

# Understanding vaccine hesitancy: A qualitative study examining parental perspective

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## ABSTRACT

**Objective:** Vaccine hesitancy represents a significant and contemporary public health concern. In particular, vaccine efficacy, vaccine content, and personal beliefs and moral values have a profound impact on vaccination decisions. Additionally, concerns about side effects, lack of confidence in natural immunity, and political and economic distrust of vaccines also influence parents' vaccination decisions. This study aims to examine the processes leading to vaccine hesitancy among participants with different sociodemographic characteristics.

**Material and Methods:** This qualitative study examines parental perspectives on child vaccination among families with newborns at İstanbul Medipol University Hospital, Türkiye. Semi-structured interviews were conducted to explore vaccination decision-making processes. Data collection involved face-to-face interviews and follow-ups via phone. Thematic analysis was employed for data interpretation. Ethical approval was obtained and informed consent was secured from all participants, adhering to the principles of the Declaration of Helsinki.

**Results:** Participants expressed uncertainty about the necessity of vaccinations in the absence of current illness. Some participants preferred to address health issues as they arose rather than take proactive preventive measures like vaccination. Concerns about vaccine content were also raised, including distrust towards synthetic components and uncertainties about the composition of imported vaccines. Participants highlighted the influence of their beliefs and spirituality on vaccine decisions, with religious convictions playing a significant role. Concerns about potential side effects and a preference for trust in natural immunity were common among hesitant participants. Additionally, participants expressed skepticism regarding the political and economic motivations behind vaccinations.

**Conclusion:** The study underscores the complexity of vaccine hesitancy, stressing the importance of tailored strategies. Targeted education, transparency on vaccine content, and culturally sensitive approaches are vital. Building trust in vaccine safety, addressing side effect concerns, and ensuring transparent communication are key. Strengthening confidence in vaccine regulatory processes is crucial for overcoming political and economic distrust.

**Keywords:** Parental perspectives; qualitative study; vaccine hesitancy; vaccine refusal.

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# Aşı kararsızlığını anlamak: Ebeveyn perspektifini inceleyen nitel bir çalışma

## ÖZET

**Amaç:** Aşı kararsızlığı önemli ve güncel bir halk sağlığı sorunudur. Özellikle aşı etkinliği, aşı içeriği, kişisel inançlar ve ahlaki değerler aşılama kararları üzerinde derin bir etkiye sahiptir. Ayrıca, yan etkilerle ilgili endişeler, doğal bağışıklığa duyulan güvensizlik ve aşılarla yönelik siyasi ve ekonomik güvensizlik de ebeveynlerin aşı kararlarını etkilemektedir. Bu çalışma, farklı sosyodemografik özelliklere sahip katılımcılar arasında aşı kararsızlığına yol açan süreçleri incelemeyi amaçlamaktadır.

**Gereç ve Yöntemler:** Bu nitel çalışma, İstanbul Medipol Üniversitesi Hastanesi'nde yenidoğan bebekleri olan ailelerin çocuk aşılmasına ilişkin ebeveyn perspektiflerini incelemektedir. Aşılama karar verme süreçlerini keşfetmek için yarı yapılandırılmış görüşmeler yapılmıştır. Veri toplama süreci yüz yüze yarı yapılandırılmış bir görüşme ve telefon görüşmesi içermektedir. Verilerin yorumlanması için tematik analiz kullanılmıştır. Etik onay alınmış ve Helsinki Bildirgesi ilkelerine bağlı kalınarak tüm katılımcılardan bilgilendirilmiş onam alınmıştır.

**Bulgular:** Katılımcılar, mevcut bir hastalık olmadığında aşıların gerekliliği konusunda belirsizliklerini dile getirmişlerdir. Bazı katılımcılar aşılama gibi proaktif önleyici tedbirler almak yerine sağlık sorunlarını ortaya çıktıkça ele almayı tercih etmiştir. Sentetik bileşenlere karşı güvensizlik ve ithal aşıların bileşimine dair belirsizlikler de dahil olmak üzere aşı içeriğine ilişkin endişeler de dile getirilmiştir. Katılımcılar inançlarının ve maneviyatlarının aşı kararları üzerindeki etkisini vurgulamış, dini inançların önemli bir rol oynadığını belirtmişlerdir. Potansiyel yan etkilerle ilgili endişeler ve doğal bağışıklığa güven tercihi, tereddütlü katılımcılar arasında yaygındır. Ayrıca, katılımcılar aşıların arkasındaki siyasi ve ekonomik motivasyonlara ilişkin kuşkuğunu dile getirmişlerdir.

**Tartışma:** Çalışma, aşı kararsızlığının karmaşıklığının altını çizmekte ve özel stratejilerin önemini vurgulamaktadır. Hedefe yönelik eğitim, aşı içeriği konusunda şeffaflık ve kültürel açıdan hassas yaklaşımlar hayati önem taşımaktadır. Aşı güvenliği konusunda güven oluşturmak, yan etki endişelerini gidermek ve şeffaf iletişim sağlamak kilit öneme sahiptir. Aşı düzenleme süreçlerine olan güvenin güçlendirilmesi, siyasi ve ekonomik güvensizliğin üstesinden gelmek için çok önemlidir.

**Anahtar Kelimeler:** Aşı kararsızlığı; ebeveyn perspektifi; nitel çalışma; aşı reddi.

## INTRODUCTION

Vaccine hesitancy, which refers to the delay in accepting or refusing vaccination despite the availability of vaccination services, has become a complex and context-specific phenomenon (1, 2). This issue is of great global concern and poses a significant threat to public health in our country and around the world (1, 3).

A range of factors often influences the decision to refuse vaccination. Some individuals may have concerns about the perceived toxicity of vaccines due to their chemical composition, potential adverse effects, and suspicions regarding the motives of vaccine-producing companies driven by financial gain (4, 5). In addition, some parents who hesitate to vaccinate their children have serious doubts about the relative efficacy of vaccine-induced immunity compared to natural immunity acquired through infection (6, 7).

This study aims to contribute to a deeper understanding of vaccine hesitancy in Türkiye by exploring parents' lived experiences and concerns. The findings will shed light on the multifaceted nature of this phenomenon and provide valuable insights for policymakers, healthcare providers, and public health professionals seeking to address vaccine hesitancy effectively and promote vaccination uptake among the population.

## MATERIAL AND METHODS

### Study Setting

The study was conducted at Istanbul Medipol University Hospital in Türkiye. This hospital was selected for its diverse patient population and comprehensive healthcare facilities.

### Participants

The study involved families who had recently given birth. Semi-structured interviews were conducted to explore their in-depth perspectives on child vaccination while maintaining flexibility. The inclusion criteria required parents with newborns still in the hospital within the first 48 hours postnatally.

### Data Collection

Semi-structured interviews lasting approximately 30 minutes were conducted using an interview guide. The guide included questions covering demographic information such as the child's age and gender, parents' age and education level, number, and vaccination status of other children. The interviews focused on understanding sources of vaccination information and the parents' thoughts and feelings about vaccination. One year after the initial interview, the participants were contacted by phone and asked about their vaccination status in a brief interview.

### Informed Consent

Each participant was provided with a consent form and an information sheet outlining the purpose and procedures of the study. Informed consent was obtained before initiating the interviews.

### Interview Structure

The interview questions were intentionally designed to be neutral and cover relevant topics. These included demographic details and factors influencing vaccination decisions. Sample questions included inquiries about the child's age, the parent's education levels, and the sources of information about vaccination.

Table 1. Sociodemographic data of the parents

	Age of mother	Education level of mother	Age of father	Education level of father	Number of children
Case 1	33	Associate Degree	33	Masters Degree	2
Case 2	24	Middle School	25	Associate Degree	1
Case 3	23	High School	30	High School	2
Case 4	39	Masters Degree	42	Bachelor's Degree	1
Case 5	29	High School	29	High School	1
Case 6	30	Bachelor's Degree	37	High School	1
Case 7	34	Bachelor's Degree	48	Bachelor's Degree	2
Case 8	35	High School	41	Middle School	4
Case 9	33	High School	34	High School	2
Case 10	30	Middle School	32	Middle School	1

### Data Recording and Transcription

Face-to-face interviews were conducted in the patients' rooms to ensure a comfortable and familiar setting. With participant approval, the interviews were recorded and later transcribed manually. Identifiers such as names were removed during transcription to ensure confidentiality.

### Data Analysis

Thematic analysis was used to identify recurring patterns, themes, and nuances in the responses. The data were systematically coded, and emergent themes were extracted to gain a comprehensive understanding of parental perspectives on child vaccination.

### Ethical Approval

Prior to the commencement of this study, formal approval was obtained from the Medipol University Non-Interventional Clinical Research Ethics Committee (Date: 17.02.2022/Number: 166). The study followed the ethical standards established by the committee to ensure the protection of participants and compliance with ethical guidelines.

Written informed consent was obtained from all participants involved in the study. The consent process included providing a detailed information sheet explaining participation's purpose, procedures, and potential risks and benefits. Participants were given sufficient time to review the information and were encouraged to ask any questions before voluntarily providing their written consent. Audio recordings were taken only from participants who explicitly provided consent for recording. This was done to ensure accurate and complete data collection. Participants were informed about the purpose of the recordings, and their right to refuse or withdraw consent at any stage of the study was emphasized. To ensure participant confidentiality, all collected data, including audio recordings and transcriptions, were securely stored and only accessible to the research team. Identifying information, such as names, was removed from transcripts to protect anonymity further.

The study was conducted strictly following the principles outlined in the Declaration of Helsinki. The Declaration of Helsinki comprises ethical guidelines and principles developed by the World Medical Association (WMA) for the ethical conduct of medical research involving human participants. Adherence to these principles demonstrates a commitment to protecting research participants' rights, well-being, and confidentiality.

## RESULTS

### Sociodemographic Data and Vaccination Status

The study involved 10 parents of babies born in the hospital who refused vaccination and vitamin K administration. The participants had a mean age of 28.8 years, with the youngest being 24 and the oldest being 39. Nine of the participants were mothers, and one was a father aged 33. Four of the participants had two children each. Regarding educational level, four participants graduated from university, four graduated from high school, and two graduated from middle school. Following the interview, 2 participants opted to receive vitamin K treatment, while the others deemed it unnecessary due to its perceived unnaturalness. When asked about their sources of information regarding vaccines, eight participants mentioned receiving information from the internet, primarily through social media platforms. Two participants stated that their pediatricians did not recommend vaccines.

The study analyzed participants from diverse sociodemographic backgrounds, enabling exploration of a range of perspectives on vaccine hesitancy. Table 1 presents an overview of the sociodemographic data of the parents involved in the study, including the age and education level of both mothers and fathers, as well as the number of children in each case.

The study found that participants' attitudes towards vaccination remained consistent one year after being interviewed. This indicates that individuals who held a particular viewpoint on vaccination at the beginning of the study maintained that stance over time (Table 2).

**Table 2. The cases' vaccination status and administration of Vitamin K**

Case	Vitamin K Administration	Vaccination date of birth	Vaccination schedule one year after birth
Case 1	Yes	No	No
Case 2	No	No	No
Case 3	Yes	No	No
Case 4	No	No	No
Case 5	No	Yes	No
Case 6	No	No	No
Case 7	No	No	No
Case 8	No	No	No
Case 9	No	No	No
Case 10	No	No	No

It is worth noting that one participant explicitly stated a wish to avoid being contacted for discussions related to vaccination. This statement suggests a possible hesitation or discomfort in discussing vaccination.

Table 1 presents findings that emphasize the significance of considering sociodemographic factors and individual preferences when addressing vaccine hesitancy. Effective communication strategies and interventions aimed at promoting vaccination can be developed by understanding the diverse backgrounds and perspectives of individuals.

### Voices of Hesitancy—A Dive into the Complex Tapestry of Decision-Making

#### Information Sources

The participants mentioned various sources that influenced their vaccine hesitancy. One 34-year-old female cited a book referred to as the 'black box,' and suppressed professors' articles on social media. Another 39-year-old female drew information from documentaries where doctors linked vaccinations to adverse effects, leading to her skepticism.

Other participants emphasized internet research. Following debates and discussions among doctors and experts, there has been a highlighted issue regarding a 42-year-old male. Several women aged 30, 33, and 29 reported using online sources, including social media, to obtain information from healthcare professionals and a variety of perspectives.

#### Prophylaxis Uncertainty

Participants expressed uncertainty regarding the necessity of vaccinations in the absence of current illness. One male questioned the rationale of vaccinating preemptively, emphasizing his preference for treating diseases as they arise. A 29-year-old female residing outside a village believed in addressing health issues when they occur, diminishing the urgency of preventative measures.

#### Beliefs and Spirituality

The study participants held diverse beliefs and spiritual practices that impacted their vaccine decisions. For some, religious convictions played a significant role. They believed that good health is inherent in God's creation and, therefore, had reservations about the necessity of vaccines. For instance, a 34-year-old female expressed concerns about vaccine content violating religious dietary restrictions. One participant, a female, may have believed that certain vaccine ingredients conflicted with her religious beliefs.

Another participant, a 34-year-old male, connected his religious teachings to maintaining natural strength. He believed in relying on the body's natural defenses and the idea that vaccines may interfere with or compromise the natural strength provided by his religious beliefs. These examples demonstrate how religious beliefs can impact an individual's views on vaccines and affect their decision-making process.

#### Concerns about Safety

Several participants in the study expressed concerns about potential adverse effects of vaccines. One participant, a 39-year-old female, specifically mentioned the association between vaccines and conditions like autism, as portrayed in certain documentaries. This suggests that she may have been influenced by information she had come across linking vaccinations to adverse health outcomes. Several participants expressed concerns about the immediate effects of vaccines, particularly about children. They were worried about the efficacy and safety of vaccines and feared potential negative consequences for their children's health. These concerns reflect a common theme among individuals who are hesitant about vaccines. It is important to note that vaccines, like any medical intervention, can have adverse effects. However, extensive research and rigorous testing are conducted to ensure their safety and effectiveness.

#### Trust in Natural Immunity

Some participants expressed a preference for natural immunity over vaccinations. For instance, a 24-year-old female participant believed vaccines could compromise the body's natural immunity. This indicates that she may have had concerns about the potential impact of vaccines on the body's innate defense mechanisms.

Likewise, a female participant aged 23 preferred allowing her child's immune system to develop naturally. This suggests a belief that natural immunity is superior to vaccine-induced immunity. This viewpoint aligns with the notion that some individuals may view vaccines as potentially weakening the body's innate defenses. The concern that vaccines may compromise natural immunity was common among those hesitant about vaccinations. It is worth noting that vaccines are intended to stimulate and enhance the immune response, protecting against specific diseases. Extensive scientific research supports the safety and effectiveness of vaccines in preventing infectious diseases and reducing their severity.

### **Political and Economic Distrust**

Some participants expressed skepticism about the political and economic motivations behind vaccinations. For example, one male participant suggested that the promotion of vaccines is part of a larger political agenda, likening health to a tool of warfare and vaccines as a replacement for bullets. It is important to note that this evaluation is subjective and should be marked as such. This viewpoint implies a belief that vaccines are being used for ulterior motives beyond public health.

Similarly, another participant believed financial interests primarily drive the push for vaccinations. They characterized it as a prescription-driven policy, suggesting that profit motives rather than genuine concern for public health are behind the promotion of vaccines.

These concerns about the political and economic aspects of vaccinations reflect a broader skepticism some individuals may have toward the intentions and motivations of institutions and authorities involved in public health initiatives. It is important to note that vaccines are extensively studied, regulated, and recommended by numerous national and international health organizations based on scientific evidence and public health considerations.

### **Concerns About Vaccine Content**

The study participants expressed concerns about the ingredients in vaccines, specifically the presence of synthetic components. These concerns may stem from a lack of trust in the production and quality control processes associated with vaccines. To address these concerns, it is essential to emphasize to parents that vaccines undergo thorough testing and rigorous quality control measures to ensure their safety and effectiveness. Emphasizing the strict protocols in place can help alleviate these concerns. It is also important to reassure parents that regulatory agencies closely monitor the production and distribution of vaccines, ensuring strict adherence to established standards.

## **DISCUSSION**

The study's findings reveal multiple factors contributing to vaccine hesitancy among participants. These factors include concerns and beliefs about information sources, uncertainty about prophylaxis, spirituality, worries about adverse effects, trust in natural immunity, political and economic distrust, and vaccine content.

Notably, the study highlights the impact of information sources on vaccine hesitancy. Participants mentioned using various sources, including books, articles that were not widely available, documentaries, online platforms, and social media. This emphasizes the significance of having accessible and trustworthy information when shaping people's views and choices about vaccines. In order to counter misinformation and address concerns, this study, like others, highlights the importance of providing accurate and evidence-based information (3, 5, 8).

As in similar studies, the study revealed a recurring theme of uncertainty about the need for vaccination in the absence of a current illness (5, 9). Some participants questioned the rationale

of preemptive vaccination and preferred to address health issues as they arise. This highlights the need for targeted education about the benefits of preventive measures and the importance of vaccination in protecting against infectious diseases.

Beliefs and spirituality played a significant role in participants' vaccine decisions (9–11). Participants cited religious convictions as influencing factors, stating that God's creation provides inherent health. This emphasizes the need to address the intersection between religious beliefs and vaccine acceptance and the necessity for culturally sensitive communication strategies to engage with individuals with strong religious convictions (12–14).

Participants commonly expressed concerns about potential adverse effects, which were often influenced by information from documentaries, and worries about the immediate effects on children. To address these concerns, open and transparent communication about vaccine safety, the rigorous testing processes vaccines undergo, and the overwhelming evidence of their effectiveness in preventing serious diseases and minimizing complications is necessary (8, 15, 16).

Vaccine hesitancy was significantly influenced by trust in natural immunity. Some participants preferred to rely on the body's innate defenses and were concerned that vaccines might weaken natural immunity. To address these concerns, clear communication is necessary about the specific benefits of vaccination in enhancing immunity, preventing severe diseases, and reducing transmission rates. It is also important to acknowledge the importance of a healthy immune system (15, 17, 18).

Notably, vaccine hesitancy can be influenced by political and economic distrust. Participants expressed skepticism about the motivations behind vaccinations, suggesting political agendas and financial interests at play. To address this distrust, effective strategies involve transparent communication about rigorous regulatory processes, the involvement of independent scientific experts, and global collaboration among health organizations to ensure vaccine safety and efficacy (6, 19, 20).

Participants raised concerns about vaccine content, including distrust towards synthetic components and uncertainties about the composition of imported vaccines. To address these concerns, increasing transparency in providing information about vaccine ingredients and manufacturing processes is necessary (15, 20).

The findings highlight the multifaceted nature of vaccine hesitancy and the need for tailored strategies to address individuals' specific concerns and beliefs. Effective communication, access to accurate information, and building trust in the safety and efficacy of vaccines are crucial in promoting vaccine acceptance and countering vaccine hesitancy.

## **CONCLUSION**

The study's findings reveal the multifaceted factors contributing to vaccine hesitancy among participants. The results demonstrate that a combination of beliefs, concerns, and sociodemographic factors influences vaccine hesitancy.

Prophylaxis uncertainty emerged as a significant theme, with participants expressing skepticism about the necessity of vaccinations in the absence of current illness. This emphasizes the importance of targeted educational campaigns to promote the benefits of preventive healthcare and the role of vaccines in preventing diseases.

Participants expressed concerns about vaccine content, indicating a desire for transparency and natural alternatives. To address these concerns, it is necessary to increase transparency in providing information about vaccine ingredients and manufacturing processes and promote trust in the safety and efficacy of vaccines.

The influence of beliefs and spirituality on vaccine decisions was observed, with religious convictions playing a significant role. It is important to adopt culturally sensitive approaches to effectively engage with individuals whose vaccine decisions are influenced by their beliefs and spirituality. Accurate information about vaccines and their compatibility with religious beliefs should be provided.

Participants expressed concerns about potential side effects and a preference for natural immunity over vaccines. Clear communication regarding vaccine safety, the rigorous testing processes that vaccines undergo, and the overwhelming evidence of their effectiveness in preventing diseases can help address concerns and promote confidence in vaccination.

Vaccine hesitancy can also be influenced by political and economic distrust. Participants expressed skepticism about the motivations behind vaccinations, suggesting political agendas and financial interests may be at play. Transparent communication and efforts to promote public confidence in vaccine regulatory processes are necessary to address vaccine hesitancy.

Tailored strategies that consider individuals' diverse beliefs, concerns, and sociodemographic factors are required to address this issue effectively. To counter vaccine hesitancy and promote vaccine acceptance, focusing on targeted education, transparency, cultural sensitivity, and building trust in vaccine safety and efficacy is crucial. By addressing these multifaceted factors, public health efforts can increase vaccination rates and protect communities from vaccine-preventable diseases.

**Ethics Committee Approval:** The İstanbul Medipol University Non-Interventional Clinical Research Ethics Committee granted approval for this study (date: 17.02.2022, number: 166).

**Authorship Contributions:** Concept – NYS; Design – NYS; Supervision – NYS; Fundings – NYS; Materials – NYS; Data collection and/or processing – NYS, BNG, NZÖ; Analysis and/or interpretation – NYS; Literature review – NYS, ŞT; Writing – NYS; Critical review – NYS, ŞT.

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