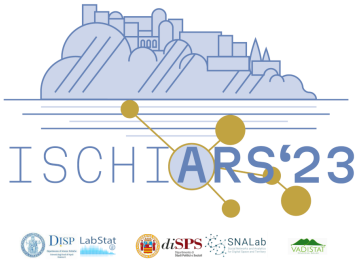

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Social influence in the adoption of mosquito bites preventive measures in Meghalaya, India: Exploring policy interventions with an empirical agent-based model

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The last 20 years have seen a substantial reduction of the global incidence of malaria, although this reduction has not happened uniformly, resulting in a disproportionate risk of infection among hard-to-reach populations. Most studies that measure uptake of personal protections look at the relationship between individuals' characteristics to preventive and treatment behaviours. Less attention has been paid to the endogenous social influence dynamics possibly preventing the diffusion of protections. Understanding the role of social networks is important to shed light on the micro-level dynamic of diffusion. Moreover, testing possible interventions in virtual contexts is key to design efficient policy that could change adoption behaviour. This study aims to understand the impact of social influence on the rate of adoption of complementary mosquito bites preventive measures in three indigenous (tribal) villages in Meghalaya, a rural and remote area in North East of India where malaria is still endemic. We asked each eligible villager to name the people within their village they talk to about health-related matters. For each villager we collected information about their individual characteristics (i.e. gender, age, educational background, occupation, etc.). They also had to indicate if they ever use measures to prevent mosquito bites. In order to study the diffusion dynamics within the observed networks, we built an agent-based model of the observed networks. We then ran computer simulations by assuming various implementations of diffusion mechanisms to generate the best fit of the observed adoption rate. Finally, we plan to simulate possible public policy interventions to identify the most efficient measures to increase the adoption rate.

Keywords

Malaria, Social influence, Diffusion, Policy intervention, Agent-based model

Topics

- Statistical methods and models for network analysis

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