

Parental Acceptance of the COVID-19 Vaccine for Children Aged 6-11 Years: A Phenomenological Approach Based on the Health Belief Model (HBM)

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ABSTRACT

OBJECTIVE: To analyze the factors in the acceptance of the COVID-19 vaccine among parents with children aged 6-11 years in Central Java.

METHODOLOGY: This Descriptive phenomenology study was conducted in Central Java Province, with a sample of 20 parents from four sub-districts, from May to November 2025. Interview techniques were used to collect data by analyzing various components of the HBM. Thematic analysis was used to determine perceptions that influence vaccination decisions.

RESULTS: The findings indicate that parents' perceptions of COVID-19 vaccination tend to be high, which influences their decision to vaccinate their children. Influential factors include health conditions, misinformation, and psychological barriers. It was also found that social support from both family and healthcare professionals plays a significant role in vaccination decision-making. It was also found that Perceived Vulnerability, Severity, Perceived Barriers, Cues to Action, Perceived Benefits, and Self-Efficacy were significant.

CONCLUSION: Health interventions are crucial for improving positive perceptions of vaccination's usefulness and reducing barriers that have a far-reaching impact on vaccination confidence.

KEYWORDS: Children, COVID-19, Health Belief Model, Phenomenological Approach, Parents, Vaccine Hesitancy

INTRODUCTION

Data shows that COVID-19 caused 6.9 million deaths and 7 million cases (as of September 2023). This resulted in a severe global crisis, the largest in the modern era¹. To prevent the spread of the virus, vaccine acceptance across all groups is crucial. Therefore, it is important to increase this acceptance to reduce the impact of the virus's spread^{2,3}.

Parents' skepticism about vaccination stems from a lack of information. This is based on doubts about its halal status and its side effects. In Indonesia, even though vaccinations are available, parents often lack confidence in their children's safety⁴. Research demonstrates that halal certification is a critical factor influencing vaccine acceptance among Indonesian Muslims. A qualitative study in Yogyakarta found that doubts about halal status constituted a significant barrier to rotavirus vaccine acceptance, noting that neither Rotarix® nor RotaTeq® had received halal certification from the Indonesian Ulema Council (MUI)⁵. A cross-sectional study in Aceh Province quantified this concern, revealing that 60% of parents expressed religious concerns about vaccination, with the population-attributable fraction (PAF) for MR1 non-vaccination being 36% (95% CI: 21%, 52%) for religious concerns⁶. Similarly, halal certification significantly affects attitudes toward vaccines, although the MUI fatwa permitting emergency use of non-halal vaccines created regional disagreements⁷.

Previous research has also shown that vaccine acceptance can be influenced by factors such as knowledge, attitudes, and level of trust in health services⁸. The Health Belief Model has been used in numerous studies. This model directly provides important information about how parents' beliefs are formed and thus influence their decisions to vaccinate their children^{9,10}.

This study aimed to analyze the factors influencing COVID-19 vaccine acceptance among children aged 6-11. The novelty offered is a more in-depth analysis of parents' understanding and attitudes in Indonesia to increase vaccine acceptance among this age group.

METHODOLOGY

Design

A descriptive phenomenological approach was used in this research. The research was conducted in Central Java Province in four cities, namely Cilacap, Banyumas, Kebumen and Purbalingga, from May to November 2025.

Sample

Data were collected through questionnaire-based interviews with 20 participants, consisting of parents of children aged 6-11 years. The participants were distributed across four regencies: three from Cilacap Regency, six from Purbalingga Regency, three from Kebumen Regency, and eight from Banyumas Regency. Parents completed the questionnaires on behalf of their children and were interviewed to obtain in-depth information. Thematic analysis was employed to explore the data within the Health Belief Model framework.

Qualitative Data Collection Stage

Data collection was carried out in 5 stages. First, the researcher developed an interview guide; second, the informants were selected based on predetermined criteria; third, all informants signed a consent form to participate; fourth, the researcher recorded all interview responses during the interviews; and fifth, the interviews were transcribed verbatim by the researcher.

Data analysis

Data analysis involves three phases: the first is data reduction, with coding to allow researchers to focus on important information. The next step is to provide narrative data of summarise the results. The next step is to conclude the various factors that influence parents' vaccination decisions.

Identified HBM Domains

The domain studied is **Perceived Severity**, which refers to how the level of Severity is perceived due to physical and psychological impacts. Second, **Perceived Susceptibility** describes how parents assess the risk of transmitting the virus to their children. Third, on the domain **Perceived Benefits**, parents expressed confidence in the benefits of the COVID-19 vaccine for their children. In contrast, **Perceived Barriers** covers various barriers, such as psychological barriers, misinformation, and children's health conditions that can influence the decision to vaccinate. Furthermore, **Cues to Action** is the internal and external support and access to information needed to encourage vaccination action. Finally, **Self-Efficacy** reflects parents' beliefs in addressing children's fears of vaccination. Understanding these domains can lead to more effective approaches to increasing parental participation in child vaccination.

Inclusion and Exclusion Criteria

Participants in this study were selected based on inclusion criteria that included being a parent or legal guardian of a child aged 6-11 years at the time of data collection, a permanent resident of one of the four selected districts (Cilacap, Banyumas, Kebumen, and Purbalingga) in Central Java Province, having made a decision regarding COVID-19 vaccination for their child, either accepting or refusing informed vaccination, and being willing to provide consent and participate in an audio-recorded interview. Participants were excluded if they were unable to communicate

effectively in Indonesian, had a child with a severe immunocompromised condition that would be a contraindication to vaccination, or were temporary residents or migrants in the study area. The four districts were purposively chosen to represent the geographic and socioeconomic diversity of Central Java Province, encompassing both urban and semi-rural areas, varying levels of health infrastructure accessibility, and diverse cultural contexts, thereby allowing for maximum variation in parental perspectives on children's COVID-19 vaccination decisions.

Unit of Analysis

The unit of analysis in this study was parents of children aged 6-11 years who resided in Central Java Province. Parents were chosen as the unit of analysis because they are the primary decision-makers regarding their children's vaccinations.

Sampling Method

This study used purposive sampling with a maximum variation sampling strategy to obtain diverse perspectives from four different regencies: Cilacap (n=3), Purbalingga (n=6), Kebumen (n=3), and Banyumas (n=8).

Saturation Procedure

Data collection continued until data saturation was reached, when no new information or themes emerged from additional interviews. With 20 participants, the researcher evaluated the adequacy of the data based on the depth and diversity of the information obtained.

Interview Details

Interviews were conducted using a semi-structured interview guide based on the Health Belief Model framework. All interviews were audio-recorded and transcribed verbatim to ensure data accuracy.

Findings Validation Strategy

Findings validation was conducted through: (1) member checking with participants, (2) triangulation of sources from four different districts, and (3) audit trail documentation of the analysis process.

Ethical Clearance

This research has received ethical approval from Aisyiyah University, Indonesia with the number. 382f/KEI-UNISA/II/2025. Before the interview, all informants were given an informed consent form to confirm their willingness to participate in this study.

RESULTS

Table I presents the characteristics of the participants, who are parents of children aged 6-11 years. The majority of the sample was aged 41-50 years. In the gender variable, females predominate of 85%, while males comprise only 15%. The Education of the participants shows that 50% have a bachelor's degree, followed by 20% with a high school education and 10% with a diploma 3 (D3). Only 5% have an elementary school education, and 10% are based in junior high school. In terms of occupation, the majority of participants are self-employed (65%), followed by 20% housewives, and 15% are civil servants. This table provides a clear picture of the demographic background of parents of children in this age range, which can have implications for parenting patterns and involvement in children's Education.

Table I: Characteristics of participants (Parents of children aged 6-11 years)

Variable	n	%
Age (Years)		
30-40	9	45
41-50	10	50
51-60	1	5
Gender		
Male	3	15
Female	17	85
Education		
Elementary School	1	5
Junior High School	2	10
Senior High School	4	20
Diploma	2	10
Bachelor	10	50
Master	1	5
Employment		
Self-employed	13	65
Civil Servants	3	15
Housewife	4	20

Qualitative analysis conducted based on the domains in the Health Belief Model (HBM) found that in Perceived Severity (Severity) domain there are 3 subthemes (perceived physical impact, psychological impact, and stigma impact), in Perceived Susceptibility (vulnerability) there are 4 subthemes (perceived risk of vulnerability of age groups, perceived risk of social activities, perceived risk of residence, and history of exposure in the family), in Perceived Benefits (benefits) there are 2 subthemes (belief in vaccine effectiveness, and experience of vaccine benefits), in Perceived Barriers (Barriers) there are 3 subthemes (psychological barriers in children, misinformation about vaccine beliefs, and barriers to health conditions), in Cues to Action (Cues to Action) there are 3 subthemes (support from various internal and external parties, direct access to information, and access to media information), and finally in Self-Efficacy (Self-Efficacy) there is 1 subtheme (efficacy of communication with children). The

image of the Health Belief Model (HBM) based on qualitative research on the Health Belief Model (HBM) of Parents of Children Aged 6-11 Years in the Central Java Region can be seen in Figure 1.

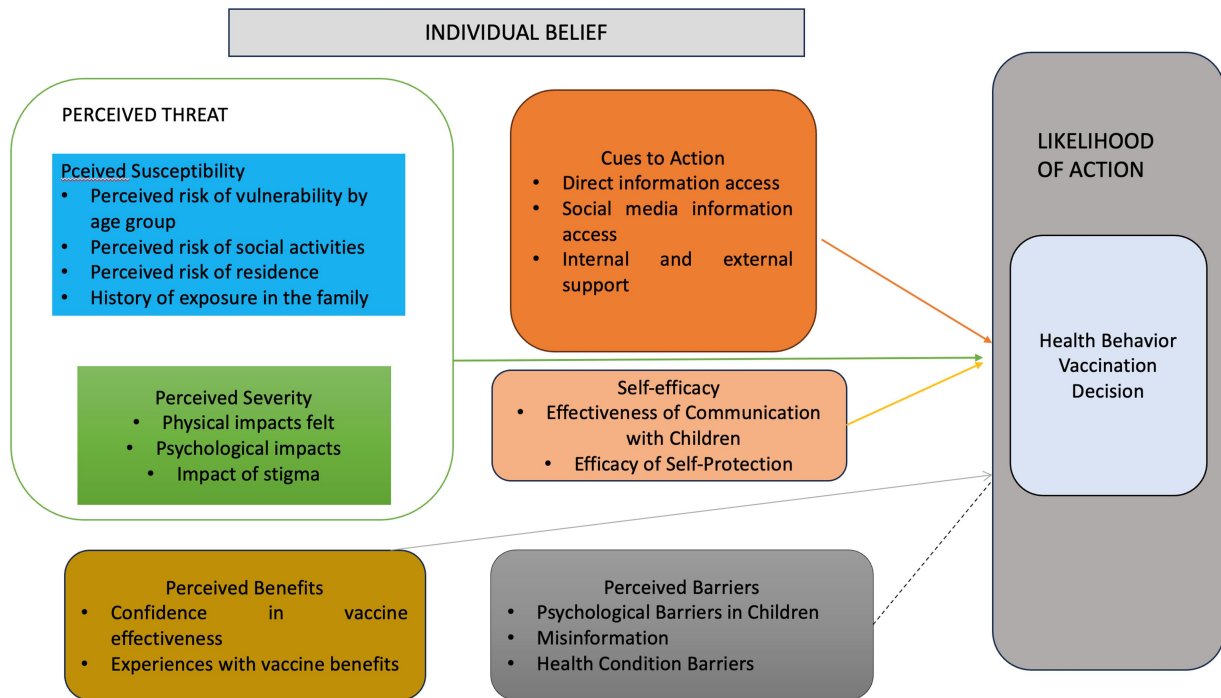


Figure 1: Health Belief Model of Parental Acceptance of COVID-19 Vaccine for Children Aged 6-11 Years

Information:

Solid straight line: positive influence on health behavior

Dotted line: negative influence on health behavior

Table II shows that in the Perceived Severity domain, individuals explained that the impact of stigma, physical, and psychological factors was strongly related to COVID-19. The majority of individuals reported that COVID-19 affected physical symptoms and left an emotional impact. Furthermore, in terms of perceived vulnerability, individuals reported that risk perception was strongly related to the environment, exposure history, and age. Meanwhile, in terms of perceived benefits, individuals reported that the vaccine could effectively prevent infection and accelerate the healing process. Regarding barriers, individuals reported that health and psychological factors most influenced the success of this vaccination. "Support from Various Sources" within the "Cues to Action" domain demonstrates the importance of social support and access to information from health professionals and the media in motivating action. Finally, "Self-Efficacy" referred to an individual's ability to overcome barriers and communicate effectively about vaccination to children.

Table II: Interview coding results based on the domain

HBM Domain	Subtheme	Category	Coding
Perceived Severity	Impact of COVID-19 Disease	Physical impacts felt	Loss of appetite Anosmia Body aches Fever Cough and cold Shortness of breath
		Psychological impact	Feeling like dying Unstable emotions Fear of children having a fever Scared to hear that many have died
		The Impact of Stigma	Bullying People around are afraid of you come close
Perceived Susceptibility	Perception of risk of transmission	perception of vulnerability of age groups	Children are more vulnerable
		Risk perception of place/environment	school environment home environment
		Risk perception of social activities	playing with friends
		Family history of exposure	Husband Parents Family
Perceived Benefits	Confidence in vaccine effectiveness	Confidence in the effectiveness of the COVID-19 vaccine	Virus antidote Immune Maintain body immunity Preventing children from being exposed to COVID-19 Protecting against COVID-19
		Experience the benefits of vaccines	The healing process is faster if you have been vaccinated against COVID-19 Reducing the Severity of COVID-19
Perceived Barriers	Barriers to COVID-19 vaccine delivery	Psychological barriers in children	Fear of seeing needles
		Missing information	Fake vaccines Vaccine contents
		Health condition barriers	Child's health condition Pregnant The vaccine administration interval is too close
Cues to Action	Support from various parties	Support from internal parties	Husband Family
		Support from external parties	Cadres in the village Health workers Village midwife the school Public Health Office Religious leaders Government policies and regulations
		Live Information	Get Education about the COVID-19 vaccine from health workers Attending counselling about the COVID-19 vaccine in villages and health centers
	Information through mass media	Social media (Instagram, Facebook) Television news Internet (Google) WhatsApp groups	
Self-Efficacy	Efficacy in overcoming obstacles	Efficacy of communication with children	Communicate by telling stories Communicate by persuading

DISCUSSION

This study found that the majority of respondents were mothers aged 41-50 years (50%) who were self-employed (65%). This finding is consistent with previous research showing that older parental age and certain employment statuses correlate with children's acceptance of the COVID-19 vaccine^{11,12}.

HBM constructs such as perceived Severity and susceptibility are influenced by direct family experience with COVID-19, which is consistent with findings that family exposure history increases vaccination willingness¹³.

The use of the health belief model provides important information on how to improve equity in the vaccination process within the community and overcome barriers. Furthermore, it was found that parental beliefs and attitudes are crucial to supporting equitable vaccination programs. This aligns with my previous research, which showed that parental engagement strategies and socioeconomic factors significantly influence vaccination acceptance¹⁴.

Research findings say that parents view COVID-19 as a real danger to their children's health and their own. This is due to the typical symptoms they experience, such as fever and shortness of breath, which can trigger excessive anxiety in sufferers¹⁵. Some of the effects often recorded in sufferers include fear of death and stress. This is what influences the decision to receive the vaccine^{16,17}.

Perceived vulnerability is also influenced by factors such as age and environment^{18,19}. Factors such as high-risk assessment influence the vaccination decision process; the more aware a person is of their risk from Covid-19, the more likely they are to receive the vaccine^{20,21}.

The majority of respondents in the study stated that vaccines were highly beneficial in preventing infection and shortening recovery time. This is because vaccines can strengthen the immune system^{15,22}. Previous research has shown that the benefits of shingles vaccination are consistent with high vaccination rates^{23,24}. There are several perceived barriers, including physical and psychological. This can negatively impact individuals' willingness to receive vaccines from various sources. Misinformation circulating among the public has made people more wary of vaccines, for example, regarding vaccine content and the type of syringe used²¹.

Research findings show that Education from outreach activities and social media can increase motivation to get vaccinated^{5,25}. Other studies also show that government policies and social support can shape perceptions and actions towards vaccination²⁶. This study shows that individuals with high self-efficacy tend to be more confident and to actively communicate with their children to ensure their children get vaccinated^{17,22}. Good self-efficacy is often influenced by previous experiences related to both Education and health²⁷.

Limitation and Strength

While these findings are specific to the context of the COVID-19 pandemic, they provide baseline knowledge that can be applied to future childhood vaccination campaigns in similar situations.

CONCLUSION

The findings show that parents have a strong perception of the COVID-19 vaccination. This has a significant impact on their decision to vaccinate their children. Perceived barriers, beliefs in the benefits of vaccines, and social support from both the community and family are important factors in vaccination decisions. This forms the basis of a program that promotes barrier-free vaccination acceptance.

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Data Sharing Statement: The corresponding author can provide the data proving the findings of this study on request. Privacy or ethical restrictions bound us from sharing the data publicly.

AUTHOR CONTRIBUTION

Handayani EW: Conceptualization, Data curation, methodology, writing original draft, writing review and editing

Perwitasari DA: Conceptualization, Data curation, methodology, writing original draft, writing review and editing

Purba FD: Conceptualization, Data curation, methodology, writing original draft, writing review and editing

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