Vaccine hesitancy changes over time:
Attitudes toward vaccines during the COVID-19 pandemic
11 January 2022

Worldwide, vaccine hesitancy is proving to be a stumbling block to securing much needed protection against the spread of coronavirus disease 2019 (COVID-19). Now, researchers from Japan have uncovered specific factors that influence attitudes about vaccines, which is valuable knowledge for combating vaccine hesitancy.

In a study published last month in *Vaccines*, researchers from the University of Tsukuba reported dramatic changes in vaccine acceptance over a five-month period during the COVID-19 pandemic. Detailed information about what causes these changes could help address low vaccine uptake in specific populations.

Vaccine hesitancy is a complex behavior influenced by a wide range of factors, including knowledge, information, social norms, emotions, health literacy, perceptions of risk, trust in the government and medical institutions, and past experience. Attitudes regarding vaccines are particularly affected by personal health, circumstances, and emotions, as well as new information, changes in the economic climate, and observation of the behaviors of others. At present, the ways in which these factors influence vaccine hesitancy are not well understood, especially in relation to the COVID-19 pandemic. This is something the researchers at the University of Tsukuba aimed to address.

"Vaccine hesitancy is delayed decision-making regarding vaccination, and is a serious threat to global health," explains lead author of the study Professor Takayuki Harada. "Because people in Japan are known to have a low level of confidence in the safety of vaccines, we wanted to investigate a wide range of factors that could impact vaccine hesitancy and acceptance."

To do this, the researchers conducted an online survey in which Japanese individuals from different age groups were asked to provide their sociodemographic information and answer questions regarding their vaccination attitudes over a 5-month period. The questions addressed behavioral and psychosocial factors, such as health-related behaviors, risk perceptions of COVID-19, anxiety, and attitudes toward science and pseudoscience. The reasons for changes in attitude over time were also explored.

"The results were surprising," says Professor Harada. "We found that over the five-month period, the vaccine acceptance rates more than doubled among the participants."

As might be expected, health-related behaviors such as going for regular medical checkups and flu shots were consistently associated with high vaccine acceptance.
"Our findings indicate that circumstances and psychological factors such as anxiety and risk perception are linked to changes in vaccination attitude. Thus, interdisciplinary approaches are needed to enhance the effectiveness of vaccine programs," says Professor Harada.

Understanding how internal and external factors influence vaccine acceptance may lead to new strategies for disseminating vaccine-related information in more individualized ways, as well as facilitating the development of psychological interventions to address vaccine hesitancy and anxiety. Combined, these efforts could increase the vaccine uptake rate, and reduce the overall societal impact of COVID-19 and future pandemics.


Provided by University of Tsukuba

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