



UNDERSTANDING VACCINATION HESITATION FROM OBSERVATIONS OF FAMILY HEALTH CENTER WORKERS

AİLE SAĞLIĞI MERKEZİ ÇALIŞANLARININ GÖZLEMLERİNDEN AŞILAMA TEREDDÜTLERİNİ ANLAMAK

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ABSTRACT

Objective: Family health centers are the first place for healthcare providers and vaccine-hesitant parents who need information. Healthcare providers can play an important role in mitigating vaccine hesitancy by providing accurate information to parents. This study aims to determine the prevalence of vaccine hesitancy or refusal among parents encountered by healthcare workers in family health centers in Kırşehir, and to identify associated factors.

Method: The study population consisted of family health workers working in Family Health Centers at the Kırşehir Center (N=101). The data form used in the descriptive study was prepared by the researchers by reviewing the literature. The data were collected by applying face-to-face question and answer technique during the visits of the researchers to the family health centers.

Results: When asked about the rate of vaccine hesitancy/refusal in the past year, 13.2% (n=10) reported that they had encountered it frequently, and 28.9% (n=22) reported that they had encountered it at least once. 61.8% (n=47) of the participants, reported that the socioeconomic level of families experiencing vaccine refusal was high. When the participants met with a parent who refused vaccination, 98.7% (n=75) stated that they would explain the necessity of vaccines and encourage them to receive them, and 1.3% (n=1) stated that they would respect this decision. 84.1% (n=64) stated that the family with vaccine hesitancy/refusal changed their decision after their information they provided. The most common reason given to the participants by families who were undecided or refusal vaccine was objections to the ingredients in the vaccine (mercury, thimerosal, etc.) with rate of 71.1% (n=54).

Conclusion: Vaccine ambivalence was found to be against all vaccines and the act of vaccination, not against a specific vaccine. It was observed that when families who were hesitant about vaccination were informed by healthcare professionals, their attitudes changed. For this reason, it is important that parents with vaccine hesitancy are adequately and accurately informed about vaccines. It is thought that regular trainings should be organized for both healthcare professionals and families on vaccination in Turkey and the health literacy level of the society should be increased.

Key Words: Vaccine Hesitancy, Primary Healthcare, Healthcare Workers, Vaccines, Immunization

ÖZ

Amaç: Aşı kararsız ebeveynlerle, sağlık çalışanlarının karşılaştığı ve bilgi almaya ihtiyaç duyduğu ilk birim aile sağlığı merkezleridir. Sağlık hizmeti sağlayıcıları, ebeveynlerin doğru bilgiye ulaşmalarını sağlayarak aşı kararsızlığına karşı önemli bir rol oynayabilirler. Çalışmanın amacı Kırşehir ilinde bulunan aile sağlığı merkezlerinde çalışanların aşı kararsızlığı veya reddi yaşayan ebeveynler ile karşılaşma durumlarının saptanması ve ilişkili faktörlerin belirlenmesiydi.

Yöntem: Çalışma evrenini Kırşehir Merkez’de yer alan Aile Sağlığı Merkezlerinde görevli aile sağlığı elemanları oluşturdu (N=101). Tanımlayıcı tipte planlanan çalışmada kullanılan veri formu araştırmacılar tarafından literatür taranarak hazırlanmış. Çalışmacıların aile sağlığı merkezlerine yaptıkları ziyaretlerle yüz yüze soru cevap tekniği uygulanarak veriler toplandı.

Bulgular: Aile sağlığı merkezlerindeki çalışanlara geçen bir yılda aşı kararsızlığı/reddi ile karşılaşma oranı sorulduğunda %13.2’si (n=10) sıklıkla karşılaştığını, %28.9’u (n=22) en az bir defa karşılaştıklarını bildirdi. Çalışmaya katılanların %61.8’i (n=47), aşı reddi yaşayan ailelerin sosyoekonomik düzeyinin yüksek olduğunu belirtti. Katılımcıların aşı yaptırmayı reddeden bir ebeveyn ile görüştiklerinde, %98.7’si (n=75) aşıların gerekliliğini anlatacaklarını ve yaptırmaları için teşvik edeceklerini, %1.3’ü (n=1) bu karara saygı duyacağını belirtti. Katılımcıların %84.1’i (n=64) aşı tereddütü/reddi olan ailenin verdiği bilgilerden sonra kararını değiştirdiğini ifade etti. Aşı kararsızlığı olan veya reddeden ailelerin katılımcılara beyan ettikleri en sık neden %71.1 (n=54) oranla “aşı içeriğindeki maddelere (cıva, tıyomersal vb.) ilişkin itirazlarda bulunmak” olarak tespit edildi.

Sonuç: Aşı kararsızlığının belirli bir aşıya yönelik değil tüm aşılarla ve aşılama eylemine karşı olduğu tespit edildi. Aşılama konusunda tereddüt yaşayan aileler sağlık çalışanları tarafından bilgilendirildiklerinde tutumlarının değiştiği görüldü. Bu sebeple aşı kararsızlığı yaşayan ebeveynlerin aşılar hakkında yeterli ve doğru şekilde bilgilendirilmesi önem arz etmektedir. Türkiye’de aşılama konusunda hem sağlık çalışanlarına hem de ailelere yönelik düzenli eğitimler yapılması ve toplumun sağlık okuryazarlığı seviyesinin yükseltilmesi gerektiği düşünülmektedir.

Anahtar Kelimeler: Aşı Kararsızlığı, Birinci Basamak Sağlık Hizmeti, Sağlık Çalışanları, Aşı, Bağışıklama

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INTRODUCTION

Vaccination is an effective and easy way to combat infectious diseases. Today, it has become an indispensable health intervention that saves the lives of millions of people [1]. Vaccination both protects the individual from diseases and provides herd immunity. As the number of vaccinated people in the community increases, the likelihood of unvaccinated people encountering the disease agent decreases [2]. Today, there are more than 70 vaccines available for use against approximately 30 microorganisms [1]. Thanks to the vaccination programs implemented in our country, the last case of polio was seen in 1998. In 2009, neonatal tetanus, with a high mortality rate was eliminated [3].

Particularly in recent years, alongside the efforts of healthcare providers for maintenance high vaccination rates, there has been an increasing number of parents questioning the need for and safety of vaccination [4]. In some US states, the proportion of children who have not completed their primary vaccination series at 35 months of age or kindergarten entry in below the Centers for Disease Control and Prevention's (CDC) "Health People 2020" target [5,6]. In addition to putting individual health at risk, oppositions to vaccination also puts public health at risk. In the US, anti vaccination has been cited as the reason for the increase in measles cases in 2019 [7]. Anti vaccination poses a serious threat not only to the health of individuals, but also to public health.

Parents who refuse one or more childhood vaccines are called "vaccine-hesitant" parents. They may have been misinformed about the benefits and risks of childhood vaccines, influenced by false information on social media platforms, or misunderstood information [8, 9]. If vaccine-hesitant parents are properly communicated with and provided with healthy information about childhood vaccines, they may decide to vaccinate their children. At this point, healthcare providers are the most important group that can provide information on vaccination [10]. Issues related to vaccination and vaccine programs should be addressed by healthcare providers to ensure that parents have access to accurate information [11]. Lack of time for healthcare providers to answer questions during clinic visits, time needed for counseling that delays other patients from receiving care, and the lack of trust in the advice given by families may play a role in parental vaccine-hesitant [12].

Currently, 12 million children under the age of five die each year worldwide. Two million of these are due to infections on the routine vaccination schedule. Family health center workers are primarily confronted with families who hesitate and refuse vaccination. It is necessary to emphasize the reasons underlying the concerns of the families and to improve the communication skills of the healthcare workers on vaccination. The primary aim of the study is to determine the status of the health care workers of family health centers in Kırşehir province who encounter parents with vaccination hesitancy or refusal and to determine the related variables. The secondary aim of the study was to investigate the effect of the COVID-19 pandemic on vaccine hesitancy or refusal.

METHOD

Study Design

This study was a descriptive epidemiological study.

Participants

The study population consists of family health center workers in the all Family Health Centers in the center district of Kırşehir province. There are total of 11 Family Health Centers (FHC) and 47 Family Medicine Units in the center district of Kırşehir province. There are 101 people working in FHC, 47 of whom are physicians and 54 of whom are other healthcare professionals. In the study, no sample selection was made and the whole population was tried to be reached. 75.25% (n=76) of the staff working in the FHC participated in the study.

Data Collection Tool

The data were collected with a questionnaire prepared by the researchers by reviewing the literature. The data collection tool consisting of a total of 20 questions consists of two parts. In the first part of the data collection tool, some sociodemographic characteristics of the participants and the population data registered in the FHC were questioned. In the second part of the data collection tool, the participants were questioned about whether they had encountered vaccine refusal or hesitancy, the reasons for vaccine refusal or hesitancy, whether they considered themselves adequate in informing parents. In this section, there are also questions about the changes in parents' attitudes toward vaccine refusal or hesitancy after the COVID-19 pandemic.

Data Collection

This study was conducted between January 10 and February 15, 2023. Before starting of data collection, participants were informed about the stages of the survey and it was stated that participation was voluntary. Informed consent forms were obtained from the participants who agreed to participate in the study. Data forms were filled out using face-to-face question answer technique with the family health workers who agreed to participate in the study. The study was conducted in accordance with the principles of the Helsinki Declaration.

Ethical Approval

The research has ethical (Kırşehir Ahi Evran University Faculty of Medicine Non-Interventional Research Ethics Committee (Number: 2022-11/116 Date: 07/06/2022)) and administrative permissions (Kırşehir Provincial Health Directorate Number: E-42884709-020 Date: 22/06/2022). Written informed consent was obtained from the participants.

Statistical Analysis

Data analysis was performed with SPSS 22.0 (Statistical Package for the Social Sciences) package program. Descriptive analyses were presented as frequency, percentage, mean, standard deviation, median, and interquartile range.

RESULTS

It was determined that 68.4% (n=52) of the participants were female and the median age was 39.00 (Q₁=35, Q₃=46.75). When the occupational groups of the participants were analyzed, it was found that 50.0% (n=38) were medical doctors and 30.3% (n=23) were nurses. The median number of years the participants spent in their profession was 16.00 (Q₁=10, Q₃=23.75).

The median value of the population registered in the family health centers where the staff worked was 13500 (Lowest=9000, Highest=17000), and the median value of the number of registered infants was 148 (Lowest=73.75, Highest=205.25).

When asked about the rate of vaccine hesitancy/refusal in the past year, 13.2% (n=10) reported that they had encountered it frequently and 28.9% (n=22) reported that they encountered it at least once, 61.8% (n=47) of the participants stated that the socioeconomic level of families experiencing vaccine refusal was high. In families experiencing vaccine refusal/hesitancy, 80.3% (n=61) of the participants reported that the dominant parent in the decision was the mother. Vaccine hesitancy/refuse was found to be against all vaccines and the act of vaccination, not against a specific vaccine.

When the participants encountered a family who was against vaccination, 98.7% (n=75) stated that they would explain the necessity of vaccines and encourage them to get vaccinated, while 1.3% (n=1) stated that they would respect this decision. 89.5% (n=68) of the participants stated that they were adequate in terms of informing families about vaccination, 67.1% (n=51) stated that they received communication skills training, and 84.1% (n=64) stated that the family

with vaccine hesitancy/refusal changed their decision after their information they provided (Table 1).

Table 1. Distribution of reason for vaccine hesitancy and refusal

Variables	n	%
What is your reaction when you encounter vaccine hesitancy and/or refusal?		
I explain the necessity of vaccines and encourage them to get vaccinated.	75	98.7
I say that they have the right to refuse the vaccine and I respect that.	1	1.3
How confident do you feel in informing families experiencing vaccine hesitancy and/or refusal?		
Sufficient	68	89.5
Partially sufficient	8	10.5
What is your status in terms of receiving communication skills training?		
Received	51	67.1
Receiving	6	7.9
Not received	19	25.0
How does the attitude of families change after your persuasive efforts?		
No change is experienced	10	13.2
Some of them are convinced	64	84.1
All of them are convinced to get vaccinated	2	2.6
No change is experienced	10	13.2

The first four reasons given to the participants by families who are hesitant or refuse vaccination were: 71.1% (n=54) "objecting to the substances in the vaccine (mercury, thimerosal, etc.)", 63.2% (n=48) "objecting on conspiracy theory-based grounds", 60.5% (n=46) "objecting on religious and philosophical-based reasons", 56.6% (n=43) "thinking that vaccines cause infertility" (Table 2).

Table 2. Distribution of reasons for vaccine hesitancy and refusal

Variables	n	%
Concerns about the trustworthiness of the control mechanisms in the vaccine release process	22	28.9
Not finding the risk/benefit relationship sufficient	3	3.9
Not feeling the need because they don't think they are at risk.	15	19.7
Objecting on religious or philosophical grounds	46	60.5
Objecting on the grounds of conspiracy theories	48	63.2
Raising objections to the substances in the vaccine (mercury, thimerosal, etc.)	54	71.1
Thinking that the side effects of vaccines are very dangerous	33	43.4
Thinking that administering multiple vaccines at the same time will harm the immune system	9	11.8
Thinking that the strongest immunity is gained by getting the disease	8	10.5
Thinking that vaccines cause infertility.	43	56.6
Arguing that vaccines cannot be mandatory and not want to get vaccinated	14	18.4
At least one family member having had a severe allergic reaction to the substances in the vaccine after vaccination.	7	9.2
Social media, TV and press	33	43.4

* One person has given multiple answers

When the participants were asked what kind of change they observed in the number of families who were hesitant or refused routine childhood vaccinations during the COVID-19 pandemic, 63.2% (n=48) stated that they thought it had not changed, 19.7% (n=15) thought it had increased, and 17.1% (n=13) thought it had decreased.

When parents who were hesitant or refuse to have their children vaccinated with vaccines included in the routine childhood vaccination schedule were asked about their COVID 19 vaccination status during the pandemic period, 26.3% (n=20) stated that they had never had COVID 19 vaccine, while 5.3% (n=4) stated that they had vaccinated all of their children. After the COVID-19 pandemic, 50% (n=38) of the participants stated that the reason for lack of change or increase in parents who continued to hesitate or refuse to vaccinate their child after the COVID-19 pandemic was "the family's opinion that there is no difference between the severity of the diseases in people who have not received the COVID-19 vaccine and those who have received the vaccine" (Table 2).

DISCUSSION

In this study, approximately near the half of the workers in family health centers in the central district of Kırşehir province reported that they had encountered vaccine hesitancy/refusal at least once in the past year. The majority of the participants stated that the socioeconomic level of families experiencing vaccine refusal was high. Almost all of the participants stated that they would explain the necessity of vaccines and encourage them to get vaccinated when they encountered a patient who refused to be vaccinated. The top four reasons given to the participants by families who were vaccine hesitant or refuse vaccination= "objecting to the ingredients in the vaccine (mercury, thimerosal)", "objecting on conspiracy theory-based grounds", "Objecting with religious, philosophical-based reasons" and "thinking that vaccines cause infertility". The reason for the lack no change in attitude among parents who continue to experience hesitation or refuse to vaccinate their children after the COVID-19 pandemic was stated by half of the participants as "The family's view that there is no difference between the severity of the disease in people who have not received the COVID-19 vaccine and those who have received the vaccine".

In this study, the rate of employees in family health centers who had encountered vaccine hesitancy/refusal at least once in the past year was found to be 28.3%. In a similar study conducted by Yalçın et al. in Mersin, this rate was 28.9% (n=22). The results were consistent with this study. It can be said that the rates of vaccine hesitancy/refusal in different provinces of Turkey are similar [13].

In this study, it was reported that the mother was the dominant parent on the decision in families with vaccine refusal/hesitancy. In one study, the rate of fathers experiencing vaccine hesitancy (84.6%) was found to be higher than mothers [14]. In this study, this result thought to be due to the fact that mothers brought their children to FHC. In a study conducted in India, vaccine hesitancy was found to be higher in families with low socioeconomic status [15]. In a study by Özceylan et al. in Turkey, it was found that individuals who were hesitant about vaccinating their child had higher socioeconomic status [16]. In a study by Yalçın B et al. in Mersin, it was found that vaccine hesitancy was more common in districts with higher socioeconomic status [13]. The results of this study are in line with similar studies conducted in Turkey.

In the study, it was determined that vaccine hesitancy among parents was not toward a specific vaccine, but towards all vaccines and the act of vaccination. In a similar study by Yalçın et al. in Mersin, it was found that the first two vaccines with the highest vaccine hesitancy were measles, mumps, and rubella (MMR) and diphtheria, tetanus, whooping cough, polio, and Haemophilus influenzae type B (DaBT-IPA-Hib), and the first two vaccines with the highest vaccine refusal were Hepatitis A and DaBT-IPA-Hib [13].

In a similar study conducted in Niğde, the rate of communication skills training among FHC workers was 28% (n=35) and 67.1% (n=51) in this study compared to 37.6% (n=105) in the study by Yalçın B et al. [13, 17]. According to these results, it can be said that the rate of communication skills training received by FHC workers in Kırşehir is higher compared FHC workers working in other provinces.

In this study, the first four reasons given to the participant by the families who had vaccine hesitation or refuse vaccination were: "Objecting to the ingredients in the vaccine (mercury, thimerosal, etc.)", "Objections based on conspiracy theories", "Objections based on religious or philosophical grounds" and "Thinking that vaccines cause infertility". In another study conducted in Turkey, distrust in vaccine content (84%) was found to be the first reason [17]. In another study conducted in Mersin, the reasons given by families were distrust of the ingredients in the vaccine (59.5%), side effects after vaccination (38.0%), and obtaining information against the vaccine from people around them (13.9%) [13]. In another study investigating the reasons for hesitation of parents regarding childhood vaccinations in our country, 82.9% stated that they thought that there were foreign substances such as mercury, aluminum, salts etc. in the vaccines and that these would cause autism, 79.3% stated that they received incorrect information about vaccines on social media, and 62.2% stated that they believed that they were religiously prohibited substances (pork gelatin etc.) in the content of the vaccines [18]. In the other study conducted in Amasya, it was found that the same reasons were stated in the first place [19]. Canadian parents who did not vaccinate their children cited lack of perceived need for vaccines (28%), concerns about vaccine safety (17%) and perceived number of side effects (12%) as reasons for not vaccinating their children [20]. This study and literature information show that the top reasons for vaccine refusal/hesitancy in Turkey are distrust of vaccines, belief in complex theories, and religious reasons.

In a study titled "Evaluation of the Thoughts and Behaviors of Family Health Center Workers on Vaccine Refusal" by Yakşi in Niğde Province, 71.2% of the workers said they would provide information about vaccines, 26.4% said that they would try to persuade, and 14.4% said that they would respect the parents' decision when they encountered a patient who refused to be vaccinated [17]. In a study Hess et al. in USA study, people who are hesitant are more likely to talk to their primary care doctor about vaccinations than people who are vaccinated when it is generally recommended [21]. In this study, 98.7% (n=75) of the workers responded to the question "What is your reaction when you encounter vaccine hesitancy and/or refusal?" by saying that they explain the necessity of vaccines and encourage them to get vaccinated, while only 1.3% (n=1) said that they had the right to refuse vaccination and respect it. In both studies, the proportion of respondents who said they provide information about vaccines was high, while the number of respondents who said try to persuade was higher in the study conducted in Kırşehir compared to the conducted in Niğde. This may be due to the fact that physicians working in Kırşehir actually engage in more persuasive activities, or it may be due to the fact that the statements "I explain the necessity of vaccines" and "I try persuading" were included in the same option in the data analysis form in this study. A third reason may be that the rate of communication skills training received by FHC workers in Kırşehir is higher compared to the FHC workers in other provinces [13, 17]. Additionally, the question "How does the attitude of families change after your persuasive efforts?" was asked to the workers which we could not find in studies on this subject in the literature. The answers to this question by workers who stated that they would make persuasive efforts to families experiencing vaccine hesitancy and refusal were 84.1% some are convinced (n=64), 2.6% (n=2) all are convinced, and 13.2% (n=10) no change is experienced.

In a study by Altuntaş et al. in Samsun province, 33.4% of family physicians who encountered families with vaccine hesitancy answered that it does not change the effect of the COVID 19 pandemic on vaccine opposition or hesitancy [18]. In this study, 63.2% (n=48) of

the rate of FHC workers stated that the COVID 19 pandemic would not lead to a change in the number of families experiencing vaccination hesitation and refusal. There is almost a two-fold difference between the two studies in terms of the percentage of workers who gave this answer. However, in the same study by Altuntaş et al., 25.7% of physicians said that vaccine hesitancy and refusal would increase when asked about the effect of the COVID 19 pandemic on vaccine opposition or hesitancy [18]. In this study, the rate of workers who said that the COVID 19 pandemic would increase vaccine hesitancy and refusal was 19.7%. The rate of workers who stated that there would be an increase in hesitancy and refusal in both studies is close to each other. Since this question, which is associated with the COVID 19 pandemic, is subjective, it is inevitable that the rates will differ from each other. However, the answers given by workers in both provinces seems to be in parallel to each other.

Limitations

As a natural consequence of the relatively small number of FHC in Kırşehir province where this study was conducted, the number of participants in the study population is small. Therefore, the findings should be interpreted with caution. Additionally, it should be kept in mind that the data obtained is based on the observations of the FHC workers and is therefore affected by the memory factor.

CONCLUSION

As a result of this study, it was determined that nearly 30% of the family health center workers who participated in the study encountered vaccine refusal or hesitancy in the last year. Participants reported that they found themselves sufficient in terms of informing and communication effectively about vaccines. Informing family health workers with up-to-date information on vaccination and continuing in-house training in terms of strong patient-physician communication may be beneficial for the quality of health services provided. It is seen that the most common reason for family members experiencing vaccine hesitancy or refusal is misinformation about vaccine content. For this reason, it may be useful for the Ministry of Health and relevant professional associations to use social media more actively, to guide people to access correct information and to carry out studies to increase health literacy levels.

Ethical Approval: 2022-11/116 Kırşehir Ahi Evran University Non-Interventional Research Ethics Committee

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