Disinformation impact on the Covid-19 pandemic

Coffee Beans

Prof. RNDr.Vanda Boštíková, Ph.D., Prof. RNDr. Aleš Macela, DrSc

Although the Covid-19 pandemic is hopefully behind us, it is worth looking back not only at its medical implications, but also to information referring to the disinformation campaign, as it is very important for upcoming strategies to counter these phenomena as effectively as possible.

Since the beginning of the Covid-19 pandemic, misinformation reflecting rumours, stigma or conspiracy theories has played a significant role in contributing to the failure to contain the situation. Prioritization of these theories over science-based knowledge and recommendations has had, and will always have, serious consequences for public health. We have seen this phenomenon not only on a global level, but of course it has not escaped, unfortunately, also Czech society (1).

In Brazil, during the first six months of the pandemic, the misinformation was mainly about the number of sick and dead, prevention and treatment methods (2). Claims circulated on the Internet such as: field hospitals that are empty mean that the virus is not real; chloroquine and hydroxychloroquine can serve as a cure; empty coffins are buried to increase public fear (3). The falsified claim about coffins caused a frightened public to gather in cemeteries to see if the information was true. In conjunction with this activity, the long-emotional crowds were shown to have infected others and carried the infection into their local communities (3).

In Arizona and New Mexico in the first half of 2020, 15 people ingested a powerful disinfectant in the mistaken belief that this would prevent infection. Four people died and three others suffered lifelong consequences (4).

The internet, social media and other communication channels with readily available data have contributed greatly to the spread of misleading information. The public has been reinforced in views and beliefs that have led to vaccine avoidance, refusal of masks or respirators and use of inappropriate medicines. Ultimately, this contributed to increased morbidity. Misinformation has become a psychological burden on individuals and has become a challenge to public health and governments worldwide (5)

Concerns related to the Covid-19 vaccines reported to the US Centers for Disease Control and Prevention (CDC) in Atlanta included not only their potential negative impact on female fertility and ability to alter the human genome, they also mentioned beliefs about a global effort to reduce the world's population, including skepticism about emergency permission to vaccinate with the new vaccines. In the past, many people positive about vaccination have waited and delayed vaccination against Covid-19 (6).

The World Health Organization (WHO) was the first to point out a new phenomenon - a viral pandemic has spawned an infodemic (information pandemic). Social media platforms, currently used by 53.6% of the world's population, have become one of the main sites for the rapid spread of information and,

unfortunately, much misinformation. Facebook is actively used by 2.89 billion people per month, followed by YouTube with more than 2 billion users. The next places are TikTok with over 1 billion users, Twitter with approximately 186 million users, and Reddit with approximately 52 million daily active users. The most active social media users are people aged 18 to 55. Many of them use more than one app. Teenagers and young adults are the most trusting group for virtual information, and middle-aged adults are slightly less trusting (Figure 1) (7, 8, 18).

Distribution of worldwide social media users by age
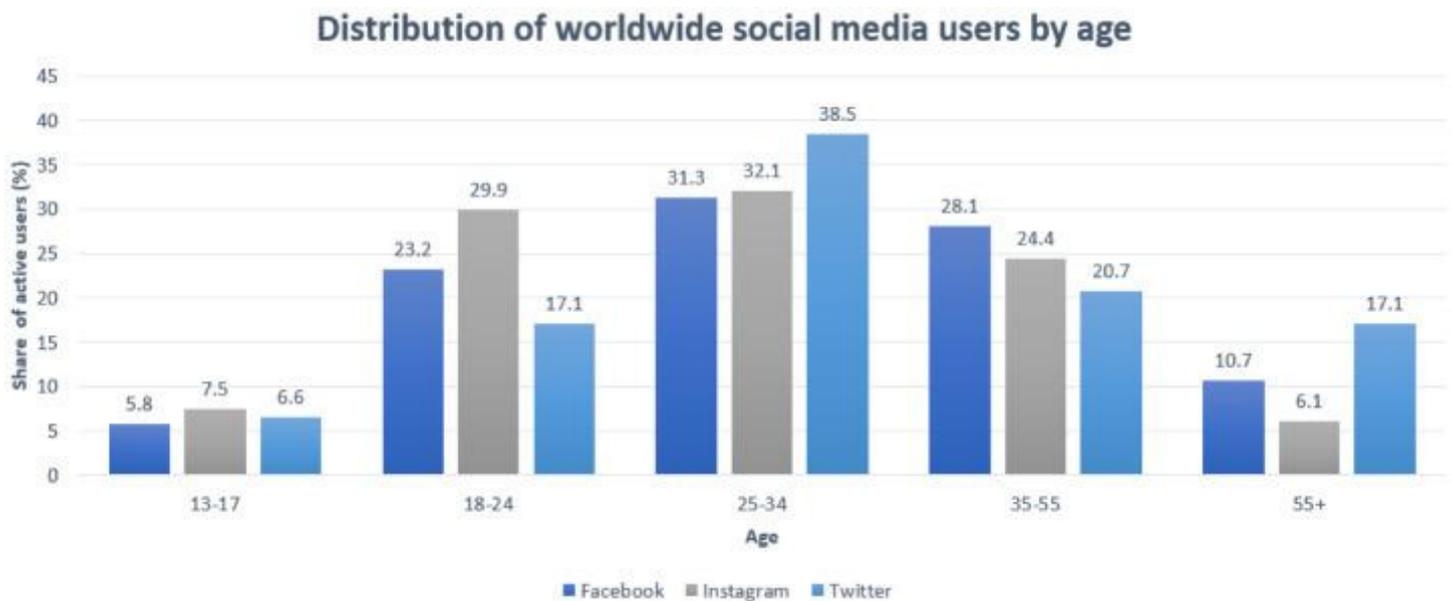
During the pandemic, X (formerly Twitter), a very popular platform, was widely used by users to express their feelings about the spread of the disease, share supposed preventions and cures, hypotheses about the origins of the disease and how governments should respond appropriately. X has become a conduit for spreading true, partially true, and false claims (9, 10).

In a study examining misinformation about Covid-19 on X, more than 92 expert fact-checking groups analyzed data consisting of false or partially false tweets. Of the 1,500 tweets used for the study, 1,274 were false and 226 were partially false claims. The data show that false claims spread faster than partially false claims (10).

Collaboration between health organizations and the media space has opened up a number of new opportunities to combat misinformation campaigns. A project, 'Stop the Spread', was launched on BBC World TV, on a website and on an app. Its aim is to raise public awareness of the extent of misinformation about vaccines and vaccination and to encourage readers to verify it, thereby limiting the spread of misinformation and the damage it can cause. The 'Reporting Misinformation' app encourages users to verify and report inaccurate information on various social media platforms. It is available in five languages and has become the second most visited site related to Covid-19. People
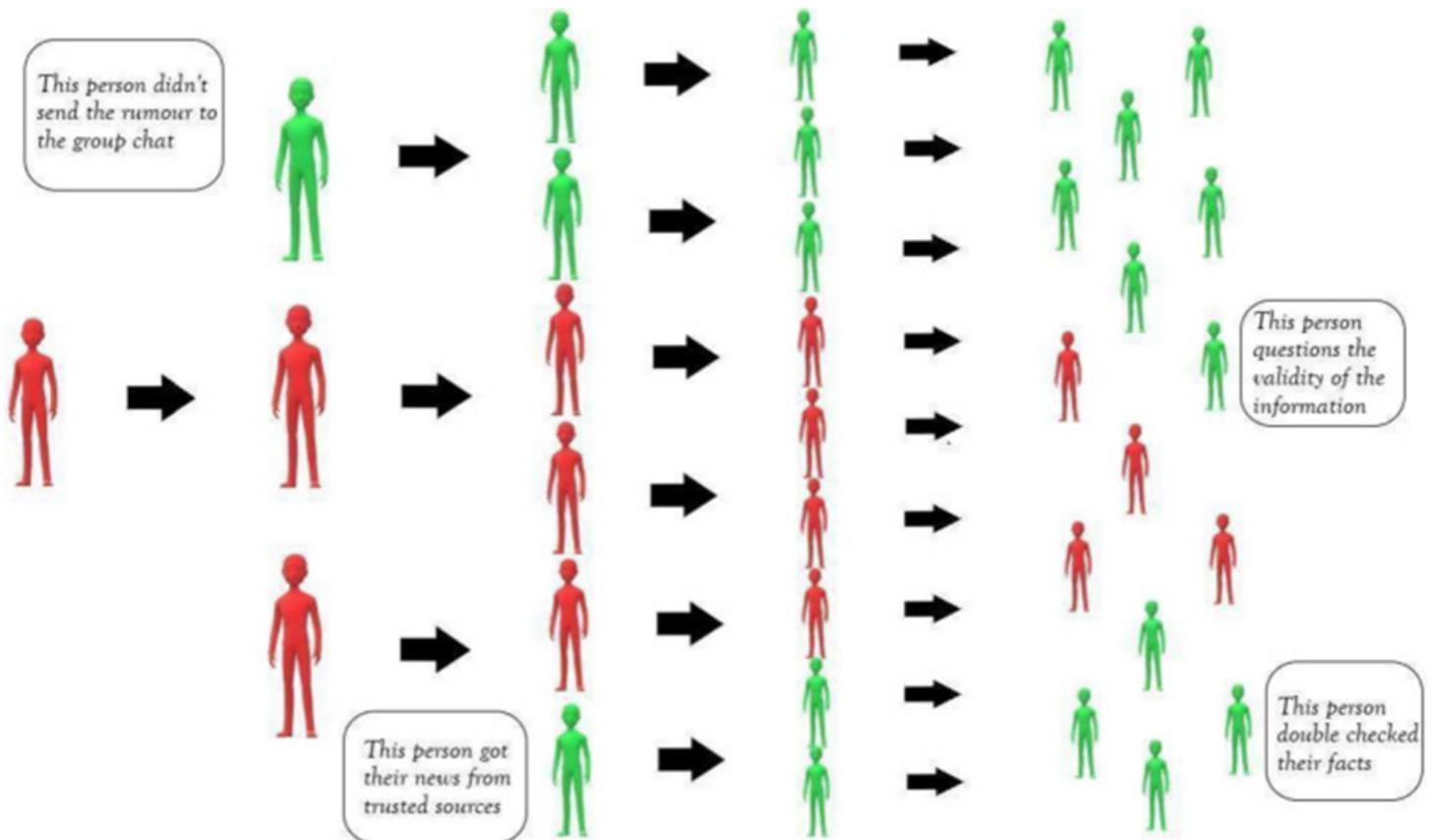
are encouraged to search for information through verified hashtags. The CDC recommends using #COVID19 (6, 11, 12).

A very successful project called #ShareTheMicNow has been launched globally. Public figures will allow scientists and physicians access to their social media accounts to post truthful information and scientifically verified data with factual explanations of misinformation. One of the first stars to take up the challenge was Julia Roberts (13, 14).

Another example from the Asian continent is the collaboration between Vietnamese singer Khac Hun and the Vietnamese National Institute. They created a song that promoted hand washing (5 times a day as recommended by the CDC). The song literally went viral thanks to a dancer who created a video choreography on TikTok (15).

A campaign developed in Florida, "Our best shot," encouraged the Florida community to vaccinate, wear masks, continue hand washing, and maintain social distance. Their project included the creation of a set of workshops equipped with tools and educational materials for community leaders to further their educational outreach among the population of each district (16).

Historically, misinformation in health care has always shaped public perceptions to some extent, but the impact of this connection became crucial during the Covid-19 pandemic. We cannot but conclude that it is prevention that is the most effective way of combating misinformation. Based on experience and an evaluation of the impact of the cited counter-disinformation campaigns, it appears that the ideal approach is to use a similar approach to that used by deploying treatment against the disease. In the case of infodemia, people are exposed to a number of erroneous facts and are told how wrong they are. An interesting strategy called "prebunking" aims to prevent misinformation in this way. Its method has three main categories based on (1) facts and correcting false claims, (2) logic aimed at exposing the strategy used to manipulate, and finally (3) exposing the sources that spread the misinformation (Figure 2) (17, 18).

This person didn't send the rumour to the group chat

This person got their news from trusted sources

This person questions the validity of the information

This person double checked their facts

References:

1.Sahoo S, Padhy SK, Ipsita J, et al. Demystifying the myths about COVID-19 infection and its societal importance. Asian J Psychiatr. 2020;54:102244.

2.de Barcelos TDN, Muniz LN, Dantas DM, et al. Analysis of fake news disseminated during the COVID-19 pandemic in BrazilAnálisis de las noticias falsas divulgadas durante la pandemia de COVID-19 en Brasil. Pan Am J Public Health. 2021;45:e65–e65.

3.Biancovilli P, Makszin L, Jurberg C. Misinformation on social networks during the novel coronavirus pandemic: a quali-quantitative case study of Brazil. BMC Public Health. 2021;21:1200.

4.Yip L, Bixler D, Brooks DE, et al. Serious adverse health events, including death, associated with ingesting alcohol-based hand sanitizers containing methanol - Arizona and New Mexico, May-June 2020. MMWR Morb Mortal Wkly Rep. 2020;69:1070–1073.

5.Mian A, Khan S. Coronavirus: the spread of misinformation. BMC Med. 2020;18:89.

6. Myths and facts about COVID-19 vaccines. Centers for Disease Control and Prevention. 2021. Available from: https://www.cdc.gov/coronavirus/2019-ncov/vaccines/facts.html.

7.Shahi GK, Dirkson A, Majchrzak TA. An exploratory study of COVID-19 misinformation on Twitter. Online Soc Netw Media. 2021;22:100104.

8.Gabarron E, Oyeyemi SO, Wynn R. COVID-19-related misinformation on social media: a systematic review. Bull World Health Organ. 2021;99:455–463A.

9. Doyle B. TikTok Statistics - Everything You Need to Know. Wallaroo. 2021. Available from: https://wallaroomedia.com/blog/social-media/tiktok-statistics/

10. Iqbal M. Twitter Revenue and Usage Statistics (2021). Business of Apps. 2021. Available from: https://www.businessofapps.com/data/twitter-statistics/

11.Merchant RM, Lurie N. Social media and emergency preparedness in response to novel coronavirus. JAMA. 2020;323:2011–2012.

12.Tips to Minimize the Sharing of Misinformation via Social Media Channels. Risk Communication and Community Engagement (RCCE) - COVID 19. UNHCR The UN Refugee Agency. 2020.

13.Greenspan RL, Loftus EF. Pandemics and infodemics: Research on the effects of misinformation on memory. Hum Behav Emerg Technol. 2020;3:8–12.

14. Cuan-Baltazar JY, Muñoz-Perez MJ, Robledo-Vega C, et al. Misinformation of COVID-19 on the Internet: Infodemiology Study. JMIR Public Health Surveill. 2020;6:e18444.

15. O'Kane C. Catchy PSA about coronavirus turns into viral TikTok challenge about washing your hands. CBS News. 2020. Available from: https://www.cbsnews.com/news/coronavirus-prevention-vietnam-song-ghen-co-vy-tik-tok-challenge-about-washing-hands-quang-dang-john-oliver/

16. Vaccine. Miami-Dade County. 2021. Available from: https://www.miamidade.gov/information/library/vaccines-our-best-shot.pdf.

17. Lewandowsky S, van der Linden S. Countering misinformation and fake news through inoculation and prebunking. Eur Rev Soc Psychol. 2021;2021:1–38.

18. Caceres M., Sosa JP, Lawrence JA, et al. The impact of misinformation on the Covid-19 pandemic. AIMS Public Health. 2022;9(2):262-277.