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Title: Toning down the 2019-nCoV media hype - and restoring hope

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As the novel coronavirus (2019-nCoV) outbreak has revealed, the world has become increasingly susceptible to the emergence and outbreaks of new and reemerging infectious diseases that can spread quickly due to the rapid movement of people globally.¹ The appearance of a new infectious disease with pandemic potential usually ignites serious cross-cutting media, as well as scientific and political debate.^{2,3} The events surrounding the 2019-nCoV are no different, and for the past 5 weeks, 2019-nCoV has captured global media, political, and scientific attention.^{4,5}

The flurry of scientific activity surrounding 2019-nCoV has led to over 103 publications (as of Feb 10, 2020), which have defined various epidemiological and clinical features, including evidence of human-to-human transmission in community, household, and hospital settings. These have guided the development of numerous guidelines from WHO and other public health agencies for diagnosis, prevention, and control. As a result of these guidelines, airlines have reacted quickly to the outbreak, including British Airways, Lufthansa, Swiss Air, and Austrian Air, who have suspended flights to and from mainland China. Several countries have also been evacuating their nationals and their family members from Wuhan.

This outbreak highlights the lessons learned from previous outbreaks, such as severe acute respiratory syndrome (SARS), Middle East respiratory syndrome

(MERS), and Ebola, for which China, Saudi Arabia, and WHO faced severe criticisms for slow action. For every outbreak, global preparedness for, and response capacities to, emerging and re-emerging infectious diseases with epidemic potential can be improved upon. The rapid, well coordinated global response to the emergence and detection of 2019-nCoV, and effective communication between scientists, researchers, and epidemiologists and public health and funding agencies, was unprecedented compared with past outbreaks. However, since the first announcement of the outbreak, the news and social media hype has also been unprecedented.

The path from generation of scientific and public health information to consumption and use of this information by the media contains several steps, each of which can lead to exaggeration or misinformation. The proliferation of internet-based health news might encourage selection of media and academic research articles that overstate the strength of causal inference.

We investigated the state of causal inference in health research at the end stage of the pathway—ie, the point of social media consumption. Did the media hype emanate from ineffective risk communication both to the public and media? Proactive case finding and increase in contact tracing and screening led to an exponential rise in the numbers of cases reported by the Chinese authorities, with a consequential increase in media reports and ensuing hype. The reproductive rate (R_0) predictions, evacuation of European and North

American citizens from China, and in some cases the confinement and quarantine of people (eg, in the UK), have gained major visibility in the press and have also contributed to the hype.

Reporting of the situation in real-time from the public on social media could lead to more accurate collating of information by the media. However, the rapid pace of developments, increasing case detection rates, along with increasing diversity of information mean it has become increasingly difficult for the media to assimilate and make meaningful interpretations from this information source. Moreover, the volume of information being reported to and by global public health authorities exceeds the capacity to collate and analyse it, or to cross-reference and verify with other data received. This inability to validate information can fuel speculation, and thereby lead to media and public concern.

The balance between providing the information required for appropriate actions in response to risk and providing information that fuels inappropriate actions is delicate. The global media response to 2019-nCoV remains unbalanced, largely due to the continuously evolving developments and, as a result, public perception of risk remains exaggerated. The many unknown factors surrounding the virus are likely to lead to further media hype and aberrant public response. For example, the number of people who travelled to and from Wuhan before travel restrictions and the lockdown were put in place, how many of these individuals were asymptomatic or were incubating the virus, and whether screening and current control measures will be effective, are all unknowns.

As of Feb 10, 37 558 cases were confirmed, and 812 deaths had been reported to the WHO. Outside of China, 307 cases had been detected in 24 countries.⁶ Therefore, although several hundreds of patients remain in intensive care, the overall hospital fatality rate remains at 2%. Therefore, it is time to reduce the hype and hysteria surrounding the 2019-nCoV epidemic and reduce sensationalisation of new information, especially on social media, where many outlets aim to grab attention from followers. Additionally, the disparity between the strength of language as presented to the media by some researchers and politicians and the inference shared on social media requires more research to determine how content is being relayed on different platforms.

An effective way of putting this outbreak into perspective is to compare it with other respiratory tract infections with epidemic potential. 2019-nCoV appears to fit the same pattern as influenza, with most people recovering and with a low death rate; the people at risk of increased mortality are older in age (>65 years), immunosuppressed, or have comorbid illnesses. There is currently no evidence that 2019-nCoV spreads more rapidly than influenza or has a higher mortality rate.

The media should focus on having altruistic intentions and develop dialogue with the appropriate authorities to protect global health security through effective amiable partnerships. They should highlight vaccine development efforts as well as educational and public health measures that are being put in place to prevent the spread of infection. Although there are many things to still learn regarding how best to respond to disease outbreaks of this nature,⁷ there are also several positives, such as diagnostics tests being developed within 2 weeks and rolled out globally or the rapid garnering of financial support for vaccine development, which should perhaps be in the headlines, to fuel reassurance rather than fear.

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