from the sources and creators of content, but also from the users of social media in order to better understand the subjects covered and evaluate the information emanating from the various actors and sources.

3. Factors influencing health knowledge:

-The ability to read and write, because an illiterate person will not be able to access written content and he is content with video content which will not guarantee a better understanding.

- The assessment of the credibility of medical and health information.

-The ability to think critically about medical information. This is important, because it is necessary to have the ability to distinguish between information sources to verify the reliability and credibility of the information. Generally this information generated by the credibility of the source.

-Access and evaluation of medical information, because we cannot evaluate information if we have a problem of access to its source.

-The place of medical information in daily activities and in people's social life.

Thirdly: **Social networks in times of crises**

Social media are Web 2.0 platforms or applications that allow their users to create online content, exchange it, consume it and interact with other users or their environment in real time. In recent years, the use of social media has increased significantly; thus in 2019 Facebook, Twitter and Whatsapp had 5.7 billion users worldwide[7] .

A social network is a social composition that allows you to communicate with friends, places, organizations or individuals. All friends can be connected to one or more other friends to possibly constitute a structure that represents the social link of this individual[8] .

1. **The different types of social networks**

Social networks can be classified according to different types, each has its own utility and specialty:

- Personal and generalist networks: This type focuses on general and diverse topics (sports, music, politics, ...). The aim is to share passions and ideas with the rest of the community. Among these networks we can mention Facebook and Twitter.

- Sharing networks: These are platforms dedicated to sharing multimedia (photos, sounds, videos, ...) between Internet users. The objective is to facilitate accessibility to multimedia sources for Internet users in a community. Among these most popular platforms we can mention Youtube (a platform to send, watch, comment, rate and share videos) and FlikR (a platform to share photos).

- Professional networks: They offer the possibility of connecting and sharing professional information. Among these networks, we mention LinkedIn, which allows you to publish and share resumes and to search for jobs in companies and organizations that publish their job ads on the network.

- **Thematic personal networks:** They can be considered as generalist networks but are oriented around a theme (car, music, fashion ...) [9] .

2. **The role of social networks in times of crisis**

There are platforms specialized in crisis management: for example, Crisis mapper (declination of Open Street Map) makes it possible to map areas affected by a major event. Studies demonstrate the role of social media in the processes of collective and / or individual resilience and in particular in the elaboration of meanings around major events. The "crisis informatics" studies also take hold of the concept of "sense making" and study the online processes by which individuals organize themselves during a crisis to respond to the uncertainties it generates [10] .

Because these crises come to redefine social behaviors, ways of being-together, of working, they are a source of uncertainty, especially for the authorities usually responsible for responding to them. For citizens and users of social networks, one of the ways to respond to these uncertainties is to gather information. As a result, social

media plays a central role in this approach, both for people directly impacted by events or the crisis and by a wider community feeling concerned.

Eismann, Passega and Fischbach show that sharing and obtaining factual information are the main functions of social media, regardless of the type of crisis. In doing so, searching for and sharing information on social media during a crisis makes it possible to build a global image of what is happening. This use of social media makes it possible to "cope" with events, in particular by improving one's "situational awareness" understood as the process that ideally consists of gathering all the accessible knowledge about an uncertain situation in order to draw a coherent picture and evaluate it [11] . However, it should be pointed out that there are real dangers of using social media during moments of crises.

Fourthly: **Benefits and dangers of social media during the COVID-19 crisis**

The demand for health information is relatively high during periods of health crises. This is what we have noticed during the Covid-19 pandemic period. Social media has been promoted in the same way as traditional media to the ranks of channels for disseminating and sharing information par excellence on Covid-19. Likewise, it is important to note that social media has played a leading role in popularizing and sharing information, raising awareness, orientation, solidarity, mutual assistance and "making sense" that we have discussed before.

Thus, digital platforms make it possible to ensure the dissemination and rapid transmission of information on the evolution of the pandemic, facilitate interpersonal communications and promote the development of local aid and support initiatives. On the other hand, these same technologies are also important instruments of disinformation whose effects reduce the effectiveness of the measures implemented by public authorities in several countries.

1. **Infodemic**, **misinformation**, **disinformation and false information on social media during the COVID-19 disease crisis**

The risks incurred by individuals by relying on information devoid of credibility on social media would be inappropriate, and spill over into phenomena of "infodemia", disinformation and "misinformation". Of course, history shows that the phenomenon of disinformation in times of crises is very old, however one thing is certain: the Covid-19 pandemic has been described as the first global crisis of the digital age.

-Infodemic: People have started using the term "infodemic" to grasp the parallel between the very rapid spread of the virus and the rapid spread of misinformation about the disease and measures to combat the pandemic. The WHO defines the infodemic as an overabundance of information, both online and offline. It is characterized by deliberate attempts to disseminate erroneous information in order to undermine the public health response and to promote the different objectives of certain groups or individual [12]. The consequences are numerous, because this

overabundance of information can harm the physical and mental health of individuals, increase stigma, threaten valuable health gains and lead to non-compliance with public health measures, thereby reducing their effectiveness and compromising the ability of countries to stop the pandemic [13].

The infodemic then created confusion and encouraged risky behavior by some people. It has an impact not only on the health of the population, but also on the trust placed in the authorities. Indeed, the infodemic is a risk factor for the intensification or prolongation of an epidemic because people do not know what to do to protect themselves properly and adopt protective behaviors for others. [14].

-Health disinformation: It is defined in terms of any claim made in relation to health, and which turns out to be false based on the current scientific consensus. Disinformation represents a risk to health in general because it interferes with scientific and medical recommendations, and impairs the ability of individuals to make appropriate health decisions, and influences their health behaviors. Research conducted on the phenomenon of disinformation during the Covid-19 period has noticed that certain beliefs related to disinformation are associated with less knowledge of this disease, as well as a low adherence to preventive behaviors.

-Misinformation: It is linked to false and incorrect information that is shared without being generated by intentions to harm people. Disinformation, on the other hand, would be defined as false and incorrect information that is shared with the aim of harming others. However, the consequences of misinformation can be just as harmful as those generated by disinformation. [15]

In general, disinformation is created by people who take advantage of the limited attention that users have on the internet, but also of the tendency of the latter to believe that everything that is online is (potentially) true. [16]

2. False information

False information is false or invented information whose authenticity is ambiguous or never confirmed. They relate to a situation, an event, a public or unknown figure, an organization, a government or even a state. [17]

Erroneous information is delivered via traditional media or non-institutional social media such as blogs and online social networks. The objective varies between manipulating and deceiving public opinion or a well-determined audience on specific topics; modifying their decisions and actions; harming opponents (organizations, parties, politicians, intellectuals ...) or else for the purpose of increasing profit and popularity.

2.1. The types of false information

False information appears in different forms. It is important to note that false information can be the result of overlapping of several types at once, among the following types [18] :

- Fabricated information: completely imaginary information that has no relation to real facts. This type of false information is not new. It has existed since the

birth of journalism. Very popular examples include fabricated stories related to aliens and unidentified flying objects.

- Propaganda: this is a particular sub-type of fabricated information. This kind of fake news was widely used during the Second World War and the Cold War. Propaganda is heavily used in political contexts to influence a target audience, with the aim of propagating ideas, political plans, ideologies or discrediting a particular political party or nation-state. Propaganda can even change the course of history, taking for example the invasion of Iraq in 2003 supposedly because of its possession of chemical weapons and the danger it represents for the region.

- Conspiracy theories: refer to theoretical narratives that explain situations or events by invoking conspiracies without any proof. These stories speak of the illegal acts of governments or powerful people acting in the shadows. This kind of information explains the events by resorting to political conspiracy by refuting all other official or scientific explanations provided by the systems and the mainstream media. Moreover, this is what we have seen with the spread of the Covid-19 pandemic, where former US President Donald Trump accused China and its laboratories of being at the origin of viruses to plot against the United States of America.

Fifthly: **The main actors of the infodemic on the COVID–19 pandemic**

- Experts and scientists

The Covid-19 pandemic has posed a real challenge to the scientific community around the world. Scientific publications on this pandemic require time. However, the very rapid spread of the virus has not left the necessary time for scientists to conduct very advanced and reliable research on the various aspects related to this virus. And despite the great contribution of health specialists and scientists against the disease and in the fight against false information, and despite also their contribution in the traditional media and in social networks to explain and make people understand all the aspects related to this pandemic and their efforts to share reliable information, however the flow of information and the large volume of scientific publications, the contradictions in some results of studies, the uncertainties and the difficulty of reaching a consensus are all factors that have contributed to the phenomenon of the infodemic.

The scientific community, all disciplines combined, has quickly committed to the fight against Covid-19. More than 16,000 scientific publications have been identified in the four months following the first declared case of Covid-19 infection. Of these studies, at least 6,000 were distributed in "preprint" mode. For Fraser and his colleagues, these accelerated publications, although not peer-reviewed, greatly supported the response of governments during the first wave of Covid-19. [19]

-International organizations

International organizations have mobilized since the discovery of the virus in December 2019, and they have played an important role in countering the infodemic. Moreover, it was the Director-General of the World Health organization who used the

term infomedic for the first time in 2020 to describe the abundance of false information on the subject of Covid-19. The ONU and UNESCO have also contributed to combating misinformation about the Covid-19 disease.

However, we notice the importance given to the speeches of scientific authorities such as public health, international organizations, the government and sometimes the media. It can be seen that the first reflex of citizens was to turn to these authorities. The doubt that returned later is not so much about the questioning of these institutions, but about the questioning of a particular actor, if it is central, for example, in public health and it sometimes makes choices that are not always up to the institution he is supposed to defend. People did not distrust these authorities, but rather the way everything was organized. Some people have distrust towards the people who work in these organizations or even towards very specific elements such as masks.

In this specific case, the range of positions of the same person over three months changes from "it is absolutely not necessary" to it should be forced, which harms credibility. However, this has not challenged people's confidence in public health or the health sciences. [20]

- Governments and political leaders

In addition to public health and economic issues, one of the responsibilities of governments is to counter the infodemic and mitigate its harmful consequences. The fact is that disinformation and misinformation about Covid-19 generate important consequences for public authorities. The false information circulating threatens the effectiveness and compliance with health measures by the population. Consequently, it weakens the economic recovery and delays the return to a possible "normality". In many countries, while citizens lived in uncertainty, the initial hesitations of the authorities would have opened a breach conducive to the proliferation of misinformation.

The case of the former US President Donald Trump remains the illustrative example of political figures who have sown doubt about the virus. Trump did not hesitate as soon as the pandemic appeared to point the accusing finger at China for being at the origin of this virus, as if the virus had been "manufactured" by the Chinese, moreover he did not stop in these statements or his publications on Twitter to launch the name of the "Chinese virus" on the Sarscov-2 virus causing the Covid-19 disease. [21]

- Social media

Social media companies have shown a notorious reluctance to control the content that circulates on their platforms. They insisted that these are social connectivity mechanisms, intended to give citizens a means of expression, and that they themselves do not create content. They thus argue that they are neither media companies nor publishers, and that they should no longer have to be held accountable for how people use their technologies.

But, faced with a global emergency, nevertheless, and the prospect that their platforms could be used to inflict very real damage, companies have become more attentive to their social responsibilities in exceptional circumstances. Facebook, Twitter and YouTube have announced measures designed to stop the spread of misinformation about the coronavirus and to draw attention to official sources trustworthiness. For example, Facebook has established new policies to support existing policies, aiming to direct users to reliable and accurate health information while eliminating misinformation that could lead to imminent physical harm.

He announced the creation of a Coronavirus (COVID-19) Information Center to gather rigorous information and advice from the World Health Organization, UNICEF and national health organizations such as the Public Health Agency of Canada (PHAC). At the same time, it has taken measures to remove content that, according to international and national health organizations, would undoubtedly lead to damage. These measures have been considered insufficient by some detractors who believe that they do not allow to cope with the mass of information disseminated on the platforms and that the fact of removing only the content likely to cause physical damage allows a plethora of shameful content to continue circulating [22] .

Conclusion

To conclude, it must be said that the Covid-19 pandemic has put social media to a hard test, because it constitutes the first global pandemic after the advent of social networks. Through this article, we have been able to raise some dangers generated by social networks during the Covid-19 crisis. Our modest research work has allowed us to understand the phenomenon of the infodemic and the different sources that convey false information. Unfortunately a lot of this false information comes from health professionals. However, but one thing is for sure, it is difficult to imagine such a health crisis without social networks. These were a great contribution to their users during the entire crisis, especially during the confinement periods. Accusing social media of being sources of all the excesses, false information, manipulation or infodemic is easy, but the most important thing is to look for the appropriate way to better manage such crises by fighting the sources of disinformation. Finally, we recommend that users be more careful when searching online for health-related information. For their part, social media companies must fully assume their social responsibilities, especially in times of crisis. Because, their reluctance and the failures in the control to counter the false information noticed during the Covid-19 crisis, will not have to happen again in the event of a possible crisis, if we really want to be credible in the eyes of populations around the world. Health professionals who intervene on social networks are also called upon to think better of their reputation and avoid controversies about health information during pandemics. The polemics and contradictions of scientists on social media harm public health and generate misinformation.

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