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Editorial: Science communication in difficult times: the intersectionality of science communication and risk communication during disasters and crises

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Editorial on the Research Topic

[Science communication in difficult times: the intersectionality of science communication and risk communication during disasters and crises](#)

The ability of humankind to solve problems and adapt to changing circumstances is key to our long-term survival. Locally, nationally and globally we face a myriad of problems, yet the impacts of many of these are disproportionately felt, such as climate change (Mearns and Norton, 2010) and pandemics (Tai et al., 2021). Science communication has an important role to play in modern societies (Davies, 2021), from fighting misinformation (Goldstein et al., 2020) to helping engage diverse stakeholders (Weingart and Joubert, 2019), defining and addressing problems and implementing solutions. Science communication, and those who work within it, thus have roles as brokers of knowledge.

Knowledge is a resource, but one that is not always distributed evenly (Medvecky, 2018). This can have ethical implications (Dahlstrom and Ho, 2012) as how well communities can prepare for, endure, or recover after times of difficulty or crisis can often be influenced by the information and perspectives that are used to define both the problem and the potential solutions. Yet those defining the problems and formulating the solutions are typically not those most acutely affected. For example, the COVID pandemic has highlighted how women, minority groups and those in developing countries bear a much higher burden as a consequence of reduced access to support and resources (Benski et al., 2020; Ho and Dascalu, 2020; Medeiros et al., 2023). Similarly, the impacts of climate change, such as bushfires and intense tropical storms, disproportionately affect those who already have less, compounding their disadvantage. Failing to recognize the impact of intersectionality on communities during times of challenge or crisis, or even just in day-to-day living, means that sometimes solutions serve only to widen pre-existing gaps. This Research Topic includes five articles exploring how countries, typically not well-represented in the academic literature, responded to challenges or crises and the different science and risk communication strategies they used.

Nabavi's paper presents the difficulties of communication during a water crisis in Iran. He discusses the inherent challenges of effectively communicating with a multitude of stakeholders—the decision makers, those impacted by the problem and the experts—within a situation exacerbated by the uncertainty, fear and urgency of the public. Current governance, power dynamics, scholarly dominance and other regional factors influence who has the power and agency to participate in decision-making. Consequently, this privileges some knowledge perspectives, such as engineering, over other academic disciplines and sources such as indigenous knowledge of water systems and customs. This work discusses how co-production can be used productively to widen participation in water governance.

Cagayan et al. explore the COVID-19 vaccination of pregnant women in the Philippines. Pregnant women were excluded from vaccination until the Delta variant arrived, creating urgency to protect them, requiring improved communication across this community. Despite authority-led recommendations from the Department of Health for pregnant and lactating mothers to be vaccinated, many did not come forward to receive it; the initial vaccination rate of this group was 19%. There were concerns about the adequacy of the vaccination communication which was affected by social disparities. Cagayan et al.'s paper describes a communication campaign which was designed to overcome these difficulties, using visual infographic and video based information on social media platforms. The communication messages were simple, clear and gender balanced. Despite being used by publics as well as health authorities, concerns remain around the ability to reach all communities via this approach.

The Yokoyama and Ikkatai paper measures and compares trust in experts and trust in government in 2020 and 2022 in Japan. The authors found there was no change in trust in experts, which was maintained at a relatively high level, but ruling party supporters trust experts more than opposition party supporters. This may be because ruling party politicians are receiving expert advice. In other words, rather than the content of the advice, it seems possible that trust may depend on the viewpoint of whether the advice is useful for the ruling party's politics, communication itself, and what one believes.

Risk communication is an essential component by governments and agencies globally to curtail the spread and devastating effects arising from COVID-19. An understanding of the effectiveness of the national risk communication strategy is key in generating effective solutions in the future. In a study conducted in Nigeria, Lawal showed that public attention peaked at the beginning of the pandemic when there was a stringent nationwide lockdown imposed by the government, but there was considerable decline in safety adherence afterwards despite increasing new cases. The results indicated that the risk communication efforts were inadequate in providing a prolonged health behavioral change. The evidence suggests that risk perception may have been poorly targeted by risk communication interventions.

The final paper also considers risk communication during COVID-19 in the context of Bangladesh. Ahmed et al. show,

through their qualitative study, how risk communication during the pandemic was unable to effectively reach marginalized and low income communities. Interestingly, rural communities were connected to local governance and support groups and received certain information while urban low income, low literate communities were beyond the reach of such support systems. Participants who had formal or semi-formal jobs such as working in a ready-made garment factory or in a household were connected to authority or personnel who could provide them with some level of information about the pandemic. However, community members with small scale or informal businesses were not connected to any authority body and remained disconnected from information sources, compounding disadvantage. Social prejudice also negatively affected socially marginal participants such as widows living with small children. The major challenges arose from the traditional top down approach of risk communication where the authority made the communication strategy and decisions without knowing the challenges of the general population.

The work presented in this Research Topic shows examples, predominantly from Asia, where marginalized communities are impacted most. Despite illustrating that there is a lot of work and effort to design and develop effective communication mechanisms that include them, marginalized communities are still most likely to face barriers to accessing and receiving information, including barriers created by social prejudice. The articles also show how the general populations may perceive authorities as untrustworthy and lacking compassion, undermining the legitimacy of the information shared. Collaborative approaches to communication can influence these perceptions, and may go some way to overcoming these barriers.

Author contributions

NA wrote the first draft of the manuscript. MM, CO, and HY wrote sections of the manuscript. All authors contributed to manuscript revision, read, and approved the submitted version.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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