

Nurses' Opinions about Childhood Anti-Vaccination, Roles and Responsibilities in Preventing Anti-Vaccination Attitudes in Society*

Hemşirelerin Çocukluk Çağı Aşı Karşıtlığı ile Toplumda Aşı Karşıtlığının Önlenmesindeki Rol ve Sorumluluklarına İlişkin Görüşleri

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ABSTRACT

Aim: This study was conducted to determine the opinions of nurses on childhood anti-vaccination and their roles and responsibilities in the prevention of anti-vaccination in society.

Method: This cross-sectional study was conducted between May 2020 and August 2020. The sample of the study consisted of 199 nurses working in a university hospital. After obtaining the necessary permission the data were collected with an introductory information form and a questionnaire on views on childhood anti-vaccination, roles, and responsibilities regarding prevention of anti-vaccination in society, prepared by the researchers. Descriptive statistical analyzes were used in the assessment of the data.

Results: In this study, 80.9% of the nurses found childhood vaccination necessary; 19.1% reported hesitations about vaccination. The reasons perceived by the nurses regarding anti-vaccination, in society included that 58.3% of the individuals thought that the vaccine had side effects and was unsafety of vaccines followed by a rate of 42.7%. The opinions were determined about roles and responsibilities of nurses in preventing anti-vaccination attitudes and in raising awareness, in society; to inform parents by training, counseling, and being a role model, raising awareness through social media, congresses, symposiums and public service ads, conducting evidence-based studies and following scientific publications.

Conclusion: It is recommended to develop policies for the prevention of childhood anti-vaccination, to increase awareness of nurses about the issue through in-service trainings and scientific activities, and to take an active role in preventing anti-vaccination.

Keywords: Nurse, Childhood Anti-vaccination, Role, Responsibility.

ÖZ

Amaç: Bu çalışma çocukluk çağı aşı karşıtlığı ile aşı karşıtlığının önlenmesindeki rol ve sorumluluklarına ilişkin hemşirelerin görüşlerini belirlemek amacıyla yapıldı.

Yöntem: Kesitsel tipteki çalışma Mayıs-Ağustos 2020 tarihleri arasında gerçekleştirildi. Çalışmanın örneklemini bir üniversite hastanesinde çalışan 199 hemşire oluşturdu. Gerekli izinlerin alınmasının ardından veriler araştırmacılar tarafından hazırlanan tanıtıcı bilgi formu ve çocukluk çağı aşı karşıtlığı ile toplumda aşı karşıtlığını önlemeye ilişkin rol ve sorumlulukları belirlemeye yönelik bir anket formu ile toplandı. Verilerin değerlendirilmesinde tanımlayıcı istatistiksel analizler kullanıldı.

Bulgular: Bu çalışmada, hemşirelerin %80.9'u çocukluk çağı aşılarını gerekli bulurken; %19.1'inin aşılamaaya ilişkin tereddüt bildirdiği belirlendi. Hemşirelerin toplumda aşı karşıtlığına ilişkin algıladıkları nedenler arasında, %58.3 ile aşıların yan etkileri olduğu düşüncesinin, %42.7 ile aşılarla olan güvensizliğin ilk sıralarda yer aldığı saptandı. Hemşirelerin aşı karşıtlığının önlenmesi ve toplumsal farkındalığın artırılmasındaki rol ve sorumluluklarını; eğitim, danışmanlık ve rol model olmak yolu ile ebeveynleri bilinçlendirmek, sosyal medya, kongre, sempozyum ve kamu spotları yolu ile farkındalığı artırmak, kanıta dayalı çalışmalar yapmak ve bilimsel yayınları takip etmek olarak bildirdikleri bulundu.

Sonuç: Çocukluk çağı aşı karşıtlığının önlenmesine yönelik politikalar geliştirilmesi, hemşirelerin hizmetiçi eğitimler ve bilimsel etkinliklerle konu ile ilgili farkındalıklarının artırılması ve aşı karşıtlığının önlenmesinde etkin rol almaları önerilir.

Anahtar Kelimeler: Hemşire, Çocukluk Çağı Aşı karşıtlığı, Rol, Sorumluluk.

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Introduction

Childhood vaccination is the most effective method in preventing infectious diseases as well as reducing serious disability or death due to these diseases.^{1,2} Despite the success of vaccination programs, anti-vaccination (anti-vax) movement, which has increased in recent years, is the biggest global threat to the eradication of vaccine-preventable diseases in childhood.^{3,4} Today, most vaccines are included in routine vaccination programs and are administered free of charge. However, global coverage of the third dose of diphtheria-tetanus-pertussis (DTP3) fell from 86 percent in 2019 to 81 percent in 2021 – its lowest level since 2008.⁵ While the number of families in Turkey who do not want to have their children vaccinated was 183 in 2011, this figure reached 23,000 in 2018.²

Anti-vax tendencies have increased steadily in Turkey in the last decade, a significant increase was in vaccine rejection cases, especially after a lawsuit on “receiving parental consent for vaccination” was won in 2015 and this received public repercussions.⁶ Anti-vaccination movements including vaccine hesitancy or rejection can have many causes.⁷⁻¹¹ To ensure the success of vaccination campaigns, healthcare professionals must set an example in the field of vaccination, especially when doubts about the vaccine increase and vaccine safety rather than efficacy attract more public attention.¹²⁻¹⁵ Since health professionals administer vaccines and have a sound knowledge of vaccines and vaccination, they have a key role in shaping the attitude towards vaccines in society.^{12,13} It is emphasized that messages to prevent anti-vaccination are more effective on parents when the message is perceived as reliable.^{14,15} In their systematic review, Herzog et al. reported that among healthcare workers, higher awareness, beliefs that are more aligned with scientific evidence, and more favorable attitudes toward vaccination were associated with greater intentions to vaccinate among populations.¹⁶

Nurses are the occupational group that can best observe the reasons for anti-vaccination in society, as they communicate with families one-to-one and interact with patients the most. In addition, their views and attitudes about vaccine acceptance or rejection can directly affect parents' approach to vaccination.^{13,17} Nurses have a professional obligation to improve health and prevent diseases and therefore have an important role in vaccination.^{18,19} Therefore, it is important to determine the views of nurses about the increasing opposition to childhood vaccination. Answers to the following questions were sought in the present study:

1. What are nurses' opinions about childhood vaccination?
2. What are nurses' perceived reasons for anti-vaccine attitudes among parents and/or the general public?
3. What are the opinions about nurses' roles and responsibilities in preventing anti-vaccination attitudes and in raising awareness of childhood vaccination, in society?

Materials and Methods

Design, Setting, and Sample

This research was conducted as a cross-sectional study between May 2020 and August 2020. The research population consisted of 220 nurses working in a university hospital. The study sample consisted of 199 nurses who were actively working between the specified dates and agreed to participate in the study. 90.5% of the population was reached and included in the sample.

Data Collection

A descriptive data form and a questionnaire on views on childhood anti-vaccination, and roles and responsibilities regarding prevention of anti-vaccination in the society, prepared by the researchers, were used to collect data. Before data collection, appointments were made from the wards of the relevant hospital, and visits were made on the specified days and times. Questionnaires were administered in a room of the clinics or in areas reserved for nurses. The questionnaires were administered face-to-face in accordance with the infection control measures and took an average of 20 minutes. Data collection tools are described below:

Introductory information form: This form consisted of questions on sociodemographic characteristics of nurses such as age, gender, work experience as a nurse, etc.

Questionnaire on views on childhood anti-vaccination, roles and responsibilities regarding prevention of anti-vaccination: The questionnaire form was prepared by the researchers in accordance with the relevant literature^{2,7,9,11,13,16} and a pilot study was conducted. The finalized questionnaire consisted of questions on the views of nurses on childhood vaccines and anti-vaccination, roles in preventing anti-vaccination attitudes, and responsibilities in raising awareness about vaccination in the prevention of anti-vaccination, in society.

Data analysis

IBM SPSS Statistics Standard Concurrent User V 25 (IBM Corp., Armonk, New York, USA) program was used for data analysis. Descriptive statistics were presented as numbers (n) and percentages (%).

Ethical consideration

Institutional permission (2020/16142545-903.99-E.10441) and ethical approval (Yozgat Bozok University Ethics Committee, Date: 16.10.2019, No: 2019/2-7) were obtained before starting the research. Before the questionnaires were administered, necessary explanations were made to the participants about the purpose of the study and that the data obtained would be used for scientific purposes only. Written consent was obtained from all participants.

Results

The introductory characteristics of the nurses participating in the study are shown in Table 1. In all, 49.2% of the nurses were in the 20-29 age group and most of them were female. More than half of the nurses had children. In this sample, 49.2% of the nurses included in the study were working in the profession for 1-5 years (**Table 1**).

Views of nurses regarding childhood vaccination and anti-vaccination in society are shown in Table 2. While 80.9% of the nurses participating in the study stated that they found childhood vaccines necessary, 19.1% reported hesitations about vaccination. In this study, 49.2% of the nurses followed the negative news about childhood vaccination through the media and communication outlets. It was determined that 69.8% of the nurses recommended vaccination to parents. It was found that 87.4% thought that there was an increase in the tendency towards anti-vaccination in society. The reasons perceived by the nurses regarding anti-vaccination, in society included, 58.3% of the nurses mentioned side effects, 42.7% mentioned distrust, 36.7% mentioned harmfully, 35.7% mentioned negative news on forums and social media sites, 33.2% mentioned lack of information about vaccination, 30.7% mentioned the belief that vaccines are not protective, 24.6% mentioned religious/superstitious beliefs, and 17.6% mentioned lack of training among healthcare personnel as the reasons for childhood anti-vaccination (**Table 2**).

Table 1. Introductory characteristics of nurses (n=199)

Features	Number (n)	Percentage (%)
Nurses age (y)		
20-29	98	49.2
30-40	79	39.7
41 and above	22	11.1
Gender		
Female	128	64.3
Male	71	35.7
Working year (y)		
1-5	98	49.2
6-10	54	27.2
11 and above	47	23.6
Marital status		
Married	122	61.3
Single	77	38.7
Child number		
1	34	17.1
2	39	19.6
3 and above	43	21.6
Having no children	83	41.7

Table 2. Nurses' opinions regarding childhood vaccination and anti-vaccination in society (n=199)

Features	(n)	(%)
Finding vaccines necessary to protect child health		
Yes, I think necessary	161	80.9
I am hesitant	38	19.1
Following the negative news about childhood vaccination through press-media-communication organs		
Yes	98	49.2
No	101	50.8
Suggesting vaccination		
Yes	139	69.8
No	60	30.2
Thinking that there is a reaction/resistance to childhood vaccination in society recently		
Yes	161	80.9
No	38	19.1
Thinking that there is an increase in the tendency towards childhood anti-vaccination attitudes in the society		
Yes	174	87.4
No	25	12.6
Views on the factors that lead society to anti- vaccination*		
Thoughts having side effects	116	58.3
Distrust of vaccines	85	42.7
The idea that vaccines are harmful	73	36.7
Forum/social media sites that make negative posts about vaccines	71	35.7
Insufficient information about vaccines	66	33.2
The notion that vaccines are not protective	61	30.7
Religious beliefs/superstitions	49	24.6
Lack of training of health personnel	35	17.6

*multiple options marked

Opinions of nurses on childhood anti-vax attitudes and their roles and responsibilities for preventing anti-vaccination are given in Table 3. Accordingly, while 40.2% of the nurses stated that anti-vax attitudes is dangerous, 41.2% mentioned risks in terms of child health, and 51.8% mentioned risks in terms of the spread of infectious diseases. It was also found that 19.1% of the nurses thought that parents may had good reasons for being against vaccination. Participants stated that nurses' roles in preventing childhood anti-vax attitudes included educating parents (68.8%), being a role model (11.6%), consulting (6.5%), increasing knowledge

about vaccines (6.5%), conducting evidence-based studies about vaccines (2.5%), following up-to-date information in training courses/congress/symposiums (2.5%), and following current studies/ scientific publications on this subject (1.6%). The responsibilities of nurses for raising social awareness about childhood vaccination in the prevention of anti-vaccination, included organizing training and information programs (69.9%), organizing symposiums/congresses (18.1%), raising awareness of parents through the press and social media (5.0%), preparing scientific publications (5.0%), and contributing to the release of public service ads (2.0%) (**Table 3**).

Table 3. Nurses' opinions on their roles and responsibilities in preventing childhood anti-vaccination in society

Features	n	%
Opinions on anti-vaccination attitudes*		
I think it's dangerous	80	40.2
I think it will create risky results in terms of child health	82	41.2
I find it risky in terms of the spread of infectious diseases	103	51.8
I think parents may have good reasons for their opposition to vaccination	38	19.1
Views on nurses roles in preventing childhood anti-vaccination attitudes in society		
Educating parents	137	68.8
Consulting	13	6.5
Being a role model	23	11.6
Increasing knowledge about vaccines	13	6.5
To follow up-to-date information with courses/congresses/symposiums	5	2.5
To follow current studies/ scientific publications on the subject	3	1.6
Conducting evidence-based studies about vaccines	5	2.5
Views on nurses responsibilities in raising awareness in society of childhood vaccination in the prevention of anti-vaccination		
Organizing training/information programs	139	69.9
Organizing a symposium/congress	36	18.1
Raising awareness through the press and social media	10	5.0
Contributing to the release of public service ads	4	2.0
Preparing scientific publications	10	5.0

*multiple options marked

Discussion

This study was conducted to determine the opinions of nurses on childhood anti-vax movement, their roles and responsibilities for its prevention, and the findings obtained were discussed in light of the relevant literature. While the majority of the nurses included in the study thought that childhood vaccines were necessary, 19.1% reported hesitations about vaccination. The fact nurses, who are expected to be role models for society regarding vaccination, hesitancy among nurses about childhood vaccination, is a significant risk in terms of increasing anti-vaccination and vaccination rejection in society. Similarly, a study by Elizondo-Alzola et al., found that although the majority of pediatric nurses had the intention to vaccinate their own children, almost a third reported some form of vaccination hesitancy, mainly due to doubts and some misunderstandings about HPV and varicella vaccines.²⁰

Only two-thirds of nurses recommended vaccination in this study. Vaccination protects not only the individual to be administered, but also the health of other individuals living in the same community, in other words, it is a major public health intervention.²¹ By refusing to have their children vaccinated, individuals pose a threat not only to their own life and the life of their children but also to the whole society, especially their immediate environment. In this context, the reasons underlying the attitudes of nurses who do not recommend vaccination can be investigated in a further study.

Most of the nurses thought that there was a reaction against vaccination in society and that anti-vaccination behaviors were increasing, in the current study. The reasons perceived by the nurses regarding anti-vaccination in society included the thought that vaccines have side effects, distrust towards vaccines, thought that vaccines are harmful, negative news about vaccines shared on forums and social media sites, the lack of

information about vaccination, the thought that vaccines are not protective, religious/superstitious beliefs, and the lack of education among healthcare personnel. Karabulut and Zengin found that according to healthcare professionals, the main reason for anti-vaccination was the belief that “vaccines contain mercury, aluminum, ether, antibiotics, and many other chemicals, which cause autism and similar diseases”. In the same study, thirteen healthcare professionals (nurses and midwives) stated that they referred anti-vaccination parents to physicians while nine stated that they found out why and tried to correct their misconceptions.²² In their study, Bryden et al. identified alternative medicine practices as a possible factor in the development of vaccine hesitancy and vaccine rejection.²³ In the study of Yakşi conducted with family healthcare workers, it was stated that the factors thought to cause vaccine rejection were distrust (84%), lack of information (79%), and harmful effects of the vaccine (71%).²⁴

Posts made by parents on various forums and social media platforms were reported by nurses as one of the factors encouraging anti-vaccination in society. This is another important issue also emphasized in the studies on the subject. In their study, Topçu et al. reported that the information sources of families who refused vaccination were social media (39.3%), newspapers and magazines (27.3%), and social environment (36.3%).²⁵ In the same study, the rate of those who received information from health professionals was only 39.3%, and the rate of those who referred to scientific articles to get information about vaccines was 21.2%. One of the issues regarding anti-vaccination highlighted by nurses in the present study is a religious attitude. The religious interpretation of communicable diseases, the belief that health and illness come from God and that these are part of one’s destiny, was also observed in the polio vaccine boycott in Nigeria.²⁶ McDuffie stated that religious leaders in the USA did not put forward valid reasons for vaccine hesitancy and rejection, they only made propaganda for vaccine rejection.²⁷ In a study conducted by Bутtenheim et al. in the USA, the statewide vaccine hesitancy rate in California was reported as 3.1% in 2013. It was emphasized that with a policy change regarding personal belief exemptions, this rate decreased to 2.5% in 2014 and then to 2.3% in 2015.²⁸

Although the majority of the nurses thought that anti-vaccination was dangerous in terms of child health and risk for spreading infectious diseases, it was found that nearly one-fifth of the nurses thought that the parents may have justified reasons for anti-vaccination. A cross-sectional study of healthcare workers involved in childhood immunization in Niigata City, Japan reported that nurses tend to have a more negative attitude towards vaccination and less awareness of promoting immunization compared to pediatricians.²⁹ It was thought that organizing in-service pieces of training for nurses on the subject and including vaccination as a separate course in nursing curricula and that of other health professionals would be a useful practice to eliminate nurses' prejudices on the subject and to ensure social confidence in vaccines.¹⁹

In the present study, nurses listed their roles in preventing anti-vaccination attitudes as providing education to parents, counseling, being a role model, increasing knowledge about vaccines, following up-to-date information with courses/congresses/symposiums, conducting evidence-based studies and following current studies/ scientific publications on this subject. It was found that the responsibilities stated by nurses in raising public awareness on vaccination in the prevention of anti-vaccination were organizing training and information programs, organizing symposiums/congresses, raising awareness of parents through the press and social media, contributing to the preparation of public service ads, and publishing scientific publications. Effective measures should be taken to change the negative view and attitudes towards vaccinations, which is the most reliable and cheapest method to protect the health of the individual and society. In studies on childhood vaccination, one of the most reported reasons for low vaccination rates was that parents found the information provided insufficient. Similar to the findings of the present study, providing pieces of trainings for families for dissemination of vaccination, sharing positive information and publications on the

Internet, television, and newspapers (public service ads), ensuring parents' trust in vaccines thanks to well-trained health personnel, increasing the number of studies on this subject in order to transform the negative thoughts of individuals into positive, and sharing evidence-based results with the society through mass media are also among the recommended practices to struggle anti-vaccination.^{19,30,31}

Conclusion

The results of the present study showed that nearly one-fifth of the nurses reported vaccination hesitancy. According to nurses, the reasons that led society toward anti-vaccination included the presumed side effects of the vaccine, distrust, the harmful effects of the vaccines, negative news on forums and social media sites, insufficient information on vaccination, the thought that vaccines are not protective, religious/superstitious beliefs, and lack of education of the healthcare workers. According to nurses their roles and responsibilities in preventing anti-vaccination attitudes and raising awareness in society included providing education and counseling to parents, being role models, increasing awareness about vaccination through social media, congresses, symposiums, and public service ads, conducting evidence-based studies, and following the scientific publications. Since nurses are a trusted occupational group and act as role models for the administration and dissemination of vaccination in society, their knowledge and awareness about vaccination should be increased through in-service training. Additionally, it is recommended to nurses take an active role to develop policies for the prevention of childhood anti-vaccination.

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Ethical Approval

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Author Contributions

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