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## Perceptions of Covid-19 Vaccines Among the Arab Minority in Israel: A Qualitative Study

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### Abstract

This study examines the perceptions of the COVID-19 vaccine among the Arab minority in Israel, a group with historically low vaccination rates. Through in-depth interviews with 36 participants, three main perceptions were identified: positive, concerns and doubts, and negative. Those with positive views—mainly older, educated individuals—highlighted the vaccine's effectiveness and expressed trust in health authorities. Conversely, participants expressing concerns and doubts, often younger and less educated, were apprehensive about the vaccine's rapid development and potential long-term effects, and grappled with mixed social messages. The negative perception group exhibited significant mistrust toward state institutions and relied on cultural and religious beliefs, with some believing that natural infection was safer than vaccination. The study underscores the complex socio-cultural and historical factors influencing vaccine perceptions among the Arab minority in Israel. It emphasizes the need for culturally tailored health campaigns, improved trust in health institutions, and better communication to combat misinformation in minority communities.

**Keywords:** Perceptions, COVID-19 Vaccine, Arab Minority and Israel

### Introduction

First identified in December 2019, the COVID-19 pandemic has had a profound global impact, permeating all aspects of life including economic, social, health-related, educational, and psychological spheres. The crisis extended beyond immediate health concerns, significantly disrupting societal structures and individual well-being. According to the World Health Organization, by October 2022, the virus had claimed over 6.5 million lives worldwide [1]. Responses to the COVID-19 pandemic have varied globally, shaped by differences in healthcare infrastructure, government policies, public adherence, and socio-economic conditions. Israel initiated one of the world's first strict lockdowns in March 2020, lasting over two months [2]. Following the lockdown, the country implemented stringent measures, including isolation, cultural and leisure site closures, capsule learning in schools, and restrictions on gatherings affecting social events like weddings and graduation ceremonies.

Despite these efforts, cases rose, leading to a second strict lockdown in September 2020. By May 2022, Israel had enforced four lockdowns and various restrictions, resulting in nearly 5 million infections and 12,000 deaths among its 9.1 million population [3,4]. Recognizing the crucial role of vaccinations in controlling COVID-19, Israel was among the first countries globally to initiate a vaccination campaign in December 2020. The state prioritized increasing vaccination rates to reduce the virus's spread during the pandemic significantly. Israel initiated its vaccination campaign in December 2020, initially targeting high-risk groups and gradually expanding eligibility. By November 2021, vaccinations were available to individuals aged five and older. Additionally, Israel led the world in administering a third 'booster' dose starting in July 2021. The campaign was deemed successful, with approximately 82% of the eligible population vaccinated by January 2023 [2].

However, the vaccination rate among the Arab Palestinian minority in Israel is significantly lower than that of the Israeli-Jewish majority [5,6]. The Palestinian Arab minority, constituting approximately 21% of the population in Israel, is predominantly Muslim, with smaller Christian and Druze communities [3-7]. This minority is characterized by strong

family bonds and higher levels of collectivism than the Israeli-Jewish majority, although it has been undergoing a process of socio-cultural change [8–10]. They face significant challenges, including lower incomes, higher unemployment rates, and lower levels of education, which are further exacerbated by discrimination, harsh living conditions, violence, and stigma [11,12]. Research, including a study conducted during the COVID-19 pandemic in September 2020, reveals that this minority experiences considerably higher rates of mental health issues like somatization, depression, and anxiety compared to their Israeli-Jewish counterparts [12]. Similar to the Palestinian Arab minority, low vaccination rates have also been observed among other ethnic minorities worldwide, including those in the UK and the US [13,14].

The research literature identifies several reasons for resistance to COVID-19 vaccines, such as uncertainty about their safety and fears of long-term side effects [15,16]. Additionally, specifically among ethnic minorities, the literature highlights that misinformation, historical mistrust in healthcare systems, limited access to healthcare, and historical injustices significantly impact vaccine acceptance in these populations [13,14-17]. In the context of the Arab minority in Israel, studies have shown that the low levels of COVID-19 vaccinations can be attributed to a variety of factors, including low socioeconomic status, limited access to vaccination sites, insufficient communication regarding vaccinations, culturally inappropriate messaging, lack of trust in state institutions, cultural beliefs, inadequate awareness about vaccinations, the absence of Arabic-language vaccination campaigns, and the long-standing neglect of the Arab community in the Israeli healthcare system [18–22].

## **Purpose**

However, to the best of our knowledge, there are no qualitative studies that thoroughly explore the perceptions of the Arab minority towards COVID-19 vaccines. This study aims to address this gap by examining the perceptions of COVID-19 vaccination through in-depth, semi-structured interviews with the general public. Understanding the perspectives of this vulnerable group can assist professionals and policymakers in gaining insights into the views of this specific minority and other similar minority groups. This understanding is crucial in shaping their willingness to accept various vaccines and in formulating policies for managing future health crises.

## **Method**

### **Research Design and Methodological Framework**

This investigation employed a qualitative approach, strategically integrating thematic analysis with content analysis to achieve methodological triangulation [23]. The thematic analysis component facilitated exploration of profound meanings and experiential dimensions articulated by participants, allowing researchers to identify underlying conceptual patterns that might not be immediately apparent through surface-level examination. Simultaneously, content analysis provided a systematic framework for quantifying the frequency of emerging topics, offering complementary insights regarding the prevalence and distribution of key themes across the dataset. This methodological integration proved particularly valuable for distinguishing between statements that appeared frequently versus those expressed with high emotional intensity, thereby enhancing the validity and comprehensiveness of research findings. The approach enabled researchers to develop nuanced interpretations that honored both the qualitative richness of individual perspectives and the broader patterns observable across multiple participants, creating a methodological synergy that strengthened the overall analytical rigor of the investigation.

### **Participant Characteristics and Sampling Procedure**

The study included 36 participants from the Arab population in Israel, selected through a convenience sampling strategy employing a snowball technique. One-third of the participants were from northern Israel, one-third from the central region, and one-third from the south. All participants met specific inclusion criteria: they were over the age of 18 and had resided in Israel during the first three waves of the COVID-19 pandemic. Approximately 30 participants had received at least the first dose of the COVID-19 vaccine, while around 6 participants declined vaccination throughout the entire course of the pandemic.

The final sample size adhered to the principle of theoretical saturation, whereby data collection was concluded when interviews no longer yielded substantially new information or insights, in accordance with established qualitative methodological conventions [24]. This approach ensured that the dataset achieved sufficient depth and breadth to address the research questions comprehensively, without unnecessarily expanding the participant pool beyond the point of informational redundancy.

The demographic composition of the participants revealed a gender-balanced distribution: 18 women and 18 men. Of the participants, 20 identified as Muslim, 9 as Christian, and 6 as Druze. All were Arab citizens of Israel. The average age was 47.40 years, with a range from 20 to 65 years. Approximately one-third of the participants had completed elementary education, another third had attained secondary education, and the remaining third held academic degrees. The mean number of years of formal education was 11.84.

All participants were born in Israel. In terms of marital status, 25 were married, 8 were single, and 3 were divorced. All married and divorced participants had children. Regarding religious identity, approximately half of the participants identified as secular, six identified as religious, and the remainder as traditional, reflecting the diversity of spiritual

orientations within the Arab population in Israel. Participants uniformly characterized their socio-economic status as upper-middle class, suggesting a relatively homogeneous social stratum despite other demographic variations.

### **Ethical Protocols and Procedural Implementation**

The study was conducted following formal ethical approval granted by the Ethics Committee of Zefat Academic College (Approval No. A-40-2024), which thoroughly reviewed the research proposal to ensure compliance with ethical standards for research involving human participants.

Participant recruitment was carried out using a carefully planned approach, primarily through social media platforms (WhatsApp, Facebook, Instagram) for initial outreach. The researchers distributed general recruitment notices rather than contacting individuals directly. To preserve anonymity, only general messages were shared across relevant groups or forums, explicitly avoiding the solicitation of personal information in public posts. A dedicated, non-institutional email address linked to the researchers' identities was provided for interested candidates to initiate contact.

Individuals who gave written consent to be interviewed received detailed explanations regarding the study and its objectives in advance. Prior to data collection, the researchers implemented comprehensive informed consent procedures, offering potential participants clear and thorough information about the study's aims, confidentiality safeguards, and participation parameters. Participants were explicitly informed of their right to withdraw from the interview at any stage without any consequences. Additionally, participants were notified of the availability of post-interview psychological support, provided by the principal investigator—a licensed mental health professional—in case the interview process induced emotional distress or discomfort.

Following consent, interviews were audio-recorded with explicit permission, transcribed verbatim, and subsequently anonymized by removing all personally identifiable information prior to the commencement of analysis. Original audio recordings were permanently deleted after transcription. The transcribed data were stored in password-protected files accessible only to authorized researchers, thereby establishing multiple layers of data security to protect participant confidentiality throughout the research process.

### **Development and Implementation of the Interview Protocol**

The data collection process employed subcategories of qualitative interviews, specifically: Semi-structured interviews, which involved pre-formulated guiding questions while allowing for flexibility and the opportunity to explore emergent themes in depth during the conversation. This interview type is commonly used in qualitative research to understand personal experiences and perceptions. In-depth interviews, which focused on a thorough exploration of the core research topic—perceptions of COVID-19 vaccination among the Arab population in Israel. These interviews, conducted with individual participants, were designed to elicit nuanced understandings of personal processes, experiences, and attitudes.

Data collection was guided by an interview protocol specifically developed for this study. The protocol included approximately 40 open-ended questions designed to investigate participants' perceptions regarding the COVID-19 vaccine. The following steps were taken in developing the interview guide:

- **Defining the Research Objectives:** Clarifying key questions regarding participants' perceptions of COVID-19 vaccination, including barriers, facilitators, and the perceived impact of related public policies.
- **Conducting A Literature Review:** Analyzing existing studies to identify key themes, knowledge gaps, and best practices in qualitative research on vaccination attitudes.
- **Consultation with Experts and Stakeholders:** Two public health physicians with expertise in the field provided feedback to ensure the relevance and validity of the interview questions.

The interviews were conducted by fourth-year nursing students who received targeted training in qualitative interviewing techniques. This included practice with mock interviews to ensure consistent application of the interview protocol. Each interview lasted approximately 90 minutes, allowing sufficient time to explore complex attitudinal dimensions while maintaining reasonable expectations for participant engagement.

The interview structure followed a deliberate progression from general to specific questions. The interviews typically began with broad, rapport-building questions such as, "Can you tell me about yourself?" followed by more focused prompts like, "Could you share your thoughts specifically regarding COVID-19 and vaccination, including personal impact, family health, vaccination status, and your perceptions of vaccine efficacy and consequences?" The protocol then addressed increasingly specific aspects of participants' views on COVID-19 vaccination, including their general attitudes toward vaccines and their specific perceptions of the COVID-19 vaccine. This systematic progression of questions enabled a comprehensive exploration of multiple perceptual dimensions while allowing participants the flexibility to emphasize topics they found especially significant. This approach balanced structured inquiry with participant-led discussion, fostering rich, contextually grounded data.

## Data Analysis

The data were analyzed using a rigorous qualitative approach that combined inductive thematic analysis—based on Braun and Clarke’s six-phase framework (2019)—with supplementary content analysis to enhance interpretive validity. The analytical process began with deep familiarization with the interview transcripts through multiple, comprehensive readings, aimed at developing a holistic understanding of the dataset.

Subsequently, the researchers generated initial codes inductively by identifying and labeling meaningful text segments without imposing predefined classification schemes, thereby preserving the grounded nature of emerging insights. These initial codes were progressively refined and grouped into broader thematic categories through iterative comparative analysis.

Emergent themes were then systematically reviewed against the complete dataset to ensure comprehensive representation of participants’ perspectives. To enhance the reliability and validity of the findings, the process included peer debriefing, full documentation of the coding process, and re-examination of codes. Objectivity was further supported through reflexivity and collaborative discussions of findings with other researchers. To ensure analytical reliability, a second researcher reviewed 30% of the coded data to assess consistency in theme identification. All discrepancies were resolved through discussion until consensus was achieved. In addition to the qualitative thematic approach, researchers conducted content analysis to examine the frequency distribution of keywords, expressions, and themes throughout the dataset, providing a quantitative context for the prevalence of specific viewpoints.

This dual-analytic strategy created a productive tension between depth-oriented interpretation and frequency-based pattern identification, yielding a richer understanding than either method could provide independently. Throughout the analysis, the researchers maintained detailed audit trails documenting analytical decisions and engaged in continuous reflexive practices to consciously address potential interpretive biases, thereby enhancing both transparency and the overall trustworthiness of the analytical process.

- To ensure the fidelity of quote translations from the original language, a back-translation method was employed as follows:
- A professional translator or bilingual researcher translated the quote from the original language into the target language.
- A second translator, who had not seen the original quote, translated it back into the source language.
- The back-translated version was compared with the original quote to identify inaccuracies or discrepancies.

## Results

This study aimed to explore perceptions of the COVID-19 vaccine among the Arab minority in Israel. Analysis of in-depth interviews revealed three key perceptions, ranging from highly positive attitudes to skepticism and outright negativity.

### Positive Perceptions

Slightly more than half of participants expressed highly positive views, seeing the vaccine as an effective tool to control COVID-19, reduce its spread, and lower mortality rates. Trust in healthcare providers and public health information was a recurring theme. For instance, K. (Participant 6) stated, “I trust the information provided by the doctors...and have full confidence in health institutions.” Similarly, S. (Participant 9) asserted that the vaccine was “safe, effective, and the best means of reducing the damage caused by the disease.” This group showed a high willingness to be vaccinated, particularly among older participants, those with higher education, and individuals of higher socioeconomic status. Their readiness extended to future vaccinations in similar circumstances.

### Perceptions with Concerns and Doubts

About a third of participants expressed significant concerns, citing the vaccine’s rapid development as a source of skepticism about its safety and efficacy. Reports of severe side effects and concerns about long-term health implications were common. G. (Participant 14) remarked, “It is difficult to trust...doctors who recommend a vaccine created so quickly.” Similarly, S. (Participant 23) doubted the vaccine’s effectiveness, stating, “People got vaccinated and still got the disease.” This group faced decision-making challenges due to ambiguous information and mixed emotions, as described by P. (Participant 34): “The decision...was very difficult...accompanied by mixed emotions and could be fateful.” Social dynamics also played a role, as community support or opposition influenced participants’ attitudes. Younger individuals, those with lower education levels, and people of lower socioeconomic status were more likely to belong to this group, expressing hesitancy toward future vaccinations.

### Negative Perceptions

Slightly over a fifth of participants held negative views, often linked to distrust in state institutions, healthcare providers, and the vaccine’s safety. Cultural, religious, and social factors, along with misinformation, further fueled skepticism. Comments included, “I have no faith in institutions that truly want our good,” and “Vaccines are ineffective, unsafe, and can be life-threatening.” Some associated vaccines with severe health issues, such as birth defects or autism. This group favored natural immunity over vaccination and opposed receiving additional doses. Many relied on non-scientific sources, including religious figures, to inform their views. Participants with negative perceptions were diverse in age, education, and socioeconomic background.

## Discussion

The current study aimed to deeply examine, for the first time, the perceptions of the Palestinian Arab minority in Israel regarding COVID-19 vaccines. Through the analysis of in-depth interviews, three distinct perceptions were identified, ranging from highly positive to very negative attitudes toward the vaccine. The objective behind examining these perceptions was to identify the viewpoint of this vulnerable minority group and to gain a deeper understanding of what shapes their opinions and perceptions regarding vaccination in general and the COVID-19 vaccine in particular. Additionally, the study aimed to explore how these perceptions could potentially be influenced during the current pandemic and possibly in future ones.

As noted, the analysis of the interviews revealed three main different perceptions along a continuum, from very positive attitudes towards the vaccine, to those accompanied by concerns and doubts about the vaccine and its health implications, to negative perceptions of the vaccine.

Approximately half of the participants expressed positive perceptions of the COVID-19 vaccine, and it is likely that this group received the vaccine. Their attitudes were shaped by a trust in health authorities and professionals, reliance on credible information sources, and a desire to protect themselves and their families. These findings are consistent with prior research that links vaccine uptake to institutional trust and public health messaging [13,14,17,21]. Notably, individuals with higher education and socio-economic status were more likely to fall into this category, reinforcing earlier findings that demographic factors can influence vaccine perceptions.

In contrast, around a third of participants conveyed ambivalence. Their perceptions were accompanied by concerns and doubts, primarily centered on the speed at which the vaccine was developed, the lack of long-term data, and personal or anecdotal experiences with side effects. Although many in this group were not outright opposed to vaccination, they expressed uncertainty and anxiety that were not sufficiently addressed by public health communications. Importantly, this group highlights a missed opportunity for engagement by health authorities, as their concerns were often logical and based on perceived knowledge gaps rather than misinformation.

Finally, a minority of participants expressed explicitly negative views of the COVID-19 vaccine. This group reflected a deep-seated mistrust in governmental and medical institutions, likely rooted in the historical marginalization of the Arab minority in Israel. Their skepticism extended beyond the vaccine itself to broader doubts about state intentions and the fairness of healthcare delivery. Some participants also cited cultural and religious beliefs as reasons for rejecting the vaccine, echoing findings from other ethnic minority groups around the world [17–20]. A key insight from the current study is the critical role of trust—both interpersonal and institutional—in shaping vaccine perceptions. Trust was a decisive factor distinguishing between those who embraced the vaccine, those who hesitated, and those who rejected it. These findings support previous literature emphasizing that building and maintaining trust is essential to improving vaccination rates, especially in marginalized populations [13,14,17].

Moreover, the lack of tailored health communication in Arabic and the absence of culturally sensitive outreach efforts were recurrent themes. Participants noted a disconnect between their information needs and the messaging provided by the government. Public health campaigns that fail to address cultural, linguistic, and socioeconomic barriers are unlikely to resonate with minority populations. Culturally adapted messaging, delivered by trusted community leaders, could help mitigate doubts and reduce hesitancy in future health crises.

## Implications for Policy and Practice

The findings of this study offer actionable insights for policymakers, healthcare providers, and public health authorities. To increase vaccine acceptance among Arab minorities in Israel—and by extension, other minority groups globally—interventions should prioritize:

- Culturally appropriate messaging and health education campaigns in the native language of the population.
- Community engagement through local leaders, religious figures, and minority health professionals.
- Transparent communication about vaccine development, risks, and benefits.
- Addressing structural inequities in healthcare access and delivery that fuel mistrust.
- Strengthening healthcare infrastructure in underserved communities.

By understanding the nuanced perceptions of minority groups, governments and health agencies can better design policies and interventions that are not only effective but also equitable and inclusive.

## Strengths and Limitations

This study has several limitations. First, the use of a convenience sample of 36 participants may not capture the full diversity of perceptions within the broader Arab population in Israel. Second, as a qualitative study, the findings are not statistically generalizable but are intended to offer depth and insight into participants' lived experiences. Finally, the study did not include interviews with health professionals or policymakers, whose perspectives could provide additional context regarding the implementation of vaccination programs.

## Conclusions

The study revealed a broad spectrum of perceptions regarding the COVID-19 vaccine among the Arab minority in Israel, ranging from highly positive to strongly negative attitudes. Positive perceptions were largely based on trust in healthcare institutions and a commitment to combating the pandemic, whereas negative attitudes were driven by distrust of state institutions, concerns about vaccine safety, and fears of long-term side effects. The study underscores the need for a deeper understanding of the underlying sources of mistrust and apprehension, and suggests that culturally tailored vaccination campaigns may be essential for rebuilding trust in the healthcare system and increasing vaccination uptake among minority communities in the future.

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