Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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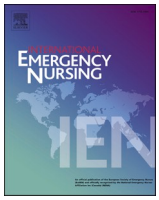

Editorial

Challenges of an 'infodemic': Separating fact from fiction in a pandemic

The COVID-19 pandemic has significantly impacted on all aspects of our lives due to transmission via air droplet in close contact, with nearly 3.5 million deaths and over 167 m cases worldwide [1]. The spread of misinformation has been magnified during the COVID-19 crisis with issues such as wearing a face mask to reduce transmission being politicised. We have all had to rapidly adapt, and particularly for healthcare professionals, how we interpret and convey information about the virus and in particular how the vaccines have the potential to impact on the trajectory of the virus and the public's response. As the emergency department is often the first place those who are ill turn to, emergency professionals have been at the forefront.

Global co-operation with gene sequencing and vaccination development has led to effective vaccines being created in record time, however, a potentially larger enemy than the COVID-19 virus lurks in the public conscience. There has been an 'infodemic' about COVID-19 and the SARS-CoV2 virus in the traditional media, social media platforms, and messaging platforms globally. Infodemics are proliferative in nature and aim to spread information about a problem as rapidly and widely as possible across traditional and social media outlets. Infodemics can include misinformation, disinformation, rumours, and conspiracy theories- all of which can be harmful to an effective public health response. Infodemics can perpetuate unsubstantiated claims about the nature and treatment of a disease; they can amplify unverified 'facts', and deny what has been proven scientifically about the disease, and instead propose conspiracy theories and malicious intent as origins and causation of the disease, which can unfortunately sow distrust amongst the public. Some of the mis-information is led by individuals, but there are also examples of state-sponsored campaigns [2–4]. A recent study from the Cornell Alliance For Science analysed around 38 million articles published in the English-language traditional and online media on prominent topics of COVID-19 related misinformation that emerged between 1st of January and 26th May 2020. The study, which was the first comprehensive survey on the issue of misinformation, found that media mentions of former US President Donald Trump within the context of COVID-19 misinformation had by far the largest share of the infodemic [4]. The study concluded that former US President Donald Trump was likely the largest driver of COVID-19 misinformation 'infodemic' [4]. Similarly, studies looking at the effect of Twitter bots and trolls driven content have found that they disseminated anti-vaccine messages cand discord on COVID-19 further eroding public confidence about the vaccination against COVID-19 [5–8]. Often individuals will question healthcare professionals and this leads to further conflict in an already stressed workplace, especially in the emergency department.

The overall effect of an infodemic is the dissemination of false medical information which can be a serious threat to global health [9]. The challenges of disseminating health information outside a pandemic are well-documented but once again the COVID pandemic and its associated infodemic has added additional layers to an already challenging science. The United Nations and the World Health Organization have both acknowledged the threat of the COVID infodemic. It is without any hyperbole that the infodemic has been described as more contagious and equally damaging effect than the SARS-CoV2 virus by Tedros Adhanom Ghebreyesus, the Director-General of the World Health Organisation [10]. As the Director-General of the World Health Organisation, and Antonio Guterres, the Secretary-General of United Nations have both separately stated that the 'fight' and '*our common enemy' was not only against the COVID pandemic but also against the "infodemic'' of misinformation*'. Both the WHO and the UN have launched different strategies and partnerships to fight against the spread of false information. The WHO, for example, have launched teams of mythbusters to collaborate with media companies such as Facebook, Twitter and YouTube, to dispel false information on COVID-19 [11].

False information is easily spread because it is easily digestible by consumers and believable because it provides simplistic and often binary solutions or explanations. In contrast, scientific evidence can be complicated, nuanced, and more importantly as has been evidenced in this pandemic, scientific evidence involves an investigative process which is often a laborious process not commensurate with the haste of its demand at a time of public need and crisis.

There is a wider inherent conundrum when tackling false information, especially in those working in healthcare. Healthcare professionals have a duty of care to provide accurate health information to the public; a professional responsibility which is stipulated in respective code of conducts. Listing the many false information about COVID-19 pandemic and refuting each one through rational arguments by using verifiable evidence can inadvertently give the impression that there is an equivalency between the false news and verifiable evidence. But how else can false information be dispelled within a workplace such as the emergency department? There is another aspect to the pandemic and its infodemic; by nature, SAR-CoV2 is a novel virus with a new pathophysiology and before the results of the Pfizer/BionTech Vaccine, the Oxford vaccine, the Moderna Vaccine, the NOVAVAX vaccine, and more recently the Janssen COVID-19 vaccine, there had been no established preventive treatment. Therefore, the dilemma is not only about how false information can be dispelled with reliable scientific facts, but also how to encourage an understanding and acceptance that until the investigative and analytical process of clinical research has covered enough ground, there will be much about a novel virus and its effect that remains unknown. The need for healthcare providers to ensure their workforce is knowledgeable about so many aspects of Covid-19 and its transmission

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is often unrecognised. Healthcare professionals have been exposed to the same official messaging from their respective governments. The 'led by science' slogan used by the UK, US and Brazilian Governments for example earlier in the pandemic, were misleading and reductive for a number of reasons. It implied that there is a singular voice of 'science,' binary categorisations rather than a set of sciences all of which are led by questions. And these questions are answered through specific methodologies, producing results which are reviewed through debate. Often there is no consensus but rather an equipoise between sciences furthering more inquiry and debate.

Globally, the hijacking of 'science' and the subsequent politicisation of 'science' is part of the challenge in managing the infodemic. Public health messages in this pandemic have often been unclear, and at times conflicted with political decisions and actions that evidently did not follow 'science.' The absence of sustained leadership, and a growing public mistrust of 'experts,' have fuelled the infodemic and created camps of belief. It has been obvious that false information such as anti-vaccine and anti-mask messages tend to be emotional and sensational than seemingly bland public health messages. The issue is highlighted with the differences in mortality between the US and UK with extremely high rates compared to New Zealand and Vietnam where very low rates of mortality have been recorded. Amidst these camps of belief, is the attempt of healthcare professionals to unify and simplify complicated information that conveys the seriousness of the pandemic. Due to the high transmissibility of the virus, the onus is on each member of the public to reduce the risk and philosophically leads to the question- how much responsibility does each individual take for their own health and for those around them? For healthcare workers, responsibility to the public and common good is embedded in their professional code of conduct. For example, for nurses in the UK, under the ethos of 'Always practice in line with best available evidence,' Section 6.1 of the Nursing and Midwifery Council (NMC) Code of Conduct states that:

'any information or advice given is evidence-based, including information relating to using any health and care products or services.'

In addition, under the ethos of 'Communicate Clearly,' Section 7.4 of the NMC Code of Conduct asks to:

'check people's understanding from time to time to keep misunderstanding or mistakes to a minimum.'

Safeguarding against false information is ingrained in the NMC Code of Conduct, and it can be argued that the ongoing revalidation process is to keep in step with evolving evidence-based practice. But the question remains, how do healthcare professionals reject false information without creating false equivalency and unify camps of belief while evidence on a novel virus is still emerging? Compounding these new challenges, is the way that clinical research as a subset practice of healthcare is being discussed in areas of care which are not normally familiar with the clinical research process such as emergency departments, but are the first port of access for many among the public when they seek care. The pressure faced by emergency departments when treating acutely unwell patients is well-documented; providing health information about COVID-19 or discussing clinical research protocols and guidelines as health promotions measures only increases these challenges.

Unfortunately, there is no easy answer and each of us working as healthcare professionals need to engage with members of the public where we can and say and do what we can. Humanity depends on it.

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References

[1] COVID-19 Map - Johns Hopkins Coronavirus Resource Center. Johns Hopkins Coronavirus Resource Center 2021. https://coronavirus.jhu.edu/map.html (accessed January 13, 2021).
[2] Figueira Á, Oliveira L. The current state of fake news: challenges and opportunities. Procedia Comput Sci 2017;121:817–25. https://doi.org/10.1016/j.procs.2017.11.106.
[3] Islam AKMN, Laato S, Talukder S, Sutinen E. Misinformation sharing and social media fatigue during COVID-19: an affordance and cognitive load perspective. Technol Forecast Soc Change 2020;159:120201. https://doi.org/10.1016/j.techfore.2020.120201.
[4] Evanega S, Lynas M, Adams J, Smolenyak K. Coronavirus misinformation: quantifying sources and themes in the COVID-19 'infodemic.' The Cornell Alliance for Science 2020:13.
[5] Broniatowski DA, Jamison AM, Qi S, AlKulaib L, Chen T, Benton A, et al. Weaponized health communication: twitter bots and russian trolls amplify the vaccine debate. Am J Public Health 2018;108:1378–84. https://doi.org/10.2105/AJPH.2018.304567.
[6] Memon SA, Carley KM. Characterizing COVID-19 Misinformation Communities Using a Novel Twitter Dataset. ArXiv:200800791 [Cs] 2020.
[7] Uyheng J, Carley KM. Bots and online hate during the COVID-19 pandemic: case studies in the United States and the Philippines. J Comput Soc Sci 2020;3:445–68. https://doi.org/10.1007/s42001-020-00087-4.
[8] Singh L, Bansal S, Bode L, Budak C, Chi G, Kawintiranon K, et al. A first look at COVID-19 information and misinformation sharing on Twitter. ArXiv:200313907 [Cs] 2020.
[9] Lee G. The importance of facts in this 'fake news' era. Int Emerg Nurs 2017;31:1. https://doi.org/10.1016/j.ienj.2017.03.001.
[10] Ghebreyesus, TA. Munich Security Conference 2020.
[11] The World Health Organisation. Coronavirus disease (COVID-19) advice for the public: Mythbusters. Coronavirus Disease (COVID-19) Advice for the Public: Mythbusters 2020. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/myth-busters (accessed January 10, 2021).

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