Behaviour adoption approaches during public health emergencies: Implications for the COVID-19 pandemic and beyond

Supplementary Material

Summary of the drivers of behaviour adoption during infectious disease epidemics

Social learning and social interactions play an influential role in driving individual and collective behaviors,[1 2] which can change rapidly during fast-evolving epidemics.[2] Social Cognitive Theory asserts that people learn from their environment and modify their behaviour in response to their learned social experiences.[3] For example, intrinsically experiencing COVID-19 cases and deaths in one's family or community may influence future adherence to protective measures.[3 4] In such scenarios, the negative experience reinforces the positive protective behaviours. However, people can also be influenced extrinsically by those in their social networks or through other external interventions.

An individual's confidence in their ability to execute a behaviour (self-efficacy), their perceived threat of the disease, and the benefits they anticipate if they take action are key to having them adopt a promoted behaviour according to the Health Belief Model.[3] During the SARS pandemic in Hong Kong, perceived risk was positively associated with the adoption of protective behaviours.[5] Communities' self-appraisal on whether or not their needs were met (basic, security, autonomy, respect, and social support) during the Ebola epidemic in Sierra Leone was a predictor of behavioural uptake.[6] For example, unmet needs for basic physical goods (such as food and drinking water) in communities were associated with less adoption of protective behaviour shown in fewer timely referrals of suspected Ebola cases within 24 hours.

A survey conducted during the 2009 influenza A/H1N1 epidemic in the United Kingdom found that public perceptions of the outbreak predicted behaviour adoption.[7] Decreased likelihood of behaviour adoption was associated with perceptions that the A/H1N1 outbreak was "over-hyped" by the British government. Also in 2009, another study, conducted on behavioural responses to the A/H1N1 outbreak in Malaysia found that knowledge of the virus and the fear of contracting it were the key predictors of adopting protective behaviours.[8] Similarly, research on psycho-behavioural responses to the 2003 SARS outbreak in Hong Kong found that higher perception of

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risk and even moderate levels of anxiety were associated with the adoption of precautionary measures.[5]

A study in the United States showed that the 'realistic threat' that the COVID-19 pandemic poses to physical health or financial wellbeing was positively associated with the adoption of protective behaviours such as social distancing and handwashing.[9] On the other hand, the 'symbolic threat' of viewing the COVID-19 pandemic as an assault on one's socio-cultural identity was negatively associated with their uptake of self-reported protective behaviours.[9] Symbolic threats measured in the study included perceived threats on what it means to be American, American values and traditions, and American democracy.[9] A different study with a representative sample from the United States found that deontological framing of COVID-19 prevention messages around duties and responsibilities toward family, friends and fellow citizens may produce positive effects on intentions to share health messages with others, which may possibly enhance the protective behaviours.[10] A study with an international sample found that the fear of COVID-19 predicted positive behaviour change (e.g. social distancing and handwashing) while self-perceived risk of contracting the virus, moral foundations, or political orientation did not predict behaviour change.[11] Taken together, the emerging evidence points to complex, context specific influences that influence how people interpret and act upon health messages received during the COVID-19 pandemic.

Beyond the COVID-19 pandemic, the drivers of vaccination behaviours have been examined in the contexts of routine primary healthcare and outbreaks of communicable diseases. In both contexts, there is robust evidence, showing that vaccination behaviours for various health threats are influenced by complex factors including personal beliefs and value systems,[12] mistrust in authorities and teams offering the vaccine,[13-15] altruism to protect others,[16-18] people's perceptions of how trusted people view the vaccine (injunctive norms),[19-21] risk perceptions and risk appraisal,[22-25] and practical factors, such as the convenience of when and where vaccination services are offered.[26]

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