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# Nurses' Covid-19 Vaccine Hesitancy: A Qualitative Study

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**Abstract**

**Objectives:** This qualitative study aimed to conduct an in-depth analysis of the opinions of nurses who did not receive the COVID-19 vaccine during the pandemic regarding the issue.

**Methods:** This research was designed as a qualitative research in the case study design and based on the guidelines proposed by the COREQ checklist. It was conducted in nurses working in various healthcare institutions and units providing preventive and therapeutic services. In the study, 10 nurses who did not receive the COVID-19 vaccine were interviewed. The data of the study were collected through an introductory "Information form" and "Semi-structured interview form" by conducting in-depth interviews. The data were analyzed by the content analysis method.

**Results:** In the study, 3 main themes and 8 sub-themes were determined after the thematic analysis. Themes were determined as follows: (1) Extreme skepticism (a. mistrust, b. rumor, c. anxiety), (2) Perceived risk (a. low risk perception, b. experiences), and (3) Self-others (a. individual freedom, b. inconsistency, c. perception of social benefit).

**Conclusion:** It was found that nurses refused to receive the COVID-19 vaccine, which is an important strategy in the fight against the pandemic, based on various reasons and inferences. Developing a standard recommendation for all nurses in the world on vaccine hesitancy can be difficult. But the strategic efforts to increase confidence in vaccines should focus on the invisible barriers to vaccine hesitancy.

**Keywords:** COVID-19 vaccines, nurses, qualitative study, vaccine hesitancy.

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## INTRODUCTION

Vaccine hesitancy, which is considered to be one of the most serious problems of our age, is referred to as a delay or refusal in the acceptance of vaccines, although many comprehensive services on vaccination are carried out by the World Health Organization (1). Vaccine hesitancy is a major threat to public health and a long-standing global challenge (1-5). Vaccine hesitancy is also an important threat to the fight against the pandemic. The fight against the COVID-19 pandemic, which has become a global crisis, continues in all aspects. COVID-19 vaccinations, which contribute to the fight as an important force, are being carried out rapidly all over the world. However, studies on the subject have reported that there are some important problems with the acceptance of COVID-19 vaccines by healthcare professionals (4-9). As a matter of fact, in a scoping review examining COVID-19 vaccine hesitancy, it was determined that the prevalence of vaccine hesitancy varied between 4.3% and 72% among healthcare professionals (10). However, it is a known fact that if healthcare workers are infected, it affects not only their own health but also the health of the society, for which they provide services, causing disruptions in the healthcare service provision of countries (6-11). It is believed that the COVID-19 vaccine hesitancy and refusal of healthcare professionals will seriously hinder the fight against the pandemic (4,8,12,13).

It is important to understand the emotions, thoughts and behaviors of healthcare professionals, as they are at the forefront of combating epidemics and carry out various services such as vaccination (9, 14). In addition, the attitude of health workers towards vaccination; vaccination services are also considered important in terms of vaccination programs and reducing indecision about vaccination (15). WHO emphasized the important role of healthcare professionals, especially nurses, in influencing the public's trust in vaccines, and studies have revealed that nurses are an important role model in this regard (10, 15-16). International Council of Nurses (ICN) nurses' role in vaccination; It has reported that it covers a wide area such as awareness raising, public advocacy, active health education, reducing myths, administering vaccines, prescribing vaccines, supervising vaccination programs, consulting on immunization programs and strategies (17).

Studies conducted in nurses who are believed to have critical roles in vaccination and thus should be more cautious, similarly showed that vaccine acceptance rates were low (6,18). In a study carried out in Palestine, 40% of the nurses intended to get vaccinated, while 41% stated that they would get vaccinated only if adequate protection and safety measures were provided, and 18% stated that

they would never get vaccinated (5). In a study conducted in Turkey, it was found that 40% of the nurses were hesitant about getting the COVID-19 vaccine, while 14.3% of them did not consider getting the vaccine at all (19).

Opinions of nurses about vaccines can affect both public perception and acceptance of vaccines. In the light of this information, it is believed that it is a necessity to conduct studies on vaccine hesitancy among nurses. The aim of this study was to thoroughly examine the opinions of nurses who did not receive the COVID-19 vaccine during the pandemic regarding the issue.

***Research Questions***

What are the nurses' feelings, opinions, and actions about the COVID-19 vaccine?

**METHODS**

***Study Design:*** This research was designed as qualitative research in the case study design. This study was conducted according to the guidelines of the COREQ checklist.

***Participants and setting:*** The sample of this study included nurses serving in different healthcare institutions in a province of Türkiye. Nurses from institutions providing preventive and therapeutic services from urban and rural areas were included in the research in order to provide maximum data variety. Participants were selected by the purposive sampling method, taking into account the inclusion criteria of the study, and selection continued until data saturation was achieved.

A total of 10 nurses were interviewed in the study. The ages of these nurses were in the range of 21 to 43 years; 8 of them were women, 6 of them were single, 4 of them lived alone, and 9 of them did not have any chronic disease. It was found that 6 of the nurses were working in a department related to COVID-19, one was serving in primary care at the time, and 10 of them had provided care to COVID-19 patients while working in preventive and therapeutic services during different periods of the pandemic. It was determined that 7 of the participating nurses experienced COVID-19.

***Data Collection Tools***

In the research, data were collected with an introductory information form and a semi-structured interview form. The introductory information form includes questions about the nurses' socio-demographic characteristics such as gender, age, education level and job-related characteristics such as the department in which they were working, total years of working in the profession, and characteristics of the job. The semi-structured interview form includes questions about thoughts about COVID-19 vaccine, experiences with COVID-19 vaccine, views about hesitancy about COVID-19 vaccines.

***Data Collection***

The data were collected by the researchers between June 03 and June 13, 2021 using a personal information form and a semi-structured interview form that included open-

ended questions and evaluated the views of nurses on vaccine refusal. Due to the physical restrictions associated with the pandemic, the interviews were carried out on telephone or by a video conference application. Initial interviews with the individuals were conducted over the phone to obtain participants' consent, the participants were informed about the reasons and objectives of conducting the study, and the subsequent interviews were scheduled.

The participants were determined with the first author contacting the nurses who refused vaccination in personal interviews performed during clinical practices of students. Following the first participant found by the first author, the preliminary interviews were performed, and the other participants were contacted in turn. The participants were informed about the study and reminded that their interviews would be recorded by the first author. Interviews were conducted out of working hours, on days when the nurses were on leave.

Interviews were conducted by the fourth author, who is experienced in qualitative research. Audio or video recording was made after obtaining the permission of the participants. The interviews took approximately 35-40 minutes. Interviews were continued until data saturation was achieved and ended when data saturation was achieved. Care was taken to conduct the interviews in an online-at video conference where the researcher and the participant could see each other easily and there was no noise and interruption, which allowed for comfortable communication.

A semi-structured interview form was used to ensure that the questions were equivalent for all participants. Following the opening question, participants were asked six key questions: (1) "What do you think about the COVID-19 vaccine?"; (2) "What did you think when you first found out about the COVID-19 vaccinations in the world and in Turkey?"; (3) "What are your experiences with the COVID-19 vaccine?"; and (4) "When you consider the measures for prevention of COVID-19, where do you think is the place of vaccination among these measures?", (5) "What are your views on the factors that prevent you from getting the COVID-19 vaccine?", and (6) "What are your views on individuals who are hesitant about getting the COVID-19 vaccine?" They were also asked to respond to investigative questions such as "Can you clarify this?" and "How do you feel about this?". At the end of the interview, the question "Is there anything you want to add?" was addressed to the participants. The interviews were exactly transcribed by the interviewer, and the accuracy of the content was checked by both the interviewer and other authors.

***Data Evaluation***

Quantitative data in the personal information form were evaluated in the

computer and expressed in numbers. Qualitative data audiotapes were transcribed by the researchers. A total of 371 pages of interview text served as the raw data for analysis. Qualitative data were analyzed by content analysis. The data of the study were divided into categories by two different researchers via coding, and then themes and sub-themes were created by revealing the relationships between the categories. Expert opinion was sought from two independent researchers with qualitative research training and experience regarding the validity of the themes and sub-themes. After obtaining the expert opinions, unnecessary codes were removed, the ones connected to each other were regrouped, the main idea in the statements was identified, and the themes and sub-themes were finalized. Themes were supported with direct citations when necessary. Citations were shown by participant's number and age (*P1-36, P2-32* etc.).

***Credibility and Trustworthiness of Qualitative Data***

Long interviews, participant confirmation, and expert review methods were used to ensure the credibility of the study. For participant confirmation, the data obtained by the researcher were summarized to the individuals and they were asked to state their opinions about the accuracy of these data at the end of the interview. In addition, the participants were asked whether they had an opinion that they would finally like to add. The additional statements were recorded and the interview was ended. During the planning phase of the study, expert opinion was sought regarding the questions in the interview form and the themes created. Thus, attempts were made to ensure credibility by seeking expert opinion from the beginning to the end of the study. Researcher triangulation and methodological triangulation were used to ensure trustworthiness in the study. For the sake of confirmability, the interview notes and notes regarding the statements of the participants were taken during the interview as raw data, and the statements of the participants were directly included in the study report. The fact that the study results obtained from the interviews with this sample group can be used in different settings and in similar sample groups ensures transferability.

***Reflexivity***

The self-reflective knowledge of the researchers in this study was as follows: the first author had scientific research experience on immunization and COVID-19 vaccine acceptance of nurses. It is believed that the fact that the researcher conducting the interviews was a psychiatric nurse contributed to effective communication with nurses and to the sustainability of the interviews. All researchers work in the nursing departments of different universities in Turkey.

***Ethical Consideration***

Before starting the research, the approval of the Scientific Research Board of the Ministry of Health (2021-05-22T08_10_09) and the ethics committee approval (Decree no: 2021/130) from Ordu University were obtained. The purpose of the study was explained to the participants individually and approval was obtained from the participants for participating in the study. The names of the participants were kept confidential, and the participant number and age were indicated instead of name in the statements of the individuals (*P10-33* etc.).

**RESULTS**

Following the thematic content analysis, 3 main and 8 sub-themes were determined in the study. Main themes were: "Extreme skepticism", "Perceived risk", and "Self-others". The themes and sub-themes obtained in the study were presented in Table 1.

**Table 1**. Themes emerging from the interviews

| Thema | Subthema |
|---|---|
| Extreme Skepticism | Mistrust Rumor Anxiety |
| Perceived risk | Low risk perception Experiences |
| Self-others | Individual freedom Inconsistency Perception of social benefit |

**Theme 1. Extreme Skepticism**

**a. Mistrust:** It was observed that almost all of the nurses in the study experienced many different mistrust issues related to the COVID-19 vaccine. It has been determined that the most common mistrust issue was related to vaccine manufacturers, companies, vaccine trials they conducted, and politicians.

*"Childhood vaccines were developed over a long period of time, but this happened very quickly Also, vaccine companies do not accept responsibility for deaths caused by the vaccines, and there is a clause in consent forms regarding this" (P7-42).*

*"Actually, I also thought it was a game of the pharmaceutical industry……." (P10-33).*

*"I don't find vaccines very safe. Foreign countries found the vaccine, and the disease had emerged from them, too. That's why I feel mistrustful. That's why I haven't received it myself. I can't see what it will bring me in 10 years from now. The fact that the virus emerged from foreign countries and the vaccine was also found in foreign countries reduced my trust in the vaccine." (P2-43).*

**b. Rumor:** It was observed that some of the participants believed the rumors they heard about the COVID-19 vaccine and took them seriously. It was also found that these rumors, the source of which is unknown and which have been understood to have been heard from people around, were generally related to foreign countries, vaccines, vaccine manufacturers, and the virus.

*"The foreign films I watched also had an effect. The rumors that the world population has increased too much and that this virus was*

*made to reduce it affected me" (P2-43).*

*"The vaccine companies or the people who claim to have found the vaccine do not get vaccinated themselves" (P7-42).*

**c. Anxiety**: During the interviews, it was observed that most of the nurses often expressed their anxiety about vaccination. It was found that this anxiety was mostly related to fertility and having children in the future.

*"I haven't considered it, because I am planning to get married and have children. Let's say I have been vaccinated and I get pregnant right after that, will there be any problems during my pregnancy or will it harm the baby? There has been no study about this. My fear concerns this issue" (P1-41).*

*"...I am an individual of childbearing age and I do not know what effect the vaccine will have on me in the future. What if I become infertile, what do I do then?" (P3-25).*

*"Yes, I believe in the protection of the vaccine. I think it is protective, but I do not know what effect the vaccine will have on me after 5-10 years" (P3-25).*

**Theme 2. Perceived Risk**

**a. Low risk perception:** The risk perception of the nurses was evaluated to be low for various reasons. It was observed that the perceived risk of some of the nurses was low because they had already had COVID-19 and had antibodies.

*"The reasons why I didn't get vaccinated are because I am young, I don't have a chronic disorder, I live alone, and I pay attention to mask and hygiene issues" (P9-21).*

*"So, how is a vaccine made against a virus that is constantly mutating? We have now found the vaccine, but this virus has already mutated." (P7-42).*

*"...For me, the vaccine comes after mask and distance, it is of secondary importance, we must first take our individual precautions. I believe that the vaccine will prove to be less important than the trio of mask, distance and hygiene" (P5-30).*

**b. Experiences:** Most of the nurses reported that they were affected by their experiences with individuals who had the disease although they were vaccinated, and this pushed them not to get vaccinated.

*".... I met a lot of people who got vaccinated but got sick. There were people who got sick even though they had received double doses of the vaccine" (P8-26).*

**Theme 3. Self-Others**

**a. Individual freedom:** During the interviews, it was observed that some of the nurses emphasized the importance of individual freedoms regarding the issue of not getting vaccinated.

*"I read a news article about classifying individuals into who were and were not vaccinated, and I was sad to hear that. This is because it is our decision whether to get vaccinated or not. Our free will" (P3-25).*

*"For example, it is very strange that the*

*Ministry of Health puts directives in front of us to get vaccinated… It seems to me that people are obligated rather than choose to get vaccinated, because people are forced to get vaccinated and there are statements such as those who do not get vaccinated cannot enter such and such places" (P4-32).*

**b. Inconsistency:** It was observed that the nurses made quite inconsistent statements, had ups and downs, and made contradictory speeches while expressing their opinions on vaccination and vaccine counseling.

*"I can't believe the reality of the vaccine…. Accordingly, I thought vaccination was more important than wearing masks. It is good for COVID-19, but we don't know what it may cause in the future. Vaccination may be a little more important than others for now"(P6-26).*

***c.*** **Perception of social benefit:** During the interview, it was found that nurses' perceptions of social benefit with respect to vaccination and counseling varied.

*"I leave people who are hesitant to their own devices. I say whatever you feel comfortable with. And there have been people whom I asked whether they ever had covid, or told to determine the risks before getting vaccinated and the risks after getting vaccinated about catching covid and decide accordingly"(P6-26).*

## DISCUSSION

It has been observed that one of the main reasons behind vaccine refusal of the nurses is excessive skepticism. In the study, all nurses stated that they had a mistrust of the COVID-19 vaccine for various reasons, and this mistrust made them skeptical. In a qualitative study related to the COVID-19 vaccine, healthcare professionals stated that they believed government decisions regarding vaccination were not supported by evidence-based studies, and this lowered their trust in the COVID-19 vaccination program (8). In this study, some of the nurses stated that they did not trust pharmaceutical companies, scientists, the government, politicians, foreign countries, and this mistrust pushed nurses to look for untrue things in everything that was done.

Another reason that made nurses extremely skeptical was their reliance on rumors about the COVID-19 vaccine. In a study conducted in Switzerland, it was found that nurses tended to believe in practices related to traditional health beliefs rather than evidence-based medicine in their decision to refuse the flu vaccine (20). In a study on the COVID-19 vaccination program, it was found that misinformation spread on the internet affected the attitudes of healthcare professionals towards vaccination (8). In this respect, it has been reported that social media is a significant component for the acceptance of the COVID-19 vaccine (21). In this study, the majority of nurses stated that they believed in the rumors about the source of the virus, manufacturing

process of the vaccine, and the long-term effects of the vaccine, which were shared especially on social media and which did not have any scientific basis.

In the study, it was observed that the last reason that made nurses skeptical about the COVID-19 vaccine was anxiety. In a study in Philadelphia, it was found that more than 80% of healthcare professionals experiencing vaccine hesitancy were anxious about the side effects of the vaccine and the novelty of the vaccine (4). Other studies in healthcare workers have found that reasons for rejecting the COVID-19 vaccine include concerns about the safety and side effects of the COVID-19 vaccine (5, 22). Similarly, in our study, the majority of nurses stated that they were concerned about the side effects of vaccines in the short and long term. In this study, it was determined that some of the concerns of the nurses increased their skepticism. One of them was the statement that the vaccine negatively affects fertility. It was observed that some female nurses were skeptical of the vaccine because they were worried about being infertile and thought that it would affect their fertility. In this respect, it was observed that the nurses stated that they were worried based on a rumor, that they felt they had to protect their fertility and wanted to have children.

Previous research shows that a number of cultural factors, including politics and religion, are significantly associated with anti-vaccine attitudes (23). As a matter of fact, in the study, the roles expected from the gender, women feel obliged to protect their fertility and meanings attributed to childbearing It was thought to be related to the cultural reasons underlying the anti-vaccination. In the study, some nurses stated that they believed in the protection of the vaccine but were worried about its possible long-term effects.

Individuals who believe that the severity of COVID-19 has been overdone may perceive the vaccine risk as greater than the risk of infection (3). In this study, one of the factors affecting the attitudes of nurses towards the COVID-19 vaccine was their perceptions of the disease and virus risk. It was found that nurses see themselves at a lower risk than other individuals in society due to reasons such as having had the disease, being young, and not having a chronic disease. There has been evidence of greater acceptance of the vaccine among healthcare workers caring for hospitalized COVID-19 patients, possibly due to an accurate perception of the severity of the disease (10,24). The nurses in our study worked in different departments, and although all provided care to COVID-19 patients and some even worked in the COVID-19 intensive care unit, they refused to get vaccinated. Similarly, the fact that nurses stated that they were hesitant about vaccination based on their experiences of losing their patients who had been vaccinated, suggested that their

experiences played a role in their decisions. In a qualitative study involving healthcare professionals from European countries, negative experiences of healthcare professionals were similarly found to have had a role in their decisions on vaccination (11). This suggested that although nurses took an active role in healthcare services during the pandemic, they could not follow scientific studies, visual or written events, and reports on COVID-19.

In this study, it was found that some participants believed that masks, distance, and hygiene measures are more effective than vaccination, they prefer natural immunity to acquired immunity, and a more considerable amount of immunity will be provided than that to be provided by the vaccine if the majority of the society is infected with the virus. However, it has been noted in studies that waiting for herd immunity would increase morbidity and mortality (25,26). For example, although a large part of the population (76%) was infected with the virus in the Brazilian city of Manaus, it has been reported that the city's healthcare services were shattered and the city turned into a grave due to the population structure, poverty, and non-pharmaceutical interventions (26).

Globally, data from seroprevalence studies show that less than 10% of workers have been infected, meaning that the vast majority of the world's population remains susceptible to this virus (27). It has also been demonstrated by scientific results that the vaccine, which provides acquired immunity, is highly effective (the only method to achieve success) in the fight against COVID-19 (28,29). In this respect, it can be said that the reason behind the low-risk perception of the nurses regarding COVID-19 is that they deal with the issue at an individual level and express their opinions based on experiences, and not on scientific results.

The study of Chankod et al. showed that COVID-19 vaccine hesitancy and the decision to vaccinate against COVID-19 involve ongoing and unresolved internal conflicts about COVID-19 vaccines (30). The fact that it is an important inconsistency that nurses did not receive the vaccine themselves, although they referred to the vaccine positively during the interviews. In a study conducted with healthcare professionals in Turkey, it was found that 17% of them still did not have the COVID-19 vaccine despite having a positive attitude towards the vaccine (31). It was remarkable that participants emphasized their individual freedoms among the key reasons underlying their refusal to get vaccinated and made inconsistent statements. This suggested that nurses experienced a dilemma of individual freedom versus social welfare. Although such libertarian and anti-paternalist arguments are often cited regarding vaccine refusal, it has been reported that these

arguments will be invalid considering the deadly threat that vaccine-preventable diseases pose to the whole society (32).

In the literature, nurses are the most major source of information for patients who make decisions about vaccines in the fight against epidemics (33,34). In a study on the COVID-19 vaccine, the majority of healthcare professionals stated that they felt encouraged to motivate their patients to get vaccinated, advocate vaccination, or would join conversations about vaccination with others (8).

In another study, it has been shown that the acceptance of the vaccine by only ½ of the healthcare professionals, whom the society sees as role models, will affect the success of controlling the COVID-19 pandemic (13). In this study, it was shown that the participants refrained from expressing their opinions on vaccinating the society and the individuals they counseled and adopted different attitudes. The fact that some of the nurses stated that the choice of getting vaccinated should be left to the individual and that it is a right to choose this suggested that they ignored the social aspect of vaccination. In addition, the fact that a few nurses stated that whether or not to get vaccinated is an individual decision was another indication that suggested that they ignore the social aspect of the issue. In addition, the fact that the nurses stated that individuals should find out and decide about the vaccine on their own suggested that the negative attitude of the nurses towards the vaccine makes it difficult for them to fulfill their educational and counseling roles on vaccines.

***Limitations***

The study was limited to this sample group, because it was conducted in one province of Turkey and with nurses who could be contacted.

## CONCLUSION

In this study, it was found that the nurses were overly skeptical of the COVID-19 vaccine and their risk perceptions were affected for various reasons. It is believed that the factors collected under these two themes cause nurses to ignore the social benefit and refuse to get vaccinated. It has been observed that this attitude is not only limited to the refusal of nurses to get vaccinated, but also has negative consequences on their duty of providing counseling and education to the society as healthcare professionals, and that the nurses make their decision based on the self and others approach.

It is important for nurses to experience vaccination hesitancy, both in terms of maintaining health services and affecting the education and counseling services they provide. Therefore, in the fight against vaccine hesitancy; it is important to develop effective and transparent health and education policies covering the whole society, especially for

health workers and nurses. It is recommended to support activities for nurses to follow the literature, read and evaluate research results, and participate in research, especially about vaccine applications and vaccine indecision, and to plan evidence-based practices.

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