

Moroccan Facebook Users Refusing Covid-19 Vaccine: A Thematic Analysis



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ABSTRACT: Vaccination against COVID-19 has been available in Morocco since January 2021. However, some of people report not wanting to be vaccinated. In order to increase the willingness of the population to get vaccinated, the Moroccan government launched its free nationwide vaccination campaign. Therefore, this study attempts to investigate the reasons leading to rejecting the vaccination based on posts from Moroccan Facebook users. Accordingly, Facebook was searched regarding negative attitudes towards COVID-19 vaccination. A thematic analysis was used to analyze the data and to inductively generate codes, subcategories and categories. Based on 100 posts written by Facebook users, three main themes were identified for refusing a COVID-19 vaccination: mistrust of vaccination, health concerns, and lack of information. The study emphasizes the relevance of providing trustworthy and quality-assured information on COVID-19 vaccination to the population.

KEYWORDS: COVID-19, Vaccination, vaccine refusal, thematic analysis, Facebook, Morocco.

INTRODUCTION

In late December of 2019, a cluster of pneumonia cases of unknown etiology was detected in Wuhan, China. Not known to anyone at the time, this cluster of infection would soon spread with such speed and intensity that it would become a defining point in global history. By January 7th, 2020, Chinese authorities were able to attribute this outbreak of illness to a novel strain of coronavirus, which would later be named SARS-CoV-2 (Gorbalenya et al., 2020). By January 13th, Thailand was the first country to report a confirmed case of the novel coronavirus and resulting COVID-19 disease outside of China. Within days, additional countries including Japan, Korea, and the United States had reported their first confirmed cases, and in only a matter of months the disease had spread to most countries in the world. As an increasing number of countries began reporting confirmed cases of COVID-19, the World Health Organization Director-General officially declared a Public Health Emergency of International Concern on January 30th, 2020 (World Health Organization, 2020).

While it is presumed that a percentage of the global population remain asymptomatic after becoming infected with SARS-CoV-2, many who contract the virus also develop a disease called COVID-19 as a result. The symptoms of COVID-19 commonly include fever, cough, and fatigue (Huang et al., 2020), though patients worldwide have reported a host of additional symptoms, ranging from mild to severe. The virus can infect people of all ages; nevertheless, the risk of contracting COVID-19 is particularly worrisome for people living with pre-existing health conditions and the elderly, who face much bleaker prognoses than their younger or healthier counterparts (World Health Organization, 2020). Accordingly, the World Health Organization declared COVID-19 a pandemic health emergency on 11 March 2020, as most countries went into sanitary emergency states and implemented various levels of lockdown and social distancing protocols.

In Morocco, reports put the number of confirmed cases of COVID-19 at around 527,147 with 9247 resulting fatalities. Thus, along with the preventive measures such as social distancing, mandatory face coverings in public settings and intensified hygiene measures, vaccination was highly considered to reduce the risk of COVID-19.

Vaccination

Vaccination is one of the most important advances in the fight against the spread of infectious diseases. In fact, vaccines have long been one of the most important ways to protect people against infectious disease, both in preventing illness altogether as well as decreasing severity of symptoms, should infection occur. The majority of vaccines are designed to prevent initial infection, and are usually administered to people who are both susceptible to the illness and likely to transmit the disease. Vaccines help to protect individuals by providing personal immunity, but they also serve as a pro-social public health instrument by reducing the transmission of disease especially to the most vulnerable community members, which contributes to an effect known as herd immunity. The idea of herd immunity suggests that achieving high vaccination uptake within a population will ensure that those who cannot be vaccinated for medical reasons and those who might not fully respond to immunization are still protected as a result

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of the overall reduced disease transmission within the population (Mallory et al., 2018). Since vaccination is the most effective preventive measure to reduce infections, researchers and scientists rushed to develop and test new vaccines to protect against COVID-19. Several vaccines against COVID-19 were developed in multiple countries. The newly developed COVID-19 vaccines have generated a considerable debate about effectiveness and adverse events.

Morocco was one of the first countries to launch a COVID19 vaccination campaign in Africa, starting January 29, 2021. The vaccination campaign in Morocco initially began in areas with high incidence rate of COVID-19. The vaccine was made free of charge for all Moroccan citizens. Priority was given to people over 75 years of age, health professionals over 40 years of age, teachers over 45 years of age, public authorities, and members of the army. The other demographic groups were vaccinated thereafter.

Theoretical Framework

This study was informed by the Conceptual Model of Vaccine Hesitancy, also referred to as vaccine refusal (Dubé et al., 2016). This model considers attitudes towards vaccination as complex, multifaceted, individual decision making processes affected by emotional, cultural, social, spiritual, political, and cognitive influences. Specifically, in addition to individual factors (knowledge, past experiences, perceived importance of vaccination for health, risk perceptions, religious, moral convictions, trust), this framework considers attitudes towards vaccination to be influenced by relationships with other individuals such as health professionals, family, and friends. The hesitancy model also considers the time and context in which vaccination occurs, as well as the role of public health, vaccine policies, and the media in shaping attitudes towards vaccination. Therefore, using the hesitancy model lens, we considered the balance of attitudes towards vaccination as a continuum from vaccine acceptance to vaccine refusal. In fact vaccine hesitancy is not a new phenomenon; in fact, it is a matter so pressing that the World Health Organization classified vaccine refusal among the top 10 threats to global health in 2019 (World Health Organization, 2019). Dubé et al. (2016) found that vaccine experts and health professionals identified vaccine refusal as a growing concern. As such, a thorough understanding of publics' perceptions of vaccine hesitancy toward an emergent COVID-19 vaccine is crucial. While dominant approaches to understanding vaccine decision making generally center around cognitivist and individualistic assumptions, additional perspectives including public health, risk communication, health psychology, and sociocultural perspectives should also be considered when trying to understand vaccine refusal or vaccine hesitancy (O'Doherty et al., 2017). Adopting these additional perspectives is necessary to protect against certain implicit assumptions about vaccine refusal and also to recognize the complexity and nuance that comes with vaccine decision making. It is also worth mentioning that one does not simply adopt a stance on vaccination and let that static belief guide all of their behaviors. Beliefs and behaviors around vaccine refusal are both established and changed for a variety of reasons, and an individual's level of vaccine refusal might differ depending on the vaccine.

METHODOLOGY

The main objective of this study is to investigate how Moroccan Facebook users were responding to the COVID-19 vaccination. Facebook is the most widely used freely accessible social media forums in Morocco, and accordingly the highest numbers of posts are available on this site and that is why this social media forum was selected. The data included Facebook posts created from January 2021 the time when the vaccine was available to July 2022 when the Kingdom has announced the start of its own vaccine production.

This study is guided by the following research question:

Which themes are dominant in Facebook users refusing COVID-19 vaccination?

To answer this question, Facebook posts were searched for reported rejecting COVID-19 vaccination. The search terms used to identify relevant postings were the following keywords in Arabic: "Corona vaccination", "COVID-19 vaccination", "BioNTech-Pfizer", "AstraZeneca". The search terms were used individually and then in combination to raise possible results. Relevant posts in Arabic language were extracted into a word document. Data was extracted until a saturation and redundancy effect could be observed; that is to say, no more new information appears and only the same information gets repeated.

To satiate the requirements of this study, a list of inclusion and exclusion criteria was compiled to be applied on each record of the collected dataset. To be included, the Facebook posts must:

- Make an implicit or explicit reference to the COVID-19 pandemic in Morocco.
- Refer to the topic: the posts had to report refusal with respect to the COVID-19 vaccination.
- Be written in Modern Standard Arabic (MSA) or Moroccan dialect (MD).
- be in the sampled timeframe: The data included posts created from January 2021 the time when the vaccine was available to July 2022 when Morocco has announced the start of its own vaccine production.

A total of 100 sampled Facebook posts written by 100 contributing users were used in this analysis. The data was inductively analyzed following the six-step thematic analysis approach described by Braun and Clarke (2013). This allowed the identification of patterns and recurrent ideas across transcripts. The coding process adopted Braun and Clarke's (2006) reflexive six step method in an iterative manner to allow for the construction of reoccurring themes from the data:

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- 1) Familiarization with the data
- 2) Generating codes
- 3) Constructing themes
- 4) Reviewing potential themes
- 5) Defining and naming themes
- 6) Producing the report.

This analysis was informed by an inductive or “bottom up” approach (Braun & Clarke, 2006), such that most of the analysis was data-driven, with room for the exploration and expansion of theoretical topics. This thematic analysis helped to analyze the data and to inductively generate codes, subcategories and categories. Relevant text sections were marked in the text document and then coded. The data was initially coded by the researcher and discussed and consented with some recruited coders to minimize the risk of researcher bias and increase the coding reliability. Sections with similar coding were grouped into main categories, which were divided into subcategories based on their content. Finally, codes were summarized and are presented in an explanatory manner.

RESULTS

Applying Braun and Clarke’s (2006) thematic analysis, the analysis revealed three main themes for refusing a COVID-19 vaccination in Facebook users posts. Reasons include: mistrust of vaccination, health concerns, and lack of information.

Mistrust of vaccination

Several posts show that Facebook users did not trust the newly developed COVID-19 vaccine and expression of suspicions and doubts emerged. According to these posts, users thought that vaccination had not yet been sufficiently investigated and that vaccines against COVID-19 are experiments, not vaccines. Besides, mistrust in authorities, political stakeholders or in representatives of the pharmaceutical industry also played an important role. There were doubts about the reliability and integrity of information and the intentions of certain groups, organizations or institutions in promoting vaccination, which users attributed to previous misconduct. For example, users were convinced that the pharmaceutical industry had a mere financial interest in promoting vaccination against COVID-19.

Health concerns

The thematic analysis has also shown that Facebook users viewed their health at risk of getting COVID-19 vaccine, suffering from a severe course of the disease and developing serious complications from an infection as low. Therefore, vaccination was not regarded necessary. Mild symptoms, a young age and a good subjective health status were reported as relevant factors leading to that evaluation. Besides, some Facebook users emphasized that their own immune system was strong enough to deal with a possible infection and therefore they did not need vaccination. According to their own statements, some of the users relied on preventive and supportive measures like a balanced diet or taking supplemental vitamins to bolster up their immune system, rendering vaccination, in their opinion, unnecessary. Also, some users on social media stated that prior infections with COVID-19 made them immune to reinfection, including immunity to mutations of the virus, and therefore a vaccination was not necessary. In line with that, some users believed that a prior infection offered more natural protection than the vaccines.

Some users justified rejecting vaccination citing the lack of long-term studies and insufficient reliable information about side effects and consequential damages their genetic makeup, infertility and death. These concerns were often associated with past vaccine and drug scandals. Users emphasized their objection especially regarding the possible approval of vaccine use for women during pregnancy. This was based on the lack of data supporting safe use in these cases and concerns about the effects of vaccination on the unborn child.

The vaccination was also refused due to other pre-existing health conditions and allergies, as only little information was available on possible interactions between existing health impairments and COVID-19 vaccines. Personal experiences with physical reactions or vaccine damages from past vaccinations were further reported reasons that led to rejection of the vaccines. The vaccine was also rejected because people had concerns about various potential side effects and possible vaccine-related damage.

Lack of information

Another reason for users refusing vaccination was that some did not feel sufficiently informed about the vaccination and that the available information was perceived as incomprehensible; the texts and language were too difficult to understand. This lack of transparent and user-oriented information in some cases resulted in the spread of misinformation, inaccurate knowledge, and conspiracy theories. The lack of knowledge led to a general mistrust and a negative attitude towards information on the disease itself and vaccines among some of the users. These beliefs, which were mostly based on misinformation or conspiracy theories, led to strong downplaying or denial of COVID-19 among users and a subsequent lack of willingness to get vaccinated.

Furthermore, vaccines from specific manufacturers were sometimes rejected. Users justified this with differences in perceived effectiveness and suspected side effects of vaccines from certain manufacturers. The respective country of development or production also played a role in rejecting these vaccines. Insufficient information and inaccurate knowledge vis-à-vis the COVID-

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19 vaccine were important reasons for vaccine refusal. Some participants expressed desiring more vaccine information prior to accepting it. Likewise, other participants expressed believing they were ill-informed. They eagerly expressed interest in knowing how the COVID-19 vaccine was developed and tested, its components and mechanism of action, effectiveness, and potential side effects.

DISCUSSION

The aim of this study was to deepen our understanding of how Moroccans envisage themselves making COVID-19 vaccine. And since vaccination is one of the most important strategies for the long-term management of the COVID-19 pandemic, insights into reasons for poor vaccine acceptance are needed in order to inform public health measures aiming to further increase COVID-19 vaccination rates in the population especially that considerable proportions of the populations in many countries are still hesitant to get vaccinated. This study investigated reasons that users of Facebook presented for rejecting vaccination against COVID-19. Thematic analysis has led to the identification of three main categories: mistrust of vaccination, health concerns, and lack of information.

The analysis points to a lack of information among users and the spread of misinformation with regard to COVID-19 and vaccination. Users feel inadequately informed about vaccination or do not understand the information available. This demonstrates the need for more low-threshold and target group-specific communication addressing laypeople. In addition to limited information for the general public, misinformation on the internet can also be an important reason for refusing vaccination. Perceived health risks from vaccination may increase and the intention to get vaccinated as well as perceived risks in case of non-vaccination may be reduced. Therefore, the Moroccan government has to introduce more laws to address hate speech and misinformation in social media. This study findings emphasize the relevance of low-threshold, accessible, transparent and quality-controlled information on COVID-19 and vaccination. A low perceived benefit of the vaccination and a low subjective risk of getting COVID-19 can also be counteracted by providing laypeople with easily understandable and transparent information about the vaccine. Moreover, users may refuse a COVID-19 vaccination due to systemic mistrust in authorities, political stakeholders or representatives of the pharmaceutical industry. A politically and economically independent information center could contribute to counteracting system-relevant mistrust and strengthen trust in the information communicated. This in turn could help increase vaccine acceptance.

For a more general, longterm perspective, efforts to increase political participation, more transparency concerning the approval of pharmaceutical products, and targeted measures to increase health literacy could aid in improving trust in political and pharmaceutical actors and reduce the effect of targeted misinformation. In addition, the dissemination of information should be extended to multiple settings using different types of media. Furthermore, involving trusted individuals in the communication of information can help to address misinformation.

Our study has several limitations that need to be considered. While the number of users of social media is growing, potential selection effects in the user base of the platforms used could mean that our results cannot be representative for the overall population in Morocco. Accordingly, it is unclear to what extent our results are applicable to other population groups that do not use social media. Instead, our study should be understood as an extension of previous findings by including the specific perspective of social media users. In addition, no socio-demographic data such as age or sex could be included in the analysis, as these were not available. We also restricted our search strategy to keywords identified in the posts. Future research could also include hashtags and other types of identifiers to increase the comprehensiveness of the extracted information. Furthermore, it should be taken into account that the focus was only placed on Facebook. We also could not examine changes in attitudes and perceptions over time due to the high number of users with only single posts related to vaccine hesitancy. In this context, it would be worthwhile for future research to investigate whether and to what extent vaccination attitudes and the willingness to get vaccinated have developed over time and which factors affect that development.

CONCLUSION

The COVID-19 vaccination has incited many Facebook users to share their thoughts, fears and criticism. Education about the importance and benefits of vaccination, such as protection against severe courses of the disease, protection of others and gradual return to normality, can also have a positive impact on vaccination attitudes. Further studies of diverse groups of people are recommended in order to also reach those who avoid the topic of COVID-19 vaccination. The findings regarding the reasons for rejection can be used as a basis for future decisions in the context of the COVID-19 pandemic, as well as for possible future crises to address the build-up of mistrust and the generation of misinformation with appropriate counter measures.

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