

Opinions of Parents with 0-24 Month Old Children on Vaccination and Vaccine Rejection during the COVID-19 Pandemic: A Qualitative Research

Covid-19 Pandemi Sürecinde 0-24 Aylık Çocuğu Olan Ebeveynlerin Aşı ve Aşı Reddine İlişkin Görüş-leri: Nitel Araştırma

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ABSTRACT

Background and Aim: This study aims to determine the opinions of parents with 0-24 month old children on the childhood vaccinations and vaccine rejection during the COVID-19 pandemic.

Method: Qualitative research design was used in the study. The study population consisted of parents with 0-24 month old children of in a provincial center in the Eastern Black Sea region of Turkey, and the sample consisted of 15 parents (10 females, 5 males). The data were collected through the 'Socio-demographic Information Form' and the 'Parental Opinion Form on Vaccination and Vaccine Rejection'. Research findings are presented according to the COREQ checklist.

Results: Interviews with parents with 0-24 month old children were collected under 4 themes. These themes were identified as 'Vaccine as a Protective Shield', 'Information, Trust and Communication', 'Opportunity, Availability and Awareness', and 'Stolen Health Rights and Vaccine Rejection'.

Conclusion: It is recommended to increase parental knowledge and awareness of vaccines, to provide information about vaccines that are not included in the childhood vaccination calendar, and to improve the communication between health professionals and parents.

Keywords: Covid-19, Aşı, Aşı reddi, Nitel araştırma, Ebeveyn, Çocuk.

ÖZ

Amaç: Bu araştırma Covid-19 pandemi sürecinde 0-24 aylık çocuğu olan ebeveynlerin çocukluk dönemi aşı ve aşı reddine yönelik görüşlerinin belirlenmesi amacıyla yapılmıştır.

Yöntem: Araştırmada nitel tasarım kullanılmıştır. Araştırmanın evrenini Doğu Karadeniz Bölgesindeki bir il merkezinde 0-24 aylık çocuğu olan ebeveynler, örneklemini ise 15 ebeveyn (10 kadın, 5 erkek) oluşturmaktadır. Veriler 'Sosyo-demografik Bilgi Formu' ve 'Aşı ve Aşı Reddine İlişkin Ebeveyn Görüş Formu' ile toplanmıştır. Araştırma bulguları COREQ kontrol listesine göre sunulmuştur.

Bulgular: 0-24 aylık çocuğu olan ebeveynler ile yapılan görüşmeler 4 tema altında toplanmıştır. Bu temalar 'Koruyucu kalkan olarak aşı', 'Bilgilendirme, güven ve iletişim', 'İmkân, fırsat ve farkındalık' ve 'Çalınan sağlık hakkı ve aşı reddi' olarak belirlenmiştir.

Sonuç: Aşılara yönelik bilgi ve farkındalığın artırılması, çocukluk dönemi aşı takviminde yer almayan aşılara yönelik bilgilendirme yapılması ve sağlık profesyonelleri ile ebeveynlerin iletişimlerinin artırılması önerilmektedir.

Anahtar Kelimeler: Kadın sağlığı, menstrüel kap, içerik analizi

INTRODUCTION

Vaccines are an indispensable part of preventive health care. Vaccination helps to reduce the incidence and prevalence of infectious diseases, disability and morbidity rates due to these diseases, and economic losses (1). Globally, the infant mortality rate has been reduced from 65 per 1,000 live births to 29 per 1,000 live births from 1990 to 2018 thanks to childhood vaccination (2). It is estimated that 10 million deaths have been

prevented globally by the vaccine administration between 2010 and 2015 (3-4). It is reported that an economic loss of \$112,000 and 109,000 cases were prevented by conjugated pneumococcal vaccine between 2000 and 2004 (5).

Although the importance and effectiveness of vaccination practice is known, in recent years there has been an increase in cases of vaccine refusal and the number of infectious diseases globally. Vaccine refusal is individuals' refusal to vaccines and vaccination using their own will. A vaccine refusal can be a refusal of all vaccines, as well as a refusal of a single vaccine (6). According to World Health Organization (WHO) and the United Nations Children's Fund (UNICEF), there

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are about 20 million unvaccinated children in the world (4). According to data from the Center for Disease Control and Prevention (CDC), 0.3% to 1.3% of children worldwide are reported to have never been vaccinated (1). The number of children without vaccination in Turkey increased from 12 thousand in 2016 to 23 thousand in 2017, and the number of children who have never been vaccinated has increased by 81% in the last 5 years (7). There has been an increase in infectious diseases in line with the increase in vaccine rejection. Diphtheria outbreaks have been reported in Bangladesh and India (2). Globally, measles cases reported in 2018 were twice as many as in 2017. Four measles cases were reported in Turkey in 2009, while 3,820 measles cases were reported in 2018 (7).

There are some differences in childhood vaccination practices in different countries around the world and within the scope of different health policies. In Turkey, vaccination against 13 diseases, including hepatitis B, diphtheria, pertussis, tetanus, haemophilus influenza Type B, tuberculosis, poliomyelitis, measles, rubella, mumps, pneumococcal, hepatitis A, and chicken pox is carried out free of charge in family health centers by the Ministry of Health. Seventeen of the 20 vaccines included in the national vaccine schedule are administered in the first 24 months (8).

In addition to childhood vaccination practices, the COVID-19 pandemic, which started in China and affected the entire world, also affected the debate on vaccine and vaccine refusal. Childhood vaccination practices have been temporarily halted to control the COVID-19 pandemic, protect public health and reduce referral to health institutions. UNICEF reported that the routine vaccination program of 80 million children in 68 countries was interrupted during the COVID-19 pandemic (9). In the literature, it is stated that parents delay their children's vaccination due to the risk of COVID-19 infection, do not want to get vaccinated because they are afraid of the vaccines, and consider canceling children's vaccinations (10).

Vaccine refusal negatively affects the individual and society, increases disability and costs, and be-

comes a globally significant public health issue. Since the COVID-19 pandemic affected many situations, especially child health, vaccine discussions and vaccination practices, this study was planned to investigate the opinions of parents of 0-24-month old children on vaccination and vaccine refusal during the COVID-19 pandemic in detail.

MATERIALS AND METHODS

Purpose of the Study

This study aims to determine the opinions of parents with 0-24 month old children on the vaccination and vaccine rejection during the COVID-19 pandemic.

Research Design

The research was carried out using the phenomenological research design, one of the qualitative research methods. Phenomenological research reveals experiences, opinions, and perceptions about the situation in a multifaceted way (11). The Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist was taken into account in the reporting of the research (12).

Research Place, Population and Sampling

This study was conducted in a provincial center. The study population consisted of parents with 0-24-month-old children, and the sample consisted of 15 parents, of which 10 were female and 5 were male. The purposive sampling method was used in the sample selection of the study. The purposive sampling method is preferred to conduct an in-depth analysis in cases where it is considered to have deep and rich knowledge of the subject (11). The reason parents with children of 0-24 months were selected in the study group is that 17 of the 20 vaccines included in the national vaccine schedule are administered in the first 24 months, and parents are more closely related to the vaccination application during this period. The sample size was determined by the repetition of the data; in other words, the sample collection continued until reaching data saturation (11). Accordingly, 15 parents with 0-24 months old children were interviewed within the scope of the study. Parents

were invited to the study in a Family Health Center (FHC) located in the city center. The date and time were determined for the in-depth interview with the parents who accepted the study. In-depth interviews were conducted at the FHC or at the parent's home, according to the parent's request (Due to the risk of Covid-19 transmission, some parents did not want to stay in the FHC for a long time. There was no difference in data collected at home or in the FHC).

Study Inclusion and Exclusion Criteria

Parents who reside in the provincial center where the research was conducted, have 0-24-month old children, speak Turkish, literate and volunteer to participate in the research were identified. The parents included in the study are those whose child does not have any health questions such as autism, epilepsy, and who apply to FHC for any reason such as examination, medication, dressing. Participation outside these criteria was excluded.

Data Collection Instruments

The study data were collected using a sociodemographic information form and semi-structured interview form, prepared by the researchers. These forms were prepared by the researchers by screening the literature (1, 13-17) and then evaluated by a qualified researcher, experienced in qualitative research, with a doctoral degree in pediatrics. Pilot application of these forms was made with one academician and one housewife with a 0-24-month-old child, and the comprehensibility and content of the items were evaluated. Then, the form was finalized in line with the suggestions and feedback.

Socio-Demographic Information Form: This form, created by researchers by screening the literature (1, 13-17), consists of eight items on age, gender, occupation, educational status, and the status of keeping the vaccination cards, etc.

Parental Opinion Form on Vaccination and Vaccine Refusal: This form, created by researchers by screening the literature (1, 13-17), consists of 15 items on opinions about the vaccine and vaccination, opinions about the vaccine refusal,

and ideas about the prevention of vaccine refusal, etc. The questions in this form, which consists of open-ended questions, are as follows.

1. What is the vaccine according to you?
2. What do you think about vaccines and vaccine administration?
3. What do you think about the effectiveness of vaccines?
4. What are your source(s) of information about vaccines?
5. What is vaccine rejection according to you?
6. How do you interpret vaccine rejection?
7. News, programs, pages, etc. about vaccine, vaccine rejection, etc. on social media. What do you think about it?
8. Positive or negative news, programs, pages, etc. about vaccines on social media. Does it affect your thoughts about the vaccine, your acceptance of the vaccine?
9. Does any event you have experienced in the vaccination application affect your next vaccination? Can you explain?
10. What do you think about optional vaccines such as rota, meningitis, flu vaccine?
11. In your opinion, should vaccination be mandatory or voluntary? Can you explain why?
12. How does the global and increasing vaccine rejection affect you?
13. Turkey is a country that receives and sends immigrants intensively. How do you evaluate this situation in terms of herd immunity and childhood infectious diseases?
14. In your opinion, how can vaccine rejection be prevented?
15. Is there anything else you would like to add?

Research Team

The research team consists of two female nurses. One of the researchers is a Ph.D-Candidate, with a total of 9 years of nursing experience, including 6 years in the clinic and 3 years in the academy. The other researcher has a doctoral degree (Ph.D), with a total of 31 years of nursing experience, including 5 years in the clinic and 26 years in the

academy. During the course of the research, both researchers were working as an academic. The researchers visited the institutions where the research will be conducted before the research, met and contacted the health care professionals working in these institutions, and provided information about the purpose and content of the research. The entire research process, interviews and recordings were conducted by the researchers, i.e. authors. Researchers have sufficient experience in qualitative research.

Data Collection

The data were collected by the researchers using the in-depth interview technique between November 1st, 2020, and January 31st, 2021. Appropriate dates and times for interviews to be conducted were determined together with the parents, who agreed to participate in the research. The interviews were conducted within an average of 30 minutes. During the interviews, the questions in the interview forms were directed to the parents by one of the researchers, and the responses were recorded by the second researcher [In this way, memory-related (forget) bias is taken under control]. Before starting the in-depth interview method, questions in the socio-demographic data form were asked first to the parents, then the in-depth interview method was applied. Voice recording was not performed during the interviews (parents did not approve of the audio recording). As the final question in interviews, the parents were asked whether they want to express a statement or give feedback, and the answers were recorded, if any. After the interviews were completed, the notes/transcripts were given to the parents and asked if there were any statements they want to correct or add. After checking the transcripts, the interviews were terminated. During the interviews, there were no parents who quit the research or did not want to continue. The notes taken during the in-depth interviews were arranged in an average of 15 minutes and transferred to the Word program. In this way, memory-related (forget) bias is taken under control. At the point where the data collected from the parents started to repeat, that is, when the data reached the point of satisfaction, the in-depth interviews were terminated by the joint decision of the

two researchers. During the in-depth interviews, social distance and mask rules were meticulously followed. On the dates of the research, Covid-19 vaccine is not applied in the city center where the research is conducted.

Data Analysis

Quantitative data of the study were evaluated using the Statistical Package for the Social Sciences (SPSS) 23.0 package program and presented using numbers and percentiles. The study qualitative data were analyzed in four stages. These stages include 1. transcription and data validation; 2. encoding of the data; 3. finding out the themes; 4. organization and definition of the data according to codes and themes. Transcription is the transfer of a video or audio recording to text with the notes taken. During the research, there was no do of voice because the participants did not give permission. The notes taken during the interviews were transcribed by two researchers. The inductive approach and content analysis were used in the analysis of the study data (11). Forms obtained from the interviews were transferred to the Word file after the interview and a data set of about 60 pages was obtained. The data were evaluated by the two researchers by reading them repeatedly at different time periods. By reaching a consensus, four categories were formed, taking into account the item titles in the semi-structured interview form and the literature. Under these four main categories, transcripts were read repeatedly, similarities and differences were determined and conceptualized. During these comparisons, the themes that fall under the categories were determined. While creating the themes and codes, national and international literature was taken into account (The program wasn't used during the analysis of qualitative data). During the analysis, attention was paid to the themes to form a meaningful whole, and the concept map obtained after the analysis reflects the concepts found in a meaningful whole. The concept map was evaluated by the researchers, and subsequently was examined by a researcher, experienced in qualitative research, with a doctoral degree in the field of pediatrics, and then the concept map was finalized in accordance with the expert opinions and recommendations.

Validity and Reliability

Ensuring validity and reliability in qualitative research designs is very important, although it is different from quantitative research designs. In qualitative research, whether the findings and ideas obtained reflect the truth is questioned within the scope of internal validity. There are four different methods to ensure internal validity in qualitative research: long-term interaction, reducing researcher biases, participant confirmation, and triangulation. The data-derived triangulation method, one of the sub-groups of the triangulation method, is used to ensure internal validity. The purpose of the data triangulation method is to confirm the obtained data with each other and to increase the validity and reliability of the results (11). Based on this information, a wide range of data sources were used within the scope of the study, the results were compared, and the similarities between the results were validated (1,13-17,21-26,29,32,33). In addition, confirmation of participants was obtained after in-depth interviews were completed within the scope of the research. Within the scope of this information, it can be said that the research findings are valid. In qualitative research, external validity transferability is also questioned (11). In the context of the transferability, it is necessary that the results obtained from the study can be transferred to the results of other similar studies. In this direction, it can be stated that most of the results obtained in this study have great similarities to the results obtained within the scope of other studies in the literature, and hence they are transferable (1,13-17,21-26,29,32,33). Consistency (internal reliability) and confirmability (external reliability) are questioned to ensure reliability in qualitative research (11). The findings of the study appear to be consistent with the current literature. As part of confirmability, the data obtained are intended to be confirmed by the researchers and presented to the reader in a logical framework (11). The results of the study were checked by the two researchers and confirmed by obtaining expert opinion. Within the scope of these criteria, it can be stated that the research is reliable.

Ethical Aspect of the Study

Before starting the study, approval of ethics committee (date & no: 28/10/2020-E.11579) was obtained from the Artvin Çoruh University Ethics Committee. During the study, parents were informed about the research and written consent was obtained from volunteers. This study was conducted in accordance with the principles of the Declaration of Helsinki.

RESULTS

In-depth interviews were conducted with 15 parents with 0-24-month-old babies within the scope of the research. Socio-demographic characteristics of participants are presented in Table 1. The average age of the participants was 31.0 ± 4.5 (min:24, max:42), 67.7% was female and 53.3% had 1 child. It was found that 93.3% of the parents had their child get vaccinated regularly, 93.3% had completed vaccinations for their child, and all the parents kept their child's vaccination card (Table 1).

Four themes were determined from the findings obtained as a result of the interviews with the participants. These themes are 'Vaccine as a Protective Shield', 'Information, Trust and Communication', 'Availability, Opportunity and Awareness', and 'Stolen Health Rights and Vaccine Refusal' (Figure 1). Direct quotes from participants' statements are presented by denoting participant names as P1, P2, P3, etc. In addition, some socio-demographic characteristics of the participants (age, gender, occupation and educational status) are given.

Vaccines as a Protective Shield

The participants stated that they consider vaccines as a protective shield, that the vaccination is very important and necessary, and that the effectiveness of the vaccines was once again understood due to the COVID-19 pandemic.

Table 1. Socio-demographic characteristics of parents, Artvin,2021

Features	n	%
Age		
24-32 age	9	60
33-42 age	6	40
The average age: 31,0±4,5 (min: 24; max: 42)		
Gender		
Famale	10	66,7
Male	5	33,3
Level of education		
Primary school graduate	1	6,7
License and above	14	93,3
Job		
Nurse	6	40
Teacher	3	20
Doctor	2	13,2
Veterinary	1	6,7
Engineer	1	6,7
Advertiser	1	6,7
Housewife	1	6,7
Child number		
1 child	8	53,3
2 child	7	46,7
Regular vaccination		
Yes	14	93,3
No	1	6,7
Fully vaccinated child		
Yes	14	93,3
No	1	6,7
Storing the vaccination card		
Yes	15	100

“... I see vaccines as a protective shield. Vaccines protect my child like a shield. It prevents many diseases, adverse effects and outbreaks of diseases. I consider vaccines and vaccination practices quite necessary and useful.” (P₄, 33, Female, Nurse, Bachelor’s degree and above)

“... Vaccine and vaccination applications are a very effective method. With mitigated viruses, the body prepares for disease, which means that soldiers are sent to defend the body. Throughout history, we have seen and will continue to see the effectiveness of vac-

cines through numerical evidence. In addition, due to the COVID-19 pandemic, how necessary and essential vaccines are has been proven once again.” (P₈, 33, Male, Academician, Bachelor’s degree and above)

“... Given that the entire world is currently searching for vaccines due to the COVID-19 pandemic, it is an undeniable fact that vaccines and childhood vaccines have an important place in our lives.” (P₁₀, 24, Female, Doctor, Bachelor’s degree and above)

Information, Trust, and Communication

The participants stated that information should be provided about vaccines, trust in vaccines should be maintained, and the society should constantly be informed about the importance and necessity of the vaccines, and that health care professionals should maintain their communication with families.

“... I think that health professionals should repeatedly provide information about the importance of the vaccine to those who think negatively about the vaccines. Considering that individuals and families get vaccinated on the basis of trust, the media content, news, etc. that will undermine confidence in the vaccine need to be supervised. Public spots on television can be increased, videos and animations can be broadcast on the effect of diseases on public health and the economy in case of lack of vaccination.” (P₆, 34, Female, Nurse, Bachelor’s degree and above)

“... I believe that the continuity of the vaccination application will be ensured by raising awareness of individuals, by providing information about the contents of the vaccines, by eliminating all the questions in their heads, by maintaining trust in vaccines.” (P₁₃, 27, Female, Teacher, Bachelor’s degree and above)

“... I believe that society should be informed about the vaccination, the vaccination process should be followed very well, and family members who do not have their children got vaccinated should be informed and convinced. I think family health workers working in family health centers should constantly communicate with families to convince them to get their children vaccinated.” (P₂, 33, Female, Nurse, Bachelor’s degree and above)

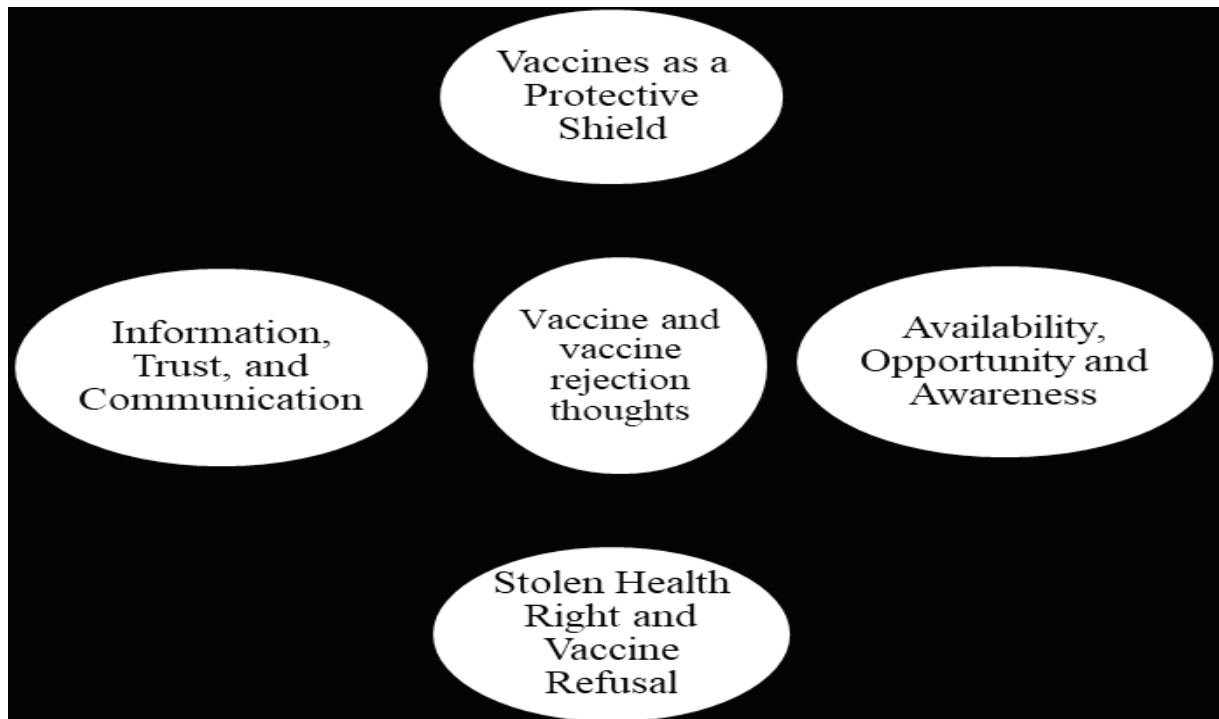


Figure 1. Overview of vaccine and vaccine refusal themes

Availability, Opportunity and Awareness

The participants stated that vaccines that were not routinely included in the national vaccine calendar (rotavirus, meningitis, influenza, etc.) should be accessible by the community, awareness should be raised about these vaccines, and immigrants who come to Turkey should have the opportunity to get vaccinated.

“... The Ministry of Health needs to pay and include the rota virus, meningitis, and influenza vaccines on the national vaccination schedule. These vaccines are beautiful and effective vaccines. Not every person have the means to get these vaccines. Either because of the fees or the family have no information about them. For this reason, information should be given about these vaccines and the means for vaccination should be provided.” (P₁, 33, Female, Teacher, Bachelor’s degree and above)

“... Since I didn’t have any health information, I did a lot of research on child health, baby care, and vaccination after having a baby. I think rotavirus and meningitis vaccines should be inclu-

ded in the national vaccine schedule. This is because, the long-term consequences of meningitis are very critical. Children’s development is also negatively affected due to diarrhea diseases. Duration of hospital stays are getting longer, drug use is increasing. There are deaths of infants and children under the age of 5 due to diarrhea across the globe. Diarrhea is also an important assessment criterion in the calculations of children’s health and development of countries. In addition, Turkey is not a very rich country with a high level of education. There are families living on the minimum wage. These families may not be able to give 300-400 TL a month and get their child vaccinated, or the family may not even know that there are such vaccines. For this reason, I think that influenza, rota virus and meningitis vaccines should be included in the vaccine schedule and that this opportunity should be offered to families and children.” (P₄, 27, Female, Housewife, Primary school graduate)

“... Many diseases have been eradicated and controlled in Turkey. In line with the increased migrations, infectious diseases began to reappear.

During the entry into the country, the vaccinations of these people should be investigated and vaccination should be provided for people who did not get vaccinated previously. Immigrants may not have access to health care, vaccination services in the country where they came from, but in order to protect public health in our country, these people should be offered the opportunity to get vaccinated.” (P₃, 38, Female, Veterinarian, Bachelor’s degree and above)

“... Epidemics continue to be seen in areas that receive intensive migration in Turkey. Intensive migrations pose a threat regarding infectious diseases. In order to protect the health of the country and public health, vaccine checks should be carried out for people from abroad, people who do not get vaccinated should be get vaccinated, people who do not have repeated doses should be offered the opportunity to get it free of charge and people should be informed in this regard.” (P₁₅, 31, Male, Advertiser, Bachelor’s degree and above)

Stolen Health Right and Vaccine Refusal

Participants stated that children’s right to health was stolen with vaccine refusal, that children’s right to health was taken, and that vaccine refusal is quite dangerous.

“... In my opinion, the vaccine refusal is stealing children’s right to health. Parents are healthy, they have got vaccinated, but they refuse vaccination for their children, which I interpret as stealing their child’s right to health. There’s a boy who writes a poem to his mother: “You gave water to your flowers, why didn’t you vaccinate me mother?” Based on this, we take our animals to the veterinary and get them vaccinated, we give medicine to trees, we fertilize crops, we give medicine, but we don’t vaccinate our children. Not vaccinating children is just stealing their right to health, hindering their right to health.” (P₁₁, 32, Female, Nurse, Bachelor’s degree and above)

“... I know that families refuse the vaccine because of certain substances contained in the vaccine. When you look at social media, you see people who are quite believing and strongly advocating

the vaccine refusal. I would say that these people who advocate vaccine refusal easily affect individuals with low levels of education. In general, I think it affects family health, community health and the health of Turkey, it is a threat to the whole country.” (P₇, 31, Female, Academician, Bachelor’s degree and above)

“... Vaccine refusal leaves the individual and society vulnerable to infectious diseases. I think someone has dissuaded others with fancy sentences, led them wrong and stole their rights to health. The vaccine refusal takes away the right to health of society, not only the individual, usurping the right of children to health. In addition, we have once again understood how important vaccines are in the process of the COVID-19 pandemic.” (P₁₄, 29, Female, Nurse, Bachelor’s degree and above)

DISCUSSION

Vaccines have proven their importance and effectiveness globally and have a very important place in reducing infant and child mortality following water and sanitation practices. Mortality and morbidity, disability and financial losses are significantly reduced globally by vaccination and immunization (18). The eradication of smallpox and polio diseases from all over the world is the greatest evidence of the success of vaccines (19). Although the importance and effectiveness of vaccines is known, vaccine refusal has been rapidly increasing in recent years. Vaccine refusal poses a social risk and it is a significant public health problem, beyond the fact that it appears to be an individual risk (20).

The research is the first study in Turkey that qualitatively investigates the views of parents on vaccine and vaccine refusal during the COVID-19 period. This study aims to determine the opinions of parents with 0-24 month old babies on the vaccination and vaccine rejection during the COVID-19 pandemic. The findings show that parents consider the vaccination as a protective shield, that it is necessary to inform people for the continuity of the vaccination application, to maintain trust in the vaccines, that health care profes-

sionals need to communicate with families, that paid vaccines need to be accessible, and people who come to Turkey through migration should have the opportunity for vaccination. It was also found that parents consider vaccine refusal as a 'stolen right to health'. Looking at the literature on the subject, it is seen that parents consider vaccines as a protective measure, express the vaccination as an important and necessary practice, state that information about vaccines have an important role in the adoption of vaccines, trust to health care professionals and communication with them influence their decisions for the vaccination of their children, and the vaccination rate is increased with the increasing opportunity for vaccination (13-17).

Participants stated that they consider vaccines as a protective shield, and that vaccine practice is quite necessary and useful. In addition, participants stated that the sound importance of vaccines was once again seen due to the COVID-19 pandemic. Kurup et al. (2020) reports that parents consider vaccines protective and that parents who know that vaccines protect against infectious diseases are more likely to vaccinate their children (15). Kurosky et al. (2017) reports that parents consider vaccines as protective in the United States, and parents who believe in vaccine protection have a higher percentage of getting their children vaccinated in full (16). Kiely et al. (2020) reports that the rate of vaccinations of children increased in Canada in line with the increase in beliefs of patients regarding the protection of childhood vaccines (17). Chen et al. (2015) reports that parents who consider childhood vaccines protective and rely on vaccines are more likely to have their children get childhood vaccines and influenza vaccines (21). Smith et al. (2011) reported that parents who consider vaccines as protective have their children vaccinated fully and timely (22).

The participants stated that information should be provided about vaccination, trust in vaccines should be maintained, and communication between health care professionals and families should be maintained. Aloufi and Mosleh (2019) reported that parents should be informed about the continuity of vaccination practice in Saudi

Arabia (23). Deem et al. (2020) reports that continuous educational interventions in the U.S. have an important place in the continuity of vaccination practice (13). Karlsson et al. note that the key factor in the adoption of the vaccines by parents in Finland is the information provided by experts to a wider population (24). Hubber et al. (2020) reported that parents informed by pediatricians and health care professionals in Hungary have a higher confidence in vaccines and the rate of vaccinating their children is also higher among these people (25). Kurup et al. (2020) notes that trust in physicians and public health nurses primarily affects vaccination, and that physician recommendations have an important place in vaccinations (15). Menezes-Succi (2018) notes that the rate of immunization has decreased with a decrease in confidence in vaccines in Brazil, and it is necessary to address the growing distrust of the public in preventing vaccine refusal (26). Kiely et al. (2020) reports that increase in the frequent communication between vaccine providers/health care workers and parents significantly increases the rate of vaccination of their children (17).

The participants noted that rota virus, meningitis, and influenza vaccines that are not included in the vaccine schedule should be included in the schedule for awareness and financial reasons. Klahid et al. (2018) reports that there is a direct proportion between maternal education level, socio-economic income level and immunization rate in Pakistan, and that families with high socio-economic levels have more means to get vaccines outside the national vaccination schedule (27). Kemple et al. (2020) states that maternal education level and family income level in the U.S., affect both routine childhood vaccines and flu vaccine administration, and that vaccine administration in families with low education and income levels is negatively affected (28). Montagna et al. (2020) states that awareness should be raised by public health experts to ensure that individuals in Italy have access to vaccines (29). Üzümlü et al. (2020) report that as the family's income level and the number of children increase, the rate of non-routine vaccinations increases in Turkey (30). Kurup et al. (2020) report that vaccination rates have in-

creased with vaccines being free and vaccines not on the national vaccine schedule being affordable in New Zealand, Taiwan and Hong-Kong (15).

The participants stated that immigrants who came to *Turkey* through migration should have access to vaccination and immunization, and should be informed about vaccines with repeat doses Croker-Buque et al. (2017) reports that the immunization rate of migrants in India, Nigeria and China is quite low compared to the general population and that they are not aware of the vaccination services offered in the region where migrants reside (6).

Participants stated that they consider vaccine refusal as a 'stolen right to health' and that the importance of vaccines is on the agenda again during the COVID-19 pandemic. The right to health is a universal human right, acquired by birth, protected by national and international regulations in many countries. The right to health regulates the responsibility of the state to individuals and is clearly stated in the constitution that everyone has the right to health in Turkey (31). Similar to our study, Silverman and Wiley (2017) report that vaccine refusal is an usurpation of a child's right to health and an embarrassment (32). Bradshaw et al. (2020) interprets the vaccine refusal as taking the child's right to health by the parents and playing 'russian roulette' with the child's health (33). Jesani and Johari (2017) emphasize that health is a fundamental human right, that the right to health cannot be achieved, that public health and health of the population cannot improve, and that health goals cannot be achieved without vaccines (34).

Limitations

This research is the first to examine parents' views on childhood vaccination and vaccine rejection during the Covid-19 pandemic, based on a qualitative research method. This research may help in the planning of regulations on vaccination practice, but the study has some limitations. This study was conducted using qualitative research design in a provincial center. Due to the COVID-19 pandemic process, parents wanted to keep the interview time short. Research results can only be generalized to the study population.

In addition, due to the Covid-19 pandemic, the results of the research may have only reflected the views of parents who came to the health institution, since individuals only applied to health institutions for emergencies. Another limitation of the study is that parents who have regular childhood vaccinations, healthcare professionals and who have a bachelor's degree or higher education level participate in the study. Since families who do not have their childhood vaccinations regularly do not come to the FHC or do not accept to participate in the research, the research findings may only have reflected the opinions of knowledgeable parents with high positive attitudes towards childhood vaccinations. Another limitation of the research is the Covid-19 pandemic. During this period, the participants can do more research on vaccines and epidemics. In addition, although the interview recordings were transferred to the word within 15 minutes after the interview during the study, the lack of voice recording may have caused the parents to write the statements incompletely.

CONCLUSION

In this study, which was conducted to reveal the opinions of parents of 0-24 month old children on the vaccines and vaccine refusal during the COVID-19 pandemic, the opinions of the participants were grouped under four themes: 'Vaccine as a Protective Shield', 'Information, Trust and Communication', 'Opportunity, Availability and Awareness', and 'Stolen Health Rights and Vaccine Refusal'. It is stated that participants consider vaccines as a protective shield, and they stated that trust in vaccines should be maintained, information should be provided about the importance of the issue, awareness should be raised regarding the vaccines that are not included in the national vaccine schedule, and access to these vaccines should be increased. In the study, parents described vaccine refusal as a 'stolen right to health'. They also noted that the importance of vaccines in the COVID-19 pandemic was once again dramatically witnessed.

The results obtained within the scope of the research support and contribute the existing literature. It is recommended that information should

be provided on the importance of the issue for the continuity of vaccination applications and prevention of vaccine refusal, health care professional should inform people about vaccines that are not included in the national vaccine schedule, the opportunity to access vaccines that are not included in the national vaccine schedule should be improved by the Ministry of Health or regulations should be made to reduce or eliminate fees for these vaccines. For future studies, it is recommended to determine the level of knowledge of parents about vaccines that are not included in the national vaccine schedule, and to investigate their views and recommendations for these vaccines.

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References

1. Majid U, Ahmad M. The Factors That Promote Vaccine Hesitancy, Rejection, or Delay in Parents. *Qualitative Health Research*. 2020:1-15.
2. Nandi A, Shet A. Why vaccines matter: understanding the broader health, economic, and child development benefits of routine vaccination. *Human Vaccines & Immunotherapeutics*. 2020:1-5.
3. World Health Organization. National immunization coverage scorecard estimate for 2018. 1. Baskı. 2019.
4. World Health Organization. Progress and Challenges with Achieving Universal Immunization Coverage. Erişim Tarihi: Nisan 8, 2020. https://www.who.int/immunization/monitoring_surveillance/who-immuniz.pdf?ua=1
5. Ray GT, Whitney CG, Fireman BH, Ciuryla V, Black SB. Cost-effectiveness of pneumococcal conjugate vaccine: Evidence from the first 5 years of use in the United States incorporating herd effects. *The Pediatric Infectious Disease Journal*. 2006;25(6):494-501.
6. Chirumbolo S, Bjørklund G. Evaluation of Childhood Vaccine Refusal and Hesitancy Intentions in Turkey: Correspondence. *The Indian Journal of Pediatrics*. 2019;86(3):315-7.
7. Büyüksoy GD. Türkiye'nin Bazı Sağlık Düzeyi Göstergelerinin Halk Sağlığı Görüşü Açısından Değerlendirilmesi. *Halk Sağlığı Hemşireliği Dergisi*. 2019;1(2):49-59.
8. Yüksel GH, Topuzoğlu A. Aşı redlerinin artması ve aşı karışıklığını etkileyen faktörler. *ESTÜDAM Halk Sağlığı Der-*

gisi. 2019;4(2):244-58.

9. Dinleyici EC, Borrow R, Safadi MAP, Van Damme P, Munoz FM. Vaccines and routine immunization strategies during the COVID-19 pandemic. *Human Vaccines & Immunotherapeutics*. 2020:1-8.
10. Saxena S, Skirrow H, Bedford H. Routine vaccination during covid-19 pandemic response. *BMJ*. 2020;369:m2392.
11. Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Research in Psychology*. 2006;3(2):77-101.
12. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal For Quality In Health Care*. 2007;19(6):349-57.
13. Deem MJ, Kronk RA, Staggs VS, Lucas D. Nurses' perspectives on the dismissal of vaccine-refusing families from pediatric and family care practices. *American Journal of Health Promotion*. 2020;34(6):622-32.
14. Crocker-Buque T, Mindra G, Duncan R, Mounier-Jack S. Immunization, urbanization and slums—a systematic review of factors and interventions. *BMC Public Health*. 2017;17(1):556
15. Kurup L, Shorey S, Wang W, He HG. An integrative review on parents' perceptions of their children's vaccinations. *Journal of Child Health Care*. 2017;21(3):343-52.
16. Kurosky SK, Davis KL, Krishnarajah G. Effect of combination vaccines on completion and compliance of childhood vaccinations in the United States. *Human Vaccines & Immunotherapeutics*. 2017;13(11):2494-502.
17. Kiely M, Boulianne N, Talbot D, Ouakki M, Guay M, Landry M, et al. Children vaccination coverage surveys: Impact of multiple sources of information and multiple contact attempts. *Vaccine*. 2020;38(5):1202-10.
18. Abd Halim H, Abdul-Razak S, Yasin M, Isa MR. Validation study of the Parent Attitudes About Childhood Vaccines (PACV) questionnaire: the Malay version. *Human Vaccines & Immunotherapeutics*. 2020;16(5):1040-9.
19. Lee C, Whetten K, Omer S, Pan W, Salmon D. Hurdles to herd immunity: Distrust of government and vaccine refusal in the US, 2002-2003. *Vaccine*. 2016;34(34):3972-8
20. Omer SB, Salmon DA, Orenstein WA, Dehart MP, Halsey N. Vaccine refusal, mandatory immunization, and the risks of vaccine-preventable diseases. *New England Journal of Medicine*. 2009;360(19):1981-8.
21. Chen CH, Chiu PJ, Chih YC, Yeh GL. Determinants of influenza vaccination among young Taiwanese children. *Vaccine*. 2015;33(16):1993-8.
22. Smith PJ, Humiston SG, Marcuse EK, Zhao Z, Dorell CG, Howes C, Hibbs B. Parental delay or refusal of vacci-

- ne doses, childhood vaccination coverage at 24 months of age, and the Health Belief Model. *Public Health Reports*. 2011;126(2_suppl):135-46.
23. Aloufi KM, Mosleh H. Prevalence and determinants of delayed vaccination among children aged 0–24 months in Al-Madinah, Saudi Arabia. *IJMDC*. 2019;3(1):55-9.
24. Karlsson LC, Lewandowsky S, Antfolk J, Salo P, Lindfelt M, Oksanen T, et. al. The association between vaccination confidence, vaccination behavior, and willingness to recommend vaccines among Finnish healthcare workers. *PloS-One*. 2019;14(10):e0224330.
25. Huber A, Gazder J, Dobay O, Mészner Z, Horváth A. Attitudes towards varicella vaccination in parents and paediatric healthcare providers in Hungary. *Vaccine*. 2020;38:5249–55.
26. Succi RCDM. Vaccine refusal-what we need to know. *Journal de Pediatria*. 2018;94(6):574-81.
27. Khalid Q, Khan IM, Amber W, Chishti AL, Hassan KA. Assessment of Complete Coverage of Expanded Program on Immunization in Children at Mayo Hospital Lahore, Pakistan. *J Islamabad Med Dental Coll*. 2020;9(1):12-6.
28. Kempe A, Saville AW, Albertin C, Zimet G, Breck A, Helmkamp L, et. al. Parental hesitancy about routine childhood and influenza vaccinations: a national survey. *Pediatrics*. 2020;146(1): e20193852.
29. Montagna MT, De Giglio O, Napoli C, Fasano F, Diella G, Donnoli R, et. al. Adherence to vaccination policy among public health professionals: Results of a national survey in Italy. *Vaccines*. 2020;8(3):379.
30. Üzümlü Ö, Eliaçık K, Hortu Örsdemir H, Karadağ Öncel E. Ebeveynlerin aşı yaklaşımlarını etkileyen faktörler: Bir eğitim araştırma hastanesine ilişkin değerlendirme. *J Pediatr Inf*. 2019;13(3):144-9.
31. Metin B. Sağlık hakkı. *Sağlık Akademisyenleri Dergisi*. 2017;4(1):46-50.
32. Silverman RD, Wiley LF. Shaming vaccine refusal. *The Journal of Law, Medicine & Ethics*. 2017;45(4):569-81.
33. Bradshaw AS, Shelton SS, Wollney E, Treise D, Auguste K. Pro-Vaxxers Get Out: Anti-Vaccination Advocates Influence Undecided First-Time, Pregnant, and New Mothers on Facebook. *Health Communication*. 2020:1-10.
34. Jesani A, Johari V. Ethical and legal challenges of vaccines and vaccination: Reflections. *Indian J Med Ethics*. 2017:72-4.