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Herd immunity: young adults, outside the herd?



Study finds trust in key actors in health crisis management, attitudes, information, and conspiratorial beliefs were key to predicting whether young adults refused to be vaccinated against the SARS-CoV-2 virus. Therefore, in the face of a possible new health crisis, proper communication management by the actors involved will be absolutely essential.

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Vaccination has historically been an essential strategy to reduce the impact of infectious diseases, often being safer and more effective than other treatments. It not only prevents infection and reduce morbidity and mortality, but it also helps contain health system costs and reduce the risk of emerging new resistant variants.

The World Health Organization (WHO) has warned that one of the biggest barriers to preventing the spread of disease is resistance to vaccination, which could be based on negative beliefs, attitudes, and behaviors. Although the benefits of vaccines against common and serious diseases have been demonstrated, distrust regarding their safety and effectiveness has driven significant sectors of the population to resist vaccination, complicating the task of achieving the so-called "herd immunity".

In the context of the COVID-19 pandemic, mass vaccination proved crucial to stop the spread of the virus, significantly reduce mortality and hospitalization, as well as curb the emergence of new variants. However, the novelty of the SARS-CoV-2 virus and the accelerated process of vaccine production generated uncertainty and distrust in many

people. Although available vaccines proved safe and effective in reducing severe cases, hospitalizations, and deaths, at critical moments of the pandemic there was a substantial proportion of the population that was resistant to getting vaccinated.

In the face of a future health emergency such as the one represented by the COVID-19 pandemic, it is crucial to draw lessons learned, which implies, among many other actions, the identification of population groups resistant to vaccination and the barriers that hinder its acceptance. In Spain, the population aged 18 to 49 years was the one with the lowest vaccination rate at the beginning of the mass vaccination program against the SARS-CoV-2 virus, so it seemed of great interest to analyze the resistance to vaccination in this population group. For this reason, we carried out a study in which 2210 young adults answered an online questionnaire, coinciding with the start of the vaccination campaign for this group (June 2021). In total, 67 factors that could potentially be associated with intention to vaccinate were assessed.

This study is part of the PSY-COVID project, led by researchers from the Stress and Health Research Group (GIES) of the Autonomous University of Barcelona (UAB). This is an international collaborative research initiative that has aimed to study the psychosocial impact of the COVID-19 pandemic. This project involved 180 researchers from 55 research centers in 28 countries, who created a standardized and cross-cultural instrument for the assessment of mental health, SARS-CoV-2 prevention behaviors, lifestyle, and possible predictive factors. Three waves of the project were implemented between 2020 and 2022, involving more than 92.000 people.

The results of the study on intention to vaccinate in young adults, derived from the second wave of the PSY-COVID project, allowed to identify the following conditions positively associated with the intention to be vaccinated: being health personnel; perceiving COVID-19 as a threat to one's own health; having a high tolerance for confinement; showing a favorable attitude towards mobility restrictions, preventive measures and the vaccine; having confidence in the authorities, the public system, health personnel and scientists; spend a lot of time searching for information about COVID-19 and considering that information reliable.

Seeking emotional support and two personality traits were also found to be predictors of vaccination intention: a high score in extraversion and sociability were positively associated with vaccination intention. Conversely, holding a conspiratorial belief about the (anthropogenic) origin of the SARS-CoV-2 virus, the perception of availability of public resources for mental health, a good mood during the pandemic and drug use were associated with refusal to vaccinate.

Of the factors that appear to have some degree of connection with the reluctance/hesitance to vaccinate, four stood out for their ability to predict it: (1) showing a negative attitude towards the vaccine, (2) trusting health and scientific personnel little, (3) holding a conspiratorial belief about the origin of the virus and (4) spending little time learning about COVID-19. The study has shown that by asking a person three questions (whether he/she believed that the SARS-CoV-2 virus was developed in a laboratory, whether he/she had a positive attitude about the vaccine, and how many hours he/she spent looking for information about the pandemic) it could be predicted with 86% accuracy the intention (or not) to be vaccinated.

This last result has relevant, practical implications: among the plethora of factors that seem to be related to the intention to vaccinate, the most relevant are controllable, and can be

addressed through effective communication strategies focused on trust in key actors, in the attitude towards vaccination, in quality information about the pandemic and in the management of fake news. Therefore, in the face of a possible next health crisis of global dimensions, adequate communication management by all the actors involved is of absolute importance, particularly the public administration responsible for health governance, experts, and the mass media.

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