

## CARE PRACTICES AND CHALLENGES EXPERIENCED BY PUBLIC HEALTH NURSES DURING ACUTE AND CHRONIC PANDEMIC PERIOD<sup>1</sup>

### AKUT VE KRONİK PANDEMİ DÖNEMİNDE KAMU SAĞLIĞI HEMŞİRELERİNİN YAŞADIĞI BAKIM UYGULAMALARI VE ZORLUKLAR

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**Abstract: Aim:** This study aimed to determine the challenges experienced by Public Health Nurses (PHN) in delivering care to society during the acute and chronic periods of the pandemic and different care application methods.

**Method:** This qualitative and descriptive study was conducted between January and February 2022. Phenomenological approach was used as a qualitative research method. The sample of the study consisted of 21 public health nurses working in family health centers. Data were obtained with a semi-structured interview form and descriptive information form containing sociodemographic characteristics. The interviews were recorded. Malterud's analysis method used in qualitative data analysis.

**Results:** Four main themes were identified as "psychosocial situation, measures/precautions, difficulties, and solution methods" regarding care practices and challenges experienced by PHN during acute and chronic periods of a pandemic. Thirteen sub-themes under these main themes were differentiated according to acute and chronic periods. The mean age, and duration of working of PHNs participating in the study was 37.8 and 16.3 years, respectively.

**Conclusion:** PHNs were negatively affected psychologically due to prejudices, fears, and uncertainty during the acute period of the pandemic, and in the chronic period, they faced aggressive, impatient, and anti-vax attitudes of the public. While during the acute period, telephone monitoring, telemedicine management, and difficulties in persuading the public were at the forefront of care practices, education, guidance, and counseling services for long-term health problems of people became a priority in the chronic period.

**Keywords:** Care Practices, Challenges, COVID-19, Pandemic, Public Health Nurse

**Öz: Amaç:** Pandemi döneminde, Halk Sağlığı Hemşireleri (HSH)'nin akut ve kronik dönemde, topluma bakım verirken yaşadıkları zorlukları ve farklı bakım uygulama yöntemlerini belirlemektir.

**Yöntem:** Araştırma nitel tanımlayıcı tasarım tipinde Ocak-Şubat 2022 tarihleri arasında gerçekleştirildi. Nitel araştırma yöntemi olarak fenomenolojik yaklaşım kullanıldı. İstanbul aile sağlığı merkezlerinde çalışan 21 halk sağlığı hemşiresi örneklemi oluşturdu. Yarı yapılandırılmış görüşme formu ve sosyodemografik özellikleri içeren tanıtıcı bilgi formu ile veriler elde edildi. Görüşmeler kayıt altına alındı. Nitel verilerin analizinde Malterud'un analiz yöntemi kullanıldı.

**Bulgular:** HSH'nin akut ve kronik dönemde yaşadıkları zorluklar ve bakım uygulamaları "Psikososyal durum, tedbirler/önlemler, zorluklar ve çözüm yöntemleri" başlıkları altında dört ana tema belirlendi. Bu ana temalar altında ki 13 alt tema, akut ve kronik döneme özgü farklılaştığı görüldü. Çalışmaya katılan HSH'nin yaş ortalaması 37.8 yıl olup, çalışma yılı ortalaması 16.3'tü.

**Sonuç:** HSH pandemisinin akut döneminde önyargılarla, korkularla, belirsizlik nedeniyle psikolojik açıdan negatif etkilenmiş, kronik dönemde ise halkın saldırganlığı, tahammülsüzlüğü, aşı karşıtlığı ile karşı karşıya kalmışlardır. Bakım uygulamalarında akut dönemde, telefonla izlem, uzaktan süreç yönetimi, halkı ikna etme zorlukları ön plandayken, kronik dönemde halkın uzun dönemli ortaya çıkan sağlık sorunları ve bunlara yönelik eğitim, rehberlik ve danışmanlık hizmetleri öncelik kazanmıştır.

**Anahtar Kelimeler:** Halk Sağlığı Hemşiresi, Covid-19, Pandemi, Zorluklar, Bakım Uygulamaları

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## INTRODUCTION

Studies conducted during the pandemic reported challenges such as prejudice against individuals diagnosed with COVID-19 and healthcare professionals, concern of healthcare professionals about transmitting the disease to their families and relatives, experiencing high levels of workload and burnout among public health nurses (PHNs) as well as others, and struggle due to lack of protective equipment and material (Labrague & De Los Santos, 2021).

### Theoretical Framework

Primary health care services were been the first point of contact for people reluctant to seek hospital care during the acute phase of the pandemic. The institutions that provide primary health services in our country are family health centers. Nurses working in family health centers work to protect and improve health. Nurses provide services such as immunization, infectious diseases, maternal and child health, school health, health education in chronic diseases, family planning and screening programs. During the pandemic period, problems regarding the readiness of Family Health Centers, one of these services, have emerged. Problems regarding readiness were reported in a study as lack of knowledge relating to the referral chain of COVID-19 and lack of personal protective equipment of primary healthcare professionals, applying of people diagnosed with COVID-19 to family health centers for getting medical reports, dissembling of COVID-19 diagnosis by individuals working in the service sector, and misperception of

information about disease by the society leading to chaotic environment (Güler et al., 2020).

Considering self-isolation measures and institutional conditions, PHNs provided services such as follow-up of patients with COVID-19, symptom management, surveillance, and COVID-19 vaccination during the acute period in addition to maternal and infant health services, and home follow-up for elderly patients (Belita et al., 2022; Edmonds et al., 2020; Sumikawa et al., 2021; Morales-García et al., 2022). The delivery type of some services in primary healthcare such as home visits, health screening, health education, and counseling has changed during this period (Woodhouse et al., 2022).

Evaluation of the problems experienced during the pandemic period revealed different challenges depending on the acute or chronic period. Although the acute period was complex and uncomfortable for most individuals, there was also evidence of health complications that could affect individuals in the chronic period (Turale, 2021). In the chronic period, PHNs will serve the community in caring for chronic health problems and in managing the reflections of health and social care requirements left aside for many conditions. In addition, patients and their families affected by COVID-19 may need long-term support at home (Kennedy, 2020). Therefore, ongoing health system requirements for rehabilitation services and community care in the future are on the agenda (Turale, 2021).

## OBJECTIVE

No study was found in the literature that compared the challenges of the acute and chronic periods of the pandemic. This study was conducted to investigate the challenges thoroughly experienced by PHNs in delivering care to society during the acute and chronic period of the pandemic and different care application methods

## Research Questions

1. What are the challenges experienced by PHNs during the acute and chronic period of the pandemic?
2. How did care priorities of PHNs change during acute and chronic periods of the pandemic?

## METHODS

### Study Design

This is a qualitative and descriptive research. The qualitative study type was chosen to reveal in depth the problems experienced in the acute and chronic periods of the pandemic process. Phenomenological approach was used as a qualitative research method. Data were collected between January and February 2022. The first case of COVID-19 in

Turkey was seen in March 2020, and the next 6 months were defined as the acute period. The time interval in which the study was conducted was stated as the chronic period, approximately two years later, in February 2022.

### Participants

The sample of the study consisted of 21 out of 187 nurses working in 43 different Family Health Centers (FHCs), affiliated to the XXX District Health Directorate, in the province of Istanbul, volunteering to participate in the study, working in primary health care services during the Covid-19 pandemic (between 2019-2022). The interviews were terminated when data saturation was reached. The sample was selected from nurses working as family health nurses in 43 FHCs. The sample consisted of nurses working in 18 FHCs who agreed to participate in the study.

**Data Collection Tools:** In this study, data were collected by face-to-face interviews with a semi-structured in-depth interview form (Table 1) created by the researchers and a descriptive form questioning the socio-demographic characteristics of the individuals.

**Table 1.** Semi-Structured Questions

<p><i>Within the first 6 months of the pandemic:</i></p> <ol style="list-style-type: none"> <li>1) How did you deliver primary health care services to the community?</li> <li>2) What were the challenges you experienced providing healthcare to the community?</li> <li>3) What problems did you observe in society?</li> </ol>	<p><i>About two years after the beginning of the pandemic, in other words, right now, along with the widespread use of Covid vaccines:</i></p> <ol style="list-style-type: none"> <li>1) What changes have you experienced in the provision of primary health care services to the community?</li> <li>2) What were the challenges you experienced providing health care services to the community?</li> <li>3) What problems did you observe in society?</li> </ol>
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4) Which solutions did you offer to these problems that you observed in society?	4) Which solutions did you offer to these problems that you observed in society?
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## Procedure

The data of the study were collected individually, face to face, in a separate room in the FHCs where the participant nurses worked, when they were available. The interviews were audio-recorded and lasted between 20-45 minutes. The interviews were conducted under the guidance of the semi-structured interview form, and flexibility was also provided to the related topics expressed by the participants.

The first author had previously attended a qualitative research course and was trained in interview techniques by supervisors. The authors of this research have a Ph.D. degree in public health nursing, and one of the authors is also a specialist in community health nursing, working in the field. All authors participated in all stages of the research including interviewing, coding, categorizing, and interpreting the findings. An interview guide was provided for data collection during the interview sessions by reviewing the relevant literature and consulting the supervisors.

## Data Analysis

Thematic analysis was performed for the qualitative data manually by Malterud's method. Quantitative data (demographic characteristics) were analyzed by the excel program as percentages and averages. The audio recordings of the interviews with the

participants were transcribed verbatim in text format. Three different researchers coded these texts according to research purposes. The resulting codes were classified by the researchers, and titles of themes and sub-themes were determined. Analyzes and evaluations were made within the scope of these titles.

## RESULTS

The mean age of the nurses participating in the study was 37.8 years, and the average working duration was 16.3 years. All the participants were women. Of the nurses, 80.9% (N=17) were married and had undergraduate or higher education. Almost half of the nurses (47.6%, N=10) had two or more children. The rate of those living with an elderly person at home during the pandemic was only 9.5% (N=2). Most of the nurses (57.1%, N=12) had been infected with COVID-19 and 38% (N=8) were vaccinated 3 times.

Nurses were mostly (57.1%) vaccinated with mixed use of CoronaVac and BioNTech vaccines (Table 2).

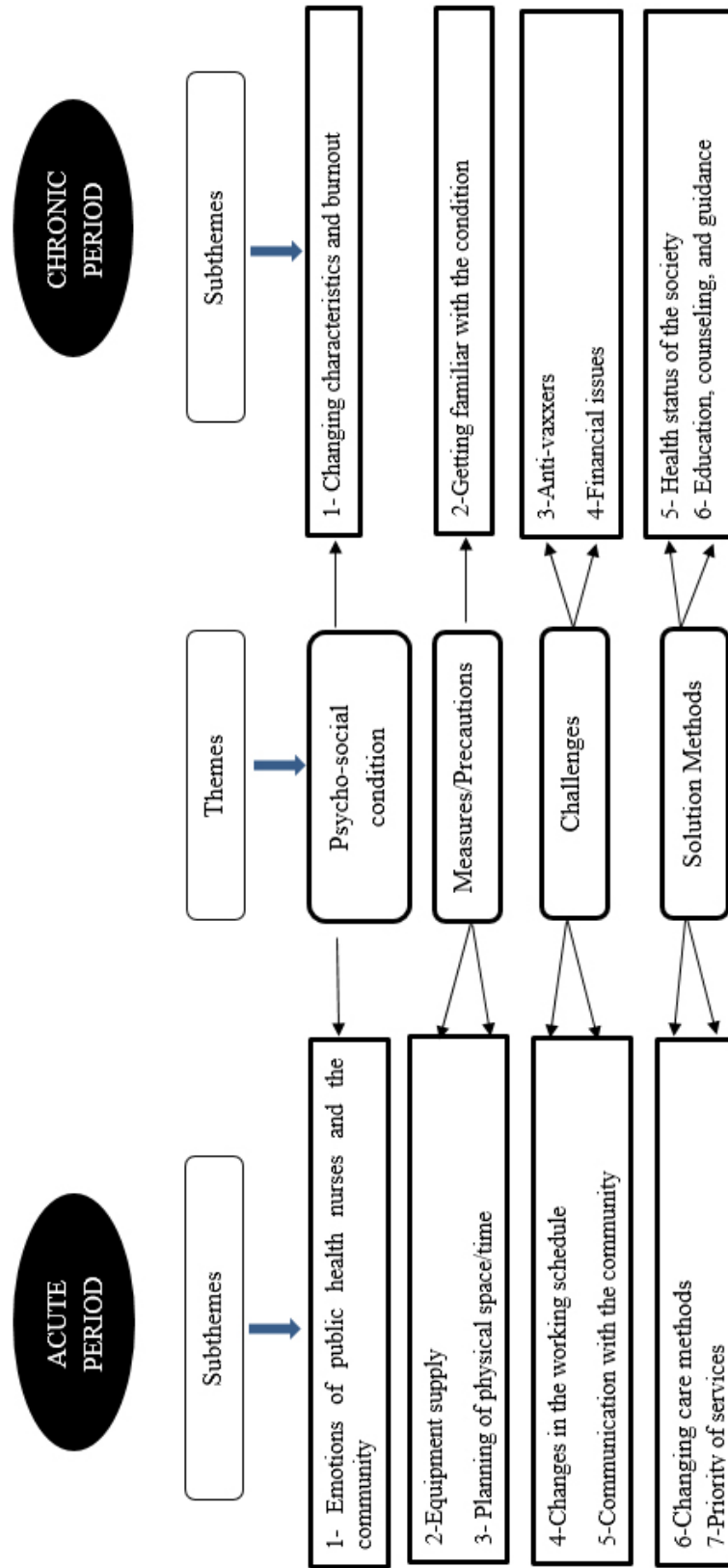
**Table 2.** Summary of Profile Data of Study Participants (N:21)

No	Age (years)	Gender	Marital Status	Working Duration (years)	Educational Status	Number of Kids	Presence of an elderly at home	Financial Status	Having chronic condition	Status of Getting Covid	Status of Vaccination (dose)	Type of Covid vaccine
P1	32	Female	Married	12	High school	1	No	Middle	Hashimoto's disease	No	3	CoronaVac
P2	32	Female	Married	9	Undergraduate or higher	1	No	Higher	Asthma	Yes	2	CoronaVac
P3	38	Female	Single	15	Undergraduate or higher	1	Yes	Middle	None	No	2	CoronaVac
P4	37	Female	Married	16	Undergraduate or higher	1	No	Higher	None	Yes	3	2 CoronaVac +1 BioNTech
P5	37	Female	Married	14	Undergraduate or higher	2	No	Middle	Hashimoto's disease	No	4	2 CoronaVac +2 BioNTech
P6	32	Female	Married	9	Undergraduate or higher	0	No	Higher	Mitral valve prolapsus	No	2	CoronaVac
P7	33	Female	Single	14	Undergraduate or higher	0	No	Middle	None	No	3	2 CoronaVac +1 BioNTech
P8	29	Female	Married	7	Undergraduate or higher	1	No	Higher	None	Yes	0	None
P9	43	Female	Married	23	High school	2	Yes	Middle	None	Yes	2	BioNTech
P10	38	Female	Married	12	Undergraduate or higher	1	No	Higher	Mitral valve insufficiency	Yes	4	2 CoronaVac +2 BioNTech
P11	41	Female	Married	25	Associate degree	2	No	Middle	Elevated TSH	Yes	3	2 CoronaVac +1 BioNTech
P12	37	Female	Married	15	Undergraduate or higher	2	No	Higher	None	Yes	3	2 CoronaVac +1 BioNTech
P13	42	Female	Married	23	Undergraduate or higher	2	No	Middle	Hypothyroidism, vertigo	No	5	2 CoronaVac +3 BioNTech
P14	43	Female	Single	26	Associate degree	None	No	Lower	None	Yes	4	2 CoronaVac +2 BioNTech

P1 5	46	Female	Married	28	Undergraduate or higher	2	No	Higher	None	No	3	CoronaVac
P1 6	40	Female	Married	17	Undergraduate or higher	3	No	Middle	Hypertension	Yes	2	CoronaVac
P1 7	36	Female	Married	10	Undergraduate or higher	1	No	Middle	None	No	3	CoronaVac
P1 8	43	Female	Married	19	Undergraduate or higher	2	No	High	None	Yes	4	2 CoronaVac+2 BioNTech
P1 9	41	Female	Married	20	Undergraduate or higher	2	No	Middle	Hypertension	Yes	4	3 CoronaVac+1 BioNTech
P2 0	36	Female	Single	15	Undergraduate or higher	2	No	Middle	None	No	4	2 CoronaVac+2 BioNTech
P2 1	39	Female	Married	15	Undergraduate or higher	0	No	High	None	Yes	3	2 CoronaVac+1 BioNTech

Qualitative data, obtained through the interviews performed to determine care priorities and challenges experienced by PHNs during the acute and chronic period of the pandemic, were analyzed. Under four main themes, thirteen sub-themes were determined. Although the main themes were kept the same, sub-themes could differ according to priorities. These themes are shown in Figure 1.

**Figure 1.** Themes and Subthemes



## **“Psychosocial Condition” in the Acute Period**

**Emotions of public health nurses and the community:** Public health nurses (PHNs) stated that they were negatively affected in terms of psychology during the acute period of the pandemic. The reasons for this situation were reported as a prejudiced approach of the public towards the healthcare professionals and holding healthcare professionals and their families at a distance due to prejudice, lack of institutional support, discrimination, fear of the unknown, anxiety experienced due to inattentive behavior of people presenting to FHCs without wearing protective equipment, sadness due to the loss of patients, whom they were responsible for the follow-up, and experiencing psychological challenges supporting people by phone. In addition, it was stated that when PHNs were diagnosed with COVID-19, they were worried about infecting their families or the public, and they had psychological difficulties due to isolating themselves in the same house or different places.

Public health nurses observed that while some of the people experienced anxiety, fear, a sense of uncertainty, and fear of death in the acute period of the pandemic, some of them were neglectful and had disbelief in the disease.

## **“Measures/Precautions” During the Acute Period**

**Equipment supply:** During the acute period, it was reported that while there was a shortage of supplies (masks, gloves,

protective equipment) in some FHCs, it was not experienced in some FHCs. However, it was stated that equipment was mostly provided by healthcare professionals with individual expenditures and efforts, and solution methods were found by them also.

**Planning of physical space/time:** It was stated that patients presenting to FHC during the acute period were welcomed in a separate room, in which the body temperature of patients was checked and complaints were questioned. It was told that appointment was given to patients to extend the time gap between physical examinations for preparing the room for the next patient such as airing the room out, disinfection of surfaces, and changing stretcher cover. Precautions were taken, such as vaccinating pregnant women and babies early in the morning, before the arrival of other patients, triaging in some FHCs, checking patients in the garden if the weather is nice, or creating a separate section in FHCs for evaluation.

## **“Challenges” During the Acute Period**

**Changes in working schedule:** The workload was reported to increase due to follow-up of COVID+ patients and individuals over the age of 65 by telephone call, and doing the work of the sick staff, in addition to routine preventive healthcare services, during the pandemic period. It was said that the working hours were often longer, and the work-private life balance was lost.

It was stated that health education, one of the most important tasks of primary healthcare services, was performed by giving brochures





or follow-up by phone, and individuals were directed to other units of the district health directorate in cases where screening or home healthcare services were required.

**Communication with the community:** One of the most challenging issues for PHNs was the difficulty of persuading the public. It was stated that it was very difficult to persuade families about immunization services and pregnancy follow-up, which should be continued in the acute period. Dealing with the public's perception of healthcare professionals as the source of transmission of the disease, and their reactions and prejudices in this aspect were expressed by participants.

#### **“Solution Methods” during the Acute Period**

**Changing care methods** were following patients up through phone, writing prescriptions on the phone, freedom to buy medications directly from the pharmacy, and health education, and counseling services by phone.

**Priority of services:** In the acute period, prioritized services in FHC included infant vaccinations, pregnant postpartum follow-up, remote telephone monitoring of COVID-19 patients, IM injections of antibiotics, large wound dressings referred by the hospital, and optional home visits.

#### **“Psychosocial Condition” in the Chronic Period**

**Changing characteristics and burnout:** It was stated that in the chronic period, public

reactions against healthcare professionals included intolerance, boredom, aggression, distrust, and waiting for special attention and service. It was stated that aggression and intolerance increased excessively in society, and the number of white code announcements increased. In addition, it was expressed that telephone monitoring and close attention were expected during the chronic period, just like in the acute period resulting in crossing the respect line between the patient and the healthcare worker.

*P8: "... even the respect between patient-nurse or patient-doctor was destroyed. Now the patient calls me up disregardingly and says, "give me the doctor, he will prescribe my medication." Because they got used to it. Early days, this was necessary, but our relations began to break down. Patients say "Call me 2-3 days before appointment. I can't come immediately after your call." It is your child's vaccination, you need to follow up, and we arranged an appointment. We remind you just to make things easier. We had a very difficult time those days. Its effects continue presently. We continue to be challenged. I have observed that we announced code white more frequently in this period, within the last 2 years. The offensiveness of people against us has increased much more."*

#### **“Measures/Precautions” During the Chronic Period**

**Getting familiar with the condition:** It was stated that two years after the pandemic, people were not afraid of the covid-19, they got used to the condition, and they had overreacted when they saw an individual



exposed to a COVID-19 patient in FHC during the first days, in contrast to chronic period. I was told that regular working hours came back. The healthcare workers continued to wear masks.

### **“Challenges” During the Chronic Period**

**Anti-vaxxers:** Participants reported that, especially in this period, an anti-vaccination movement occurred due to distrust. It was said that this was not only against the COVID-19 vaccine but also against childhood immunization. The news on the media was cited as the reason for distrust. It was stated that another group expected special attention and service for being vaccinated against COVID-19 at home.

*P17: "Even during routine vaccination, "Will you vaccinate my child for covid?" The sense of trust in people began to break. Unfortunately, the news in the media had a great impact on this. In other words, you should be very careful while saying a word. We are talking about a nation with a very large population here. People also say, "A great professor is on TV and gives information about it. So, should we trust him, or a nurse at FHC?" There are question marks."*

**Financial issues:** It was stated that during the pandemic period, the population that participants were responsible for follow up experienced many layoffs resulting in increased financial issues. The PHNs were reported to direct those people experiencing financial issues to local authorities to get help.

*P12: "Families have had financial problems, and truly, there have been many unemployed*

*people...You know, people I never expected to come and ask shyly. "If somebody donates something, will you give it to me?" Even if it is a children's book, for example, some people need it. With unemployment, the number of those people increased."*

### **“Solution Methods” During the Chronic Period**

During the later period of the pandemic, the number of follow-ups via telephone decreased. It was reported that the first doses of COVID-19 vaccination programs were handled as a priority in healthcare and the workload increased during those days. The number of home visits remained lower and continued to be optional. It was stated that pregnant women and children were followed up routinely during working hours.

**Health status of the society:** The PHNs reported that obesity rates and psychological problems increased in society due to sedentary life and staying at home, and cough and fatigue remained among the long-term complications after COVID-19 increasing chronic diseases.

*P20: "Obesity and chronic disease rates have increased, from our children to the elderly. I think they were also affected psychologically. Psychologically, nervousness has increased. Children have tended to technology; they have started to become much angrier, and so have my child."*

**Education, counseling, and guidance:** Counseling and guidance provided by PHNs included topics such as weight loss, nutrition, technology addiction, and breast self-

examination. It was stated that the main duty of PHNs was to protect and improve health, but they could not do this properly due to time constraints.

## DISCUSSION

In this section, the care practices of public health nurses during the acute and chronic periods of the pandemic process and the challenges they faced are discussed comparatively in the light of the literature. Sub-themes such as psychological condition, measures/precautions, challenges, and solution methods under the main themes differ depending on the period. The results were discussed based on the main topics.

**Psycho-social condition:** While studies showed that approximately 22-27% of healthcare professionals experienced anxiety at abnormal levels due to the virus (Leng et al., 2021; Gupta et al., 2021), the PHN group was reported to experience the highest-level incidence ranging from 25.5% to 92% (Chorwe-Sungani, 2020). The anxiety experienced by PHNs is due to the uncertainty about the disease, the fear of transmission, people coming to examination without wearing protective equipment, and not knowing who has COVID-19, or has contacted a COVID patient (Wu et al., 2020). The causes of anxiety in our study findings were similar to the literature during the acute period (Labrague & De Los Santos, 2021).

The fact of being stigmatized as healthcare workers during *the acute period* was another factor of anxiety that psychologically damaged the PHNs. In a study conducted in

Indonesia, it was determined that patients were exposed to stigmatization, and discrimination during isolation (Aunguroch et al., 2020). It has been reported that during *the chronic period*, the disease was accepted as a condition that could happen to anyone, and desensitization was observed. In a meta-analysis involving 18,935 nurses, it was found that the general prevalence of emotional exhaustion was 34.1% and depersonalization was 12.6% (Galanis et al., 2021).

Changing personal characteristics and exhaustion were reported to occur in people during the chronic period. In a study conducted with nurses working in hospitals in China, it was stated that nurses worked under challenging conditions such as increased workload, wearing protective equipment during work, and fear of being infected or infecting others, while in our study PHNs reported psychological burnout during that period left its mark on them.

**Measures/Precautions:** In *the acute period*, the supply of protective equipment was a problem in Turkey as well as in other countries (Ahmadidarrehsima et al., 2022), but such a problem was not mentioned during *the chronic period*. In the study of Akbar et al., using a form containing questions about COVID-19, it was reported that measures such as optimizing the services in the building where healthcare was provided (Akbar et al., 2022). It was stated that in *the chronic period*, people got used to the disease process, and abandoned wearing masks, the fear of disease left behind and it was perceived as a flu-like



disease (Olateju et al., 2022; Priyadharishini et al., 2022).

**Challenges:** Individuals in society were reported to perceive FHCs as healthcare institutions with lower risk in terms of COVID-19, particularly during *the acute period*. It was reported in the study of Labrague et al., that the new protocols regarding COVID-19 the increasing patient-nurse ratio, increased fear of virus transmission led to effective management of patients infected with COVID-19 (Güler et al., 2020).

During *the acute period*, the number of patients to be followed up by telephone per day increased over time. The PHNs stated that they sometimes had difficulty in answering the questions of the public, especially in the follow-up of patients with symptoms. In a study, it was determined that only 10.8% of community health nurses had sufficient knowledge about COVID-19 (Priyadharishini et al., 2022). Similarly, nurses in Ghana were prepared to struggle with COVID-19 by training on infection control and prevention, and case management, using demonstrations and simulations (Iddrisu et al., 2021). In this study, it was stated that although the PHNs received education from the Ministry of Health, it was not enough. Telephone follow-up tasks of PHNs had exceeded working hours (evening hours, weekends, etc.) during the acute period due to an excessive workload. In the literature, the process has been managed with telehealth services, a web-based system, and patient-centered virtual care models (Woodhouse et al., 2022; Zhang et al., 2022;

Yoshioka-Maeda,2021). PHNs should be supported by different professional groups (especially psychologists) and different care models.

Home visits were made in line with the needs and demands of the family during *the acute and chronic periods*. In a study, the unwillingness of families against home visits was reported (Phelan et al., 2018). Although neonatal and postpartum evaluations were performed on telephone follow-up, it is unclear whether telephone follow-up would be useful for the PHNs in identifying people at risk of postpartum depression or child maltreatment (Isaka et al., 2021). The use of the home visit service has been interrupted during the pandemic.

During *the acute and chronic periods*, not only the workload but also communication with the public challenged the PHNs. *The acute periods* PHNs expressed the necessity of maintaining the vaccination program as a priority service and defined not being able to reach women for basic issues such as family planning, health education, and screening programs as a "missed opportunity". More prominent within the *chronic period* was the concept of the anti-vaccination movement. In a study conducted with nurses working in the field of public health, it was reported that PHNs had positive attitudes and encouraging practices related to COVID-19 (Zafar et al., 2020). As a different approach, in a study, it was stated that to prevent vaccine rejection, healthcare professionals received special training against vaccine rejection, persuaded

individuals in the home environment, and offered vaccination services (Murphy, 2021).

In the first dose of vaccination, especially the sanctions of the government were at the forefront. When the literature was searched, safety concerns, uncertainty about potential side effects, misinformation, perception of the conspiracy theory, medical racism, or distrust towards government and health institutions were considered as reasons for the hesitancy of people against vaccines (Morales-García et al., 2022; Harris et al., 2022). In one study, only 44% of French people seemed willing to get vaccinated against Covid-19. These rates were 65% in Germany, 70% in Italy, 81% in the United Kingdom, and 91% in China. In the same study, the distrust towards foreign pharmaceutical laboratories due to the very rapid development of vaccines was explained (Bajos et al., 2022). It has also been demonstrated that the factors of intention to be vaccinated, namely the attitude towards the pandemic, the risk perception, and the perceived benefits of the vaccine, had positive effects on the public's intention to get vaccinated against COVID-19. On the other hand, the cost and unavailability of the vaccine also had negative effects. In addition, it has been stated that sufficient data on the safety and possible adverse effects of additional doses of the COVID-19 vaccine were not available, and the ideal time to apply in different situations was not known (García-Botella et al., 2022).

One of the difficult conditions of the pandemic was the economic situation. The financial problems that started during the *acute period*

continued to increase in the *chronic period* as well. In the literature, it has been reported that Covid-19 caused a supply and demand crisis, the economics came to a shutdown point strongly affecting business life and threatening employment and the financial support of the government was insufficient (Balci & Çetin, 2020; Nakiboğlu & Işık, 2020). This economic uncertainty undoubtedly affects both individuals and their health.

*Solution Methods:* In the literature, within the scope of scientific research carried out to deliver healthcare services to families during the pandemic period, it was found that PHNs followed up with patients by telephone (Sumikawa et al., 2021; Akbar et al., 2022), telemedicine practices were increased and video-based virtual home visits were performed (Çulfa et al., 2021). In addition, in some countries, pharmacists were able to provide remote patient monitoring services by telephone under government-defined practice and the indirect supervision of the provider (Woodhouse et al., 2022).

In this study, symptom follow-up of COVID-19 patients via telephone during the *acute period*, and immunization services for Covid 19 infection during the *chronic period* were performed, on conditions that prioritized immunization services and maternal and infant health follow-ups in both periods. In the study of Edmonds et al., maternal health care serving more than 38,000 highest-risk mothers in 41 states has been postponed due to diverting nursing workforce to COVID-19 patient care. As a result, it was predicted that the negative social impact of COVID-19 would

be increased due to the harm caused by high-risk families in terms of maternal and infant deaths, intimate personal violence, child abuse and neglect, mental health, and substance abuse (Edmonds et al., 2020).

In the *chronic period*, many changes have occurred in the habits and lifestyles of individuals during long periods of staying at home during the pandemic. Therefore, the frequency of chronic diseases has increased because of decreased physical activity, and psychological factors such as fear and stress (Çulfa et al., 2021). In the literature, an increase in the death rate of patients with dementia, circulatory diseases, and diabetes, among other causes, in addition to COVID-19-related deaths since February 1, 2020, was reported (Hacker et al., 2021). Although these excess deaths were not mostly related to COVID-19, there has been a significant increase in the number of people dying at home. In addition, the long-term effects of COVID-19 were also discussed from a systemic perspective (Bowers et al., 2021; Higgins et al., 2021). The PHNs expressed the need for health education and consultancy services for these increasing health problems.

## CONCLUSION

In this study, care practices and challenges experienced by the PHNs during the *acute and chronic periods* of the pandemic were explained. The PHNs were negatively affected by time course in terms of psychosocial condition and had to cope with fears and prejudices during the *acute period*. In the *chronic period*, this time course left a mark. In society, fear, anxiety, and neglectfulness were

observed within the acute period, and although the process became accustomed, aggression and impatience increased during the chronic period.

In the *acute period*, different measures were taken in institutions, and during the *chronic period*, most of these measures were abolished and routine working schedule was introduced again. The main challenges experienced within the *acute period* were persuading the public to come to the institution for preventive services and the work intensity of follow-up on the phone. In the *chronic period*, the anti-vaccination movement and excessive workload due to COVID-19 vaccination were at the forefront. In both periods, the PHNs experienced challenges due to increasing workload in addition to basic preventive services. Home visits were optional in both periods. The solution methods were follow-up of people by telephone due to social isolation, managing remote health services, and prioritizing health services in the *acute period*, and during the *chronic period*, changing health problems of the public, and education, counseling, and guidance were at the forefront. In case of any epidemic in the future, priorities should be determined in planning health services, taking into account the areas where nurses have difficulty.

## LIMITATIONS

The findings of this study may not be generalizable to nurses in other countries.



## ETHICAL STATEMENT

Permission was obtained from the ethics committee of a foundation university for the study conduction (decision no-2021-22/16-Date: 19.11.2021). After ethics committee approval, written permission was obtained from the Scientific Research Platform of the Ministry of Health. Participants were informed about the purpose of the study and that participation required volunteering. Verbal and written informed consent was obtained from individuals before the audio recording. "Ethic statement - Not applicable"

## Conflicts of Interest

The authors declare that they have no conflict of interest.

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## REFERENCES

- Ahmadidarrehsima, S., Salari, N., Dastyar, N., & Rafati, F. (2022). Exploring the experiences of nurses caring for patients with COVID-19: a qualitative study in Iran. *BMC Nursing*, *21*(1), 1-7. <https://doi.org/https://doi.org/10.1186/s12912-022-00805-5>
- Akbar, M., Juniarti, N., & Yamin, A. (2022). The roles of community health nurses' in COVID-19 management in Indonesia: a qualitative study. *International Journal of Community Based Nursing and Midwifery*, *10*(2), 96. <https://doi.org/10.30476/IJCBNM.2021.90884.1739>
- Aunguroch, Y., Juanamasta, I., & Gunawan, J. (2020). Experiences of patients with coronavirus in the Covid-19 pandemic era in Indonesia. *Asian Journal for Public Opinion Research*, *8*(3), 377-392. <https://doi.org/10.15206/ajpor.2020.8.3.377>
- Balci, Y., & Çetin, G. (2020). Impact of COVID-19 pandemic on employment in Turkey and measures to be taken by the government. *Istanbul Commerce University Journal of Social Sciences*, *19*(37), 40-58. <https://dergipark.org.tr/en/pub/iticusbe/issue/55168/752714>
- Bajos, N., Spire, A., & Silberzan, L. (2022). The social specificities of hostility toward vaccination against COVID-19 in France. *PloS one*, *17*(1), 0262192. <https://doi.org/10.1371/journal.pone.0262192>
- Belita, E., Jack, S. M., Lokko, H., & Dobbins, M. (2022). Exploring the context, role, and impact of public health nursing during COVID-19: A multiple case study protocol. *Journal of Advanced Nursing*, *78*(8), 2646-2655. <https://doi.org/10.1111/jan.15304>
- Birkhoff, S., McCulloh Nair, J., Bald, K., Frankum, T., Sanchez, S., & Salvatore, A. (2021). Facilitators and challenges in the adoption of a virtual nurse visit in the home health setting. *Home Health Care Services Quarterly*, *40*(2), 105-120. <https://doi.org/10.1080/01621424.2021.1906374>
- Bowers, B., Pollock, K., Oldman, C., & Barclay, S. (2021). End-of-life care during Covid-19: opportunities and challenges for community nursing. *British journal of community nursing*, *26*(1), 44-46. <https://doi.org/10.12968/bjcn.2021.26.1.44>



- Chorwe-Sungani, G. (2020). *Assessing Covid-19 related anxiety among nurses in Malawi*.  
<https://doi.org/10.21203/rs.3.rs-79619/v1>
- Çulfa, S., Yıldırım, E., & Bayram, B. (2021). The relationship between obesity and changing nutrition habits in humans during covid-19 pandemic. *Online Turkish Journal of Health Sciences*, 6(1), 135-142.  
<https://doi.org/10.26453/otjhs.798631>
- Edmonds, J., Kneipp, S., & Campbell, L. (2020). Call to action for public health nurses during the Covid-19 pandemic. *Public Health Nursing (Boston, Mass.)*, 37(3), 323.  
<https://doi.org/10.1111/phn.12733>
- Galanis, P., Vraika, I., Fragkou, D., Bilali, A., & Kaitelidou, D. (2021). Nurses' burnout and associated risk factors during the Covid-19 pandemic: A systematic review and meta-analysis. *Journal of Advanced Nursing*, 77(8), 3286-3302.  
<https://doi.org/10.1111/jan.14839>
- García-Botella, A., García-Lledó, A., Gómez-Pavón, J., del Castillo, J., Hernández-Sampelayo, T., Martín-Delgado, M., Sánchez, F., Martínez-Sellés, M., García, J., Guillén, S., Rodríguez-Artalejo, F., Ruiz-Galiana, J., Canton, R., Ramos, P. D. L., & Bouza, E. (2022). Booster or additional vaccination doses in patients vaccinated against Covid-19. *Revista Española de Quimioterapia*, 35(2), 105.  
<https://doi.org/10.37201/req/149.2021>
- Gupta, S., Prasad, A., Dixit, P., Padmakumari, P., Gupta, S., & Abhisheka, K. (2021). Survey of prevalence of anxiety and depressive symptoms among 1124 healthcare workers during the coronavirus disease 2019 pandemic across India. *Medical Journal Armed Forces India*, 77, 404-412.  
<https://doi.org/10.1016/j.mjafi.2020.07.006>
- Güler, S., Topuz, İ., & Ulusoy, F. (2020). The Experiences of Family Health Center Workers in the Covid-19 Pandemic. *Journal of Public Health Nursing*, 2(3), 143-151.  
<https://dergipark.org.tr/en/pub/jphn/issue/58585/841472>
- Hacker, K., Briss, P., Richardson, L., Wright, J., & Petersen, R. (2021). Peer reviewed: COVID-19 and chronic disease: the impact now and in the future. *Preventing chronic disease*, 18.  
<https://doi.org/10.5888/pcd18.210086>
- Harris, O., Taylor, K., Maher, A., & Willard-Grace, R. (2022). Health coaching across the stages of vaccine readiness and action: a practical guide for public health nurses. *American Journal of Public Health*, 112(S3), 245-249.
- Higgins, V., Sohaei, D., Diamandis, E., & Prassas, L. (2021). Covid-19: from an acute to chronic disease? Potential long-term health consequences. *Critical reviews in clinical laboratory sciences*, 58(5), 297-310.  
<https://doi.org/10.1080/10408363.2020.1860895>
- Iddrisu, M., Pwavra, J., Ohene, L., Ani-Amponsah, M., Buertey, A., Ansere, & Aziato, L. (2021). Perspectives of nurses on preparedness for combating COVID-19 crisis in Ghana: A qualitative inquiry. *International Journal of Africa Nursing Sciences*, 15, 100382.  
<https://doi.org/10.1016/j.ijans.2021.100382>
- Isaka, Y., Hori, A., Tabuchi, T., Okawa, S., & Ichikawa, M. (2021). Home-visit services for families with newborns during the Covid-19 pandemic. *GHM Open*, 1(1), 38-39.





- <https://doi.org/10.35772/ghmo.2021.01025>
- Kennedy, C. (2020). Community nurses and the 'new normal'. *British journal of community nursing*, 25(7). <https://doi.org/10.12968/bjcn.2020.25.7.317>
- Labrague, L., & De Los Santos, J. (2021). Prevalence and predictors of coronaphobia among frontline hospital and public health nurses. *Public Health Nursing*, 38(3), 382-389. <https://doi.org/10.1111/phn.12841>
- Leng, M., Wei, L., Shi, X., Cao, G., Wei, Y., Xu, H., Zhang, X., Zhang, W., Xing, S., & Wei, H. (2021). Mental distress and influencing factors in nurses caring for patients with Covid-19. *Nursing in critical care*, 26(2), 94-101. <https://doi.org/10.1111/nicc.12528>
- Murphy, P. (2021). Rising to the challenge: a Covid-19 vaccination service for the housebound population. *British journal of community nursing*, 26(7), 328-333. <https://doi.org/https://doi.org/10.12968/bjcn.2021.26.7.328>
- Morales-García, W., Huancahuire-Vega, S., Saintila, J., Morales-García, M., Fernández-Molocho, L., & Ruiz Mamani, P. (2022). Predictors of intention to vaccinate against COVID-19 in a Peruvian sample. *Journal of primary care & community health*, 13. <https://doi.org/10.1177/2150131922109225>
- Nakiboğlu, A., & Işık, S. (2020). Impact of the Covid-19 outbreak on the economy: A research study on business owners in Turkey. *Turkish Studies*, 15(4), 765-789.
- Olateju, Z., Olufunlayo, T., MacArthur, C., Leung, C., & Taylor, B. (2022). Community health workers experiences and perceptions of working during the Covid-19 pandemic in Lagos, Nigeria—A qualitative study. *PloS one*, 17(3), 0265092. <https://doi.org/10.1371/journal.pone.0265092>
- Phelan, A., McCarthy, S., & Adams, E. (2018). Examining missed care in community nursing: A cross-section survey design. *Journal of Advanced Nursing*, 74(3), 626-636. <https://doi.org/10.1111/jan.13466>
- Priyadharishini, J., Terina, J., & Sadan, V. (2022). Knowledge, attitude, and practice regarding Covid-19 among community health nurses. *International Journal of Nursing Education*, 14(1).
- Sumikawa, Y., Honda, C., Yoshioka-Maeda, K., & Yamamoto-Mitani, N. (2021). Characteristics of COVID-19-related free telephone consultations by public health nurses in Japan: a retrospective study. *In Healthcare*, 9(8), 1022. <https://doi.org/10.3390/healthcare9081022>
- Turale, S. (2021). Covid-19: nursing challenges into the future. *Pacific Rim International Journal of Nursing Research*, 25(2), 165-170.
- Yoshioka-Maeda, K. (2021). Developing sustainable public healthcare systems for responding to COVID-19 in Japan. *Public Health Nursing*, 38(3), 470-472. <https://doi.org/10.1111/phn.12861>
- Zafar, F., Afzal, M., Parveen, K., Hussain, M., & Gilani, S. (2020). Knowledge, attitudes, and practices of SARS-CoV-2 (Covid-19) among nurses at public sector. *Pakistan J Glob Biosci*, 9(10), 8014-8024. URL: [www.mutagens.co.in/jgb/vol.09/10/091003.pdf](http://www.mutagens.co.in/jgb/vol.09/10/091003.pdf)
- Zhang, X., McJoynt, T., Furst, J., & Myers, J. (2022). Establishing a patient-



centered virtual care model across the continuum of care. *Journal of primary care & community health*, 13. <https://doi.org/10.1177/21501319221088823>

Woodhouse, A., Orvin, C., Rich, C., Crosby, J., & Keedy, C. (2022). Diabetes outcomes before and during telehealth advancements surrounding COVID-19. *Journal of the American Pharmacists Association*, 62(1), 214-217. <https://doi.org/10.1016/j.japh.2021.09.011>

Wu, Y., Wang, J., Luo, C., Hu, S., Lin, X., Anderson, A., Bruera, E., Yang, X., Wei, S., & Qian, Y. (2020). A comparison of burnout frequency among oncology physicians and nurses working on the frontline and usual wards during the COVID-19 epidemic in Wuhan, China. *Journal of pain and symptom management*, 60(1), 60-65. <https://doi.org/10.1016/j.jpainsymman.2020.04.008>

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