We need herd immunity against COVID-19 vaccine misinformation

12 May 2021

Credit: Pixabay/CC0 Public Domain

Misleading claims about COVID-19 vaccines can negatively impact public confidence in immunisation uptake, a new UNSW Sydney study reveals.

A new study published in the scientific journal *PLOS ONE* revealed over 103 million people globally liked, shared, retweeted or reacted with an emoji to misinformation and conspiracy theories about COVID-19 vaccines.

In 2020, a social media post claiming, "a new vaccine for COVID-19 will alter a person's DNA and result in them becoming genetically modified" was circulated on Facebook accounts in Australia. Up until August 21, 2020, this false claim had attracted 360 shares and was viewed 32,000 times.

The study, led by UNSW researchers, examined content between December 2019 to November 2020 which included news articles, social media posts, online reports and blogs.

Associate Professor Holly Seale from UNSW Medicine & Health's School of Population Health and senior author of the study said the misinformation being shared by family members, friends and other people in the wider community network was concerning.

"From previous studies, we've been able to link this misinformation with negative outcomes, including death," explained A/Prof Seale.

Also of concern was the absence of fact-based information to counter the circulation of these conspiracy theories and rumours on multiple social media platforms, which has the potential to be misinterpreted as credible information. Additionally, the study identified numerous rumours and conspiracy theories that could negatively impact public confidence in COVID-19 vaccines and the willingness to receive the vaccination.

A national survey conducted among US adults in September 2020 on willingness to receive the COVID-19 vaccine found a 21% decline when compared with another national survey conducted in May 2020 among similar groups. This decline could be attributable to the exposure to COVID-19 vaccine misinformation on social media. In another study conducted among Australian adults, 24% were unsure or not willing to accept a COVID-19 vaccine. 89% of these individuals were concerned about vaccine efficacy and safety, and 27% did not believe a COVID-19 vaccine was necessary.

The misinformation that was examined included content ranging from vaccine development to mortality due to receiving the COVID-19 vaccination.

A post that was circulated widely claimed a Russian vaccine company omitted phase three clinical trials for a COVID-19 vaccine. This claim provoked concern and criticism from the scientific community that the vaccine was not tested for effectiveness or safety, which could result in global concern and

vaccine hesitancy.

Another post on social media suggested 160 doctors disapproved of the COVID-19 vaccine as it could change human DNA or that it could modify genes, cause cancers, and infertility.

The most popular conspiracy theory circulating online was the claim that the COVID-19 vaccine could monitor the human population and take over the world. One theory proposed the COVID-19 vaccine would contain a microchip through which biometric data could be collected, and large businesses could send signals to the chips using 5G networks, thereby controlling humanity.

To counter the misinformation and conspiracy theories around COVID-19 vaccines, the researchers suggest traditional methods of risk communication and community engagement needs be explored to track and fact- check misinformation as ways to immunise people against misinformation, thereby pre-empting potential vaccine program disruptions.

"We only looked at the platforms that are open and free, which included Facebook, Twitter and other similar networks. But then there are the closed networks, such as WhatsApp and WeChat. We still have very little understanding about the role of misinformation, where it is originating from and what type of impact it's having, so there is a lot more research that needs to be done in this space."

More information: *PLOS ONE* (2021). journals.plos.org/plosone/arti … journal.pone.0251605

Provided by University of New South Wales