



Evaluation of Mothers' Opinions on Routine Childhood Vaccinations

Annelerin Rutin Çocukluk Çağı Aşılarına İlişkin Görüşlerinin Değerlendirilmesi

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Abstract

Objective: Childhood vaccinations have been a milestone in the control of infectious diseases. However, even in countries that offer both free and equal access to vaccines, cases of vaccine hesitancy have increased from year to year. Parents are the decision-makers in childhood immunizations. The aim of the study was to determine the attitudes of parents about childhood vaccinations and to define the factors affecting these attitudes.

Material and Methods: This is a descriptive study. The universe of the research consisted of mothers living in Nevşehir province. The Snowball sampling method was used to determine the participants. The snowball sampling method was used to determine the participants. Data collection forms (Google Form) prepared online were collected between 19.06.2021 and 20.11.2021 with 347 mothers who have children between the ages of 0-2 who agreed to participate in the study.

Results: 58.5% (n= 203) of the participants in the study were between the ages of 18-30, 39.5% (n= 137) were university graduates, 59.7% (n= 207) were not working, 51.0% (n= 203) were unemployed (n= 177) had two children, and 30.7% (n= 197) of their children were in the 7-11 month age group. The mean total score of the mothers from the anti-vaccination scale was found to be 50.9 ± 9.17. In the scores obtained from the sub-dimensions of the scale, the highest score was obtained from the "anti-vaccine" sub-dimension with 20.1 ± 5.01.

Conclusion: As a result of study, it was determined that the parents had moderate anti-vaccination. Providing parents with basic information about vaccines and vaccine preventable diseases can help reduce opposition to mandatory vaccination by reinforcing the safety and importance of routine childhood vaccinations.

Keywords: Childhood vaccinations, vaccine hesitancy, attitude, parent

Öz

Giriş: Çocukluk çağı aşıları, bulaşıcı hastalıkların kontrolünde bir dönüm noktası olmuştur. Bununla birlikte aşılarla hem ücretsiz hem de eşit erişim sunan ülkelerde bile aşı tereddütü vakalarının yıldan yıla artışları olmuştur. Çocukluk çağı aşılamalarında karar vericiler ebeveynlerdir. Araştırmada ebeveynlerin çocukluk çağı aşılarıyla ilgili tutumlarını belirlemek ve bu tutumları etkileyen faktörleri tanımlamak amaçlanmıştır.

Gereç ve Yöntemler: Bu çalışma tanımlayıcı tipte bir çalışmadır. Araştırmanın evrenini Nevşehir ilinde yaşayan anneler oluşturmuştur. Katılımcıların belirlenmesinde kartopu örnekleme yöntemi kullanılmıştır. Çevrim içi olarak hazırlanmış veri toplama formları (Google Form), çalışmaya katılmayı kabul eden 0-2 yaş arasında çocuk sahibi olan 347 anne ile 19.06.2021-20.11.2021 tarihleri arasında toplanmıştır.

Bulgular: Araştırmaya katılan katılımcıların %58.5 (n= 203)'ünün 18-30 yaş aralığında, %39.5 (n= 137)'inin üniversite mezunu olduğu, %59.7 (n= 207)'sinin çalışmadığı, %51.0 (n= 177)'inin iki çocuğu olduğu, %30.7 (n=197)'sinin çocuklarının 7-11 ay yaş grubunda oldukları tespit edilmiştir. Annelerin aşı karşıtlığı ölçeğinden aldıkları toplam puan ortalaması 50.9 ± 9.17 olarak bulunmuştur. Ölçek alt boyutlarından alınan puanlarda en yüksek düzeyde 20.1 ± 5.01 ile "aşı karşıtlığı" alt boyutundan puan alınmıştır.

Sonuç: Çalışmamız sonucunda ebeveynlerin orta düzeyde aşı karşıtlığına sahip oldukları tespit edilmiştir. Ebeveynlere aşılar ve aşı ile önlenbilir hastalıklar hakkında temel bilgilerin sağlanması, rutin çocukluk çağı aşılarının güvenliğini ve önemini pekiştirerek zorunlu aşılamaya karşı muhalefetin azaltılmasına yardımcı olabilir.

Anahtar Kelimeler: Çocukluk çağı aşıları, aşı tereddütü, tutum, ebeveyn

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Introduction

Infectious diseases carry a significant chance of serious complications and mortality, particularly in young children. The development of preventive vaccines is therefore considered one of the greatest achievements of modern medicine. Vaccination is currently the most effective method to prevent infectious diseases, reduce morbidity, complications, and deaths, and ensure the eradication of the disease. The World Health Organization (WHO) estimates that vaccines prevent 2 to 3 million deaths globally each year (1). The global vaccination rate, however, has plateaued at about 85% in recent years. According to reports, if vaccination rates are raised to the desired level, 1.5 million more deaths could be avoided annually (2). In Turkey, all children are vaccinated free of charge against hepatitis B, tuberculosis, diphtheria, pertussis, tetanus, polio, measles, rubella, mumps, chicken pox, hepatitis A, pneumococcus, and Hemophilus influenza Type B infections. Indeed, thanks to the "Expanded Programme on Immunization," which is successfully implemented, diseases with high mortality rates, like polio and tetanus, have been eradicated, and vaccination rates in Turkey have been above 95% for the past ten years (3).

However, the anti-vaccination movement has grown more problematic in recent years both in our country and around the world. It showed a rapid increase after the court's ruling in 2015, stating that parents cannot be forced to have their children vaccinated, as well as the frequent anti-vaccination coverage in the media. From 183 in 2011 to 980 in 2013, to 5400 in 2015, to 12.000 in 2016, and 23.000 in 2018, more parents are refusing to vaccinate their children. The vaccination rate, which was 98% in 2016, decreased to 96% in 2017 (4).

Parents' worries about the purportedly detrimental effects of vaccines on their children's health, as well as the spread of misinformation by the anti-vaccine movement, are likely to blame for the rise in the number of children who are not immunized (5-7). Planning thorough and relevant targeted educational activities and efforts aimed at protecting the health of the children through vaccination will be made possible by exploring and understanding the attitudes of the parents, their views on vaccinations, and the reasons for their decision not to vaccinate their children. The purpose of the study is to examine how parents feel and think about vaccines for prevention.

Materials and Methods

This study is a descriptive study that was carried out using quantitative research techniques.

Research Universe and Sample

The universe of the study consisted of mothers living in Nevşehir. The participants were chosen using the snowball sampling method, one of the random sampling techniques. Mothers who agreed to take part in the study and had children between the ages of 0 and 2 received online data collection forms (Google Forms) via WhatsApp, and they were asked to share these forms with others. As a result of sharing the forms in the electronic environment, the research was conducted with 347 mothers who agreed to participate in the study. Research data were collected between 19.06.2021-20.11.2021.

Data Collection Tools

Data was collected using a five-item form assessing the socio-demographic characteristics of the individuals created by the researchers as a result of the literature review, and the anti-vaccination scale created and validated by Kılıçarsan et al. (8).

Anti-vaccination Scale

The anti-vaccination scale is a five-point Likert scale consisting of 21 items and four dimensions, developed by Kılıçarslan et al. in 2020. The sub-dimensions of the scale are vaccine benefit and protective value, vaccine repugnance, solutions to avoid vaccination, and legitimization of vaccine hesitancy. The scale has no calculated cut-off point; the greatest number of points that can be retrieved from it is 105. Anti-vaccination/hesitancy rises as the score increases.

Data Analysis

SPSS (Statistical Package for Social Sciences) 21.0 software was used to analyze the data obtained. The data analysis incorporated numerical, percentile distributions, and mean and standard deviation values. Using the Kolmogorov-Smirnov test, the variables' conformance to a normal distribution was assessed, and the normality of the distribution was confirmed. The comparisons between groups of more than two were evaluated using the one-way ANOVA test.

Results

58.5% (n= 203) of the participants were in the 18-30 age group, 39.5% (n= 137) were university graduates, 59.7% (n= 207) were not working, 51.0% (n= 177) had two children, and 30.7% (n= 197) had children in the 7-11 month age group (Table 1).

Table 2 contains the questions that we wanted participants to use to indicate their views on vaccination and vaccines.

Table 1. Distribution of socio-demographic characteristics (n= 347)

Socio-demographic characteristics	% (n)
Age	
18-30	58.5 (203)
31-40	31.4 (109)
>40	10.1 (35)
Level of education	
Primary school	12.4 (43)
Middle school	24.2 (84)
High school	23.9 (83)
University	39.5 (137)
Employment	
Not working	59.7 (207)
Working	40.3 (140)
Number of children	
1	32.3 (112)
2	51.0 (177)
3	16.7 (58)
Age of the child(ren)	
0-6 months	25.9 (166)
7-11 months	30.7 (197)
1 year	23.2 (148)
2 years	20.2 (129)
Total	100 (347)
**Participants indicated the age of the children by marking more than one option.	

The mothers' mean overall score on the anti-vaccination scale was 50.9 ± 9.17 . Although there is no classification based on the scale scores, because the scale can yield a maximum of 105 points, we can conclude that the participants had moderate vaccine hesitancy based on the scale score average reported in our study. The degree of anti-vaccination attitude increases as the total score from the anti-vaccination scale increases. The highest level of scores obtained from the sub-dimensions of the scale was 20.1 ± 5.01 from the anti-vaccination sub-dimension (Table 3).

When the independent factors and the mothers' total and sub-dimension mean anti-vaccination scale scores were compared, there was a significant difference between the overall score and the mother's age, educational status, employment status, number of children, and their ages ($p < 0.05$). When the mothers' ages and overall scores were examined, it was discovered that mothers aged 40 and up had higher overall scores (52.31 ± 8.92). When the sub-dimensions of the scale were analyzed, a significant difference was found between the age of the mothers and the scores obtained from the "anti-vaccination" and "solutions to avoid vaccination" sub-dimensions ($p < 0.05$). Regarding the difference between anti-vaccination and age, it was found that the rate of anti-vaccination was high-

Table 2. Distribution of mothers' views on vaccination [n (%)]

	Statements	I strongly disagree	I do not agree	I partially agree	I agree	I strongly agree
1.	Disease rates will drop if everyone is vaccinated.	3.5% (12)	1.2% (4)	30% (104)	44.7% (155)	20.7% (72)
2.	Vaccination is an effective method to protect health.	3.7% (13)	0.6% (2)	29.1% (101)	66.6% (45)	21.6% (75)
3.	I trust government-recommended vaccines.	3.2% (11)	0.9% (3)	34% (118)	42.7% (148)	19.3% (67)
4.	Vaccination is the strongest measure against epidemics.	3.2% (11)	1.2% (4)	32% (111)	45% (156)	18.7% (65)
5.	Vaccination is a crucial safeguard for our health.	3.7% (13)	1.4% (5)	30.3% (105)	45.5% (158)	19% (66)
6.	The side effects of vaccines worry me.	3.7% (13)	3.5% (12)	25.1% (87)	45.2% (157)	22.5% (78)
7.	I worry that the vaccines will lead to learning disabilities or autism.	4% (14)	30.8% (107)	26.8% (93)	36.3% (126)	2% (7)
8.	Vaccination can cause many diseases.	4% (14)	33.1% (115)	34% (118)	26.8% (93)	2% (7)
9.	Vaccines benefit those who make them more than they benefit the public health.	5.8% (20)	9.5% (33)	13.5% (47)	37.8% (131)	33.4% (116)
10.	Vaccines can both help and harm.	5.2% (18)	18.7% (65)	25.1% (87)	26.2% (91)	24.8% (86)
11.	Vaccines contain toxic substances.	6.1% (21)	27.4% (95)	19.9% (69)	28.2% (98)	18.4% (64)
12.	Ancestral methods protect better than vaccines.	48.1% (167)	46.4% (161)	2.3% (8)	2.3% (8)	0.9% (3)
13.	I'd rather contract the illness than get vaccinated to build immunity.	16.7% (58)	68.9% (239)	11.2% (39)	2.3% (8)	0.9% (3)
14.	I would get rid of the obligation for vaccinations if I could.	13.3% (46)	80.7% (280)	2.9% (10)	2.3% (8)	0.9% (3)
15.	Vaccination should be optional, not mandatory.	11.5% (40)	15.6% (54)	25.9% (90)	45.8% (159)	1.2% (4)
16.	If I could go back in time, I wouldn't have received any vaccinations.	19.9% (69)	51% (177)	26.5% (92)	2.3% (8)	0.3% (1)
17.	I don't get vaccinated because I'm afraid of needles.	47.3% (164)	49.9% (173)	1.2% (4)	0.9% (3)	0.9% (3)
18.	I do not get vaccinated because of my religious beliefs.	50.7% (176)	46.4% (161)	1.7% (6)	0.3% (1)	0.9% (3)
19.	I do not vaccinate my child because vaccines can cause permanent illness.	19.3% (67)	70.6% (245)	7.8% (27)	2% (7)	0.3% (1)
20.	My child does not need to get vaccinated because other kids do.	16.4% (57)	67.4% (234)	13.3% (46)	1.4% (5)	1.4% (5)
21.	Since infectious diseases are uncommon, vaccination is unnecessary.	17.9% (62)	71.2% (247)	8.4% (29)	1.2% (4)	1.4% (5)

Table 3. Anti-vaccination scale sub-dimensions and distribution of mean total scores

Scale Total and Sub-dimensions	X ± SS	Min-Max
Vaccine benefit and protective value	11.1 ± 4.36	5-25
Vaccine repugnance	20.1 ± 5.01	6-29
Solutions to avoid vaccination	10.2 ± 2.6	5-22
Legitimization of vaccine hesitancy	9.06 ± 2.72	5-24
Vaccine hesitancy scale (VHS) total	50.9 ± 9.17	21-78

er in mothers between the ages of 18-30 (20.79 ± 4.75). Mothers over the age of 40 had higher scores on the "solutions to avoid vaccination" sub-dimension (10.74 ± 2.34).

When the mother's educational status and sub-dimension scores were examined, we found a significant difference in all sub-dimensions ($p < 0.05$). In terms of the difference between the mothers' overall scores and their educational status, those who completed primary school received higher scores (58.44 ± 2.89). We discovered that the scores of the secondary school graduates (24.29 ± 3.68) were higher in the dimensions of vaccine repugnance, while vaccine benefit and protective value (14.97 ± 0.35), solutions to avoid vaccination (12.13 ± 0.91), legitimization of vaccination hesitancy (10.16 ± 1.06) scores were higher among the primary school graduates.

When the employment status of the mothers and the scores obtained from the sub-dimensions were compared, the unemployed mothers had higher overall scores than the working mothers (53.30 ± 8.17). A significant difference was found between the employment status of the mothers and the scores they got from the sub-dimensions of "vaccine benefit and protective value", "vaccine repugnance" and "solutions to avoid vaccination" ($p < 0.05$). Regarding this difference, it was determined that the scores obtained from the "vaccine benefit and protective value" (11.79 ± 3.85), "vaccine repugnance" (21.61 ± 4.67), and "solutions to avoid vaccination" (10.63 ± 2.57) sub-dimensions were higher among unemployed mothers.

When the number of children the mothers had and the overall scores were compared, the overall scores of the mothers who had three or more children were found to be higher than the others (55.82 ± 3.89). In the sub-dimensions of the scale, a significant difference was found between the scores obtained from the "vaccine repugnance" and "solutions to avoid vaccination" dimensions ($p < 0.05$). Regarding this difference, the total scores of mothers who have three or more children in the sub-dimensions of "vaccine repugnance" and "solutions to avoid vaccination" were found to be higher (55.82 ± 3.89).

When the children's age and sub-dimensions scores were evaluated, a significant difference was found in all sub-dimensions ($p < 0.05$) (Table 4). The overall scores of mothers with children aged seven to eleven months were found to be high-

er than the other age groups (52.72 ± 8.48). Vaccine benefit and protective value (12.44 ± 4.59) and legitimization of vaccine hesitancy (9.94 ± 2.50) sub-dimension scores were higher in mothers with children aged 7-11 months, while vaccine repugnance (23.00 ± 5.87) and solutions to avoid vaccination (10.75 ± 2.03) sub-dimension scores were higher in mothers with children aged 0-6 months.

Discussion

Vaccines are considered one of the most important public health achievements of the previous century (9,10). However, over the past decade, it has become increasingly common for parents to question the need for vaccination and the safety of vaccines (11,12). The findings of this study, which evaluated the attitudes toward childhood vaccines among a sample of parents in Nevsehir and assessed the prevalence of hesitancy, add to the body of literature by identifying several factors that, if any, contribute to this hesitancy.

The anti-vaccination scale used in our study demonstrates that as the overall score increases, the anti-vaccination attitude also increases. Considering the mothers' mean total score of 50.9 ± 9.17 , it was determined that our participants had moderate vaccine hesitancy. In an Italian study with 727 parents, the median score on the parent attitudes towards childhood vaccination questionnaire (PACV) was 45.8, and 141 of them (34.7%) scored below ≥ 50 , indicating that they were hesitant about their children receiving vaccinations (13). Vaccine hesitancy rates were reported as 11.6% in Malaysia (14), 15% in Canada (15), and 26% (16) in the United States in other studies that used the PACV questionnaire to assess vaccine hesitancy. In our study, 60.8% ($n = 211$) of the moms exhibited higher levels of vaccine hesitancy than others as they scored 50 or higher on the scale. Understanding parents' attitudes toward their children's vaccination is essential for developing and implementing programs that address parental hesitation and increase immunization uptake. We believe that the hesitancy in the city where we reside was moderately affected by the coverage on social media during the COVID-19 pandemic. As a result, we declare that immediate action is required to dispel these incorrect beliefs. Because a fearful parent may postpone vaccination and then decide to vaccinate their child.

Table 4. Mean scores of total and sub-dimensions of anti-vaccination scale based on independent variables

	VHS SUBDIMENSIONS				VHS TOTAL
	Vaccine benefit and protective value (X ± Ss)	Vaccine repugnance (X ± Ss)	Solutions to avoid vaccination (X ± Ss)	Legitimization of vaccine hesitancy (X ± Ss)	Total Scale (X ± Ss)
Mother's age					
18-30 (n= 203)	11.09 ± 4.46	20.79 ± 4.75	10.55 ± 2.49	9.10 ± 1.97	51.55 ± 8.35
31-40 (n= 109)	11.17 ± 4.46	18.97 ± 5.32	9.39 ± 2.95	8.82 ± 3.47	48.36 ± 10.32
40 and above (n= 35)	11.68 ± 3.36	20.25 ± 4.97	10.74 ± 2.34	9.62 ± 3.63	52.31 ± 8.92
Total	F= 0.270 p= 0.764	F= 4.782 p= 0.009*	F= 7.685 p= 0.001*	F= 1.193 p= 0.305	F= 5.043 p= 0.007*
Mothers' level of education					
Primary school (n= 43)	14.97 ± 0.35	21.16 ± 1.06	12.13 ± 0.91	10.16 ± 1.06	58.44 ± 2.89
Secondary School (n= 84)	12.11 ± 0.15	24.29 ± 3.68	10.54 ± 2.00	9.17 ± 1.52	56.14 ± 3.18
High school (n= 83)	9.43 ± 2.47	20.63 ± 4.28	10.13 ± 3.11	9.38 ± 2.89	49.59 ± 7.84
University (n= 137)	10.47 ± 5.53	17.03 ± 4.84	9.44 ± 2.82	8.46 ± 3.34	50.62 ± 9.17
Total	F= 20.86 p= 0.000*	F= 55.30 p= 0.000*	F= 12.73 p= 0.000*	F= 5.14 p= 0.002*	F= 50.94 p= 0.000*
Mothers' employment status					
Working (n= 140)	10.27 ± 4.88	18.02 ± 4.74	9.58 ± 2.73	8.87 ± 3.36	46.67 ± 9.17
Not working (n= 207)	11.79 ± 3.85	21.61 ± 4.67	10.63 ± 2.57	9.26 ± 2.16	53.30 ± 8.17
Total	F= 10.33 p= 0.001*	F= 48.53 p= 0.000*	F= 13.13 p= 0.000*	F= 2.68 p= 0.102	F= 49.78 p= 0.000*
Number of children					
Single child (n= 112)	10.91 ± 5.94	17.67 ± 4.89	9.58 ± 2.65	9.05 ± 3.46	47.23 ± 10.32
2 children (n= 177)	11.65 ± 4.47	20.12 ± 4.12	10.07 ± 2.82	9.21 ± 2.29	51.07 ± 8.77
3 children (n= 58)	10.25 ± 1.49	25.08 ± 4.10	11.82 ± 1.37	8.65 ± 2.24	55.82 ± 3.89
Total	F= 2.58 p= 0.77	F= 54.61 p= 0.000*	F= 14.82 p= 0.000*	F= 0.926 p= 0.397	F= 18.97 p= 0.000*
Age of the children					
0-6 months	10.36 ± 4.14	23.00 ± 5.87	10.75 ± 2.03	8.00 ± 1.37	52.12 ± 7.72
7-11 months	12.44 ± 4.59	19.63 ± 4.25	10.69 ± 2.16	9.94 ± 2.50	52.72 ± 8.48
12-23 months	9.30 ± 3.10	19.61 ± 5.25	10.32 ± 3.49	8.50 ± 2.27	47.76 ± 10.28
24 months and older	11.44 ± 4.42	19.34 ± 4.48	9.51 ± 2.91	9.19 ± 3.29	49.51 ± 9.45
Total	F= 7.41 p= 0.000*	F= 9.37 p= 0.000*	F= 4.99 p= 0.002*	F= 8.10 p= 0.000*	F= 4.84 p= 0.000*

F: One-Way ANOVA.
*p< 0.05.

When the scores of the mothers in our study were compared, we discovered that as the mothers' education level decreased and the number of children increased, the scores they obtained in the 'vaccine repugnance' sub-dimension increased, while the scores from the 'vaccine repugnance' sub-dimension were higher in unemployed mothers. In the study by Kalok et al., unemployed mothers were more hesitant to have their children vaccinated than working mothers (17). According to the literature, the number of children in the household and the mother's education level affect the development of anti-vaccination tendencies at a higher rate (18-21). Erdem et al. discovered that 10.5% (n= 4) of mothers in families that refused the vaccination were illiterate, and 50% (n= 19) had a secondary school or lower education level (22). In their study, Onsomu et al. also revealed a correlation between mothers' education level and children being fully vaccinated (23). Our findings are consistent with the literature.

The topics that parents were most concerned about in our study were the side effects of vaccines. 45.2% (n= 157) of all participants stated concerns about side effects, however, only 22.8% were characterized as vaccine hesitancy. In an Irish study using the PACV questionnaire, 36.2% of participants were concerned about side effects, while 18.5% were hesitant about vaccines (24).

In our study, 38.3% of mothers (n= 133) were concerned that the vaccine might cause autism or learning disabilities, and 46.6% (n= 162) believed that the vaccines contain toxic substances. According to a study conducted by Ilter and Demir with parents in Konya, 48.8% of parents believed that vaccines cause autism, and 64.9% believed that many vaccines contained dangerous substances (thiomersal, mercury) (25). The growing prevalence of autism over the years (26) has bolstered the anti-vaccine movement. Although there is ample evidence that the administration of the measles-mumps-rubella vaccine is not associated with an increased risk of autism spectrum disorder, there is still hesitancy toward childhood vaccines (26). However, a countrywide cohort study conducted in Denmark in 2019 found that the measles-mumps-rubella vaccine did not increase the risk of autism, did not trigger autism in susceptible children, and was not related to autism clusters (27). We are of the opinion that it is necessary to change the perception of people by organizing scientific programs for the public on this subject. The so-called toxic substances in vaccines are aluminum salts and mercury-containing thiomersal, but in vaccines, they are adjuvants and preservatives. Adjuvants are compounds added to vaccine vials to promote efficacy; stabilizers are substances added to vials to ensure vaccine stability (28). The World Health Organization (WHO) has established that the adjuvants in the vaccines are at very low levels that do not harm human health (29).

In our study, 26.8% (n= 93) agreed with the statement "vaccines can cause many diseases" (Table 2). In support of this finding, Atasever et al. (2021) discovered in their study that vaccinated children are believed to get ill more frequently (30). Some people believe that contracting preventable diseases will benefit their children. These parents believe that natural immunity is better for their children than immunity acquired through vaccines (31). In our study, only 3.1% supported the statement 'I would rather contract the illness than get vaccinated to build immunity. Some parents also assume that because vaccine-preventable diseases are uncommon in society, the chance of their children contracting these diseases is low (32). In our study, 89.0% (n= 309) did not agree with the statement 'Since infectious diseases are uncommon, vaccination is unnecessary'. According to a WHO report published in March 2019, vaccination saves 2-3 million lives worldwide each year (33). In fact, as the number of vaccinated people grows, so does the likelihood of encountering infectious agents and disease prevalence.

The study's findings should be viewed in light of several limitations. First, by definition, qualitative research cannot be generalized. Because the study only focused on mothers in Nevşehir, it is impossible to predict how fathers' choices or preferences affect their children's vaccination. Finally, the study is limited to mothers living in Nevşehir, with no information on the presence or absence of immigrant mothers within this community.

Conclusion

To reduce the burden of vaccine-preventable childhood diseases, it is necessary to first understand why parents do not want to have their children vaccinated and then establish appropriate communication initiatives. Using the media and social media to enlighten society and increase social awareness would bring rapid progress in explaining the necessity of vaccination and immunization to parents and the youth, especially given our experiences during the pandemic.

Ethics Committee Approval: The research was approved by the Kapadokya University Scientific Research and Publication Ethics Committee in a decision dated 04.01.2021 and numbered 2021.44.

Informed Consent: Patient consent was obtained.

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