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The Experience of Nurses Who were Isolated due to COVID-19 Infection: A Qualitative Study



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Abstract

Background: In their duties, health care workers, especially nurses, have a high risk of being infected with COVID-19 both from patients and non-patients. Some nurses who are infected need to be treated and isolated in the hospital. It is important to understand nurses' experiences during isolation as this could change the way they provide nursing care for COVID-19 patients in the future. However, this topic has not been studied in Indonesia.

Purpose: This study aimed to explore the experience of nurses who were isolated in the hospital due to COVID-19 infection.

Methods: This qualitative study was conducted using a descriptive phenomenological approach. The participants were nurses who had been hospitalized in an isolation room, selected through purposive sampling. Data saturation was reached on the 7th participant, and a total of 7 nurses who were infected with COVID-19 participated. Data were collected through in-depth interviews and analyzed using Colaizzi's phenomenological method.

Results: Data analysis resulted in three main themes: (1) Experience at diagnosis (Pre-isolation), with sub-themes: initial reaction, source/origin of infection, early symptoms, and reactions from family and close people; (2) Experiences during isolation, with sub-themes: Feelings in isolation rooms, body reactions to covid-19 therapy, medical response and swab results; and (3) Post-isolation experiences, with sub-themes: post-covid conditions, expectations for other covid patients, and expectations for medical personnel.

Conclusion: This study identified nurses' experience of COVID-19 pre-isolation, isolation and post-isolation. Support from family members, colleagues and leaders are essential for their healing process. Appropriate care planning and approaches are expected to support nurses infected with COVID-19.

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1. Introduction

The fight against the Coronavirus disease 2019 (COVID-19) continues in Indonesia and around the world. To date, there are more than 237,348,931 million confirmed cases globally and more than 4,227,038 confirmed cases in Indonesia (Johns Hopkins University Center for Systems Science and Engineering, 2021). The COVID-19 pandemic has greatly affected all aspects of society, while the impact of a pandemic on society and other aspects of life varies from country to country (United Nations Development Programme, 2020). Currently, treatments to fight COVID-19 are still in the process of research and development as well as prevention and control of this disease is the main challenge facing every country.

Patients with COVID-19 experience mild to severe respiratory and non-respiratory symptoms (Huang et al., 2020), along with the symptoms of viral infections that vary from mild to very severe. Signs of infection include fatigue, fever, cough, and difficulty breathing (Wu & McGoogan, 2020). Given the high risk of disease transmission, infected people require isolation (Wang et al., 2020). COVID-19 pandemics, such as severe acute respiratory syndrome (SARS) and the MERS pandemic, have caused severe physical and psychological crises in these patients even after discharge (Park et al., 2020).

Frontline healthcare workers in COVID-19 include doctors, nurses, radiology officers, laboratories and hospital staff in infection control (Cai et al., 2020; Mohindra et al., 2020). In particular, nurses and doctors play a critical role in the treatment of patients with COVID-19. During nursing care, nurses are involved in diagnosis, prevention, control, and direct patient

care, making themselves more vulnerable to getting infected (Sun et al., 2020). Moreover, many nurses and doctors are unsure about their safety while caring for infected patients, which creates stress (Aggar et al., 2022; Hendy et al., 2021; Lorente et al., 2021). The fast-changing information related to treatment and disease progression, lack of training, depleted personal protective equipment (PPE), lack of certain medications, workload, lack of staff support, conflict with physician or other nurses were also found as predictive factors that may affect stress and mental distress among nurses caring for COVID-19 patients (Hendy et al., 2021; Lai et al., 2020; Lorente et al., 2021).

Those involved in the treatment of COVID-19 patients have a high risk of exposure. Many healthcare workers worldwide have been infected and died from COVID-19 (Bandyopadhyay et al., 2020; Burdorf et al., 2020; Xiang et al., 2020). This phenomenon has also been reported in Indonesia (Soebandrio et al., 2021). When nurses contracted the virus, their mental burden gets heavier (Moghimian et al., 2022). For example, nurses in Wuhan experience physical and psychological shock (He et al., 2021). They felt lost, frightened, and blamed themselves that they may risk other people's lives and also their own (He et al., 2021). A study in Iran reported that COVID-19 infected nurses and physicians experienced fear, anxiety, feeling abandoned, and denial (Moghimian et al., 2022). Frustration and helplessness seem unavoidable to some nurses (Turale et al., 2020).

However, little is known about the experience of Indonesian nurses when they were diagnosed with COVID-19. In addition, explaining and understanding nurses' experiences in a specific context is important because individual points of view can differ based on their culture and socialization. It can also increase and expand the knowledge of health care providers and nursing managers about the physical, psychological and spiritual needs of nurses who are infected with COVID-19 and how to deal with them in the future. Thus, this study aimed to gain insight into the experiences of nurses who were infected by COVID-19 and had undergone isolation in the hospital.

2. Methods

2.1 Research design

This research was a qualitative descriptive phenomenological study based on the framework proposed by Colaizzi et al. (1978).

5

2.2 Setting and participants

This research was conducted at a private hospital in Bandar Lampung City, which is one of the health care and treatment centers for COVID-19 patients in Bandar Lampung, Indonesia. The population of this study was all nurses who worked in the hospital where this study took place. The inclusion criteria in this study were nurses who had been infected with COVID-19, isolated either independently or in a hospital, had completed a 2-week quarantine period, and were not currently experiencing infection or complications from COVID-19 shown with a negative PCR test. Purposive sampling was used to recruit the participants. Data saturation was reached from 7 nurse participants.

Research permission was obtained from the hospital director where the researchers conducted the study. The researchers received information on the names of nurses who have completed isolation from the hospital's nurse manager. Next, the first author, with the help of a nurse manager, looked for prospective participants by contacting them through WhatsApp and explaining the study's purpose. Some prospective participants refused to join as respondents due to physical and psychological issues. All participants in the study signed written informed consent prior to the interview.

2.3 Measurement and data collection

Data collection was conducted from February to May 2021. Data were obtained by face-to-face in-depth interviews. The first author conducted the interviews with Bahasa Indonesia at a time and place of the respondents' convenience. The interviewer carried out all the prevention protocols according to the guidelines of the National COVID-19 Committee, and the interview was conducted after the participant's quarantine period ended. The protocol implemented during data collection included 1-meter physical distancing, respiratory etiquette, and hand washing.

3

The interviews were conducted after the interviewer introduced herself and explained the research's purpose. There were 9 semi-structured questions used as a guide in the interview and to keep the discussion on the main topic (Table 1). Questions are based on qualitative interview guidelines in the form of a research matrix containing information in making interview guides developed by the author and nursing experts in qualitative studies. All interviews were audio-recorded and transcribed word by word on the same day. The data collection tools used in this study were the researchers themselves, interview guidelines, field notes, and a voice recorder.

Table 1. Interview questions

No	The Questions
1	"Please tell me how you felt when you first found out you tested positive for Covid-19?"
2	"Can you share your experience while being treated in the Covid-19 room?"
3	"Describe your experience undergoing Covid-19 therapy?"
4	"Could you please explain what things encourage you to stay motivated while being treated in the Covid-19 isolation room? Why?"
5	"Please explain what things are considered to be obstacles during quarantine while being treated in the Covid-19 isolation room? Why?"
6	"Who has the most impactful role in providing support so that you are able to undergo therapy until it is declared negative for Covid-19? In terms of what?"
7	"If a patient has just started therapy and asks for advice, how would you share the most important thing in undergoing Covid-19 therapy?"
8	"How do you describe your current quality of life?"
9	"Are there other important things that you still want to say to the health workers for them to fulfill in improving services for Covid-19 patients?"

2.4 Data analysis

Colaizzi's (1978) seven-step phenomenological approach was used to analyze the data. The seven steps were as follows: 1. Both authors read each participant's transcript to understand the description and make sense of it; 2. Each transcript was reread, and phrases that directly relate to the phenomenon under investigation were extracted; 3. Meaning of each significant statement were formulated; 4. The aggregated formulated meanings were integrated into clusters of themes, for example, 'pre-isolation'; 5. Three themes and 15 sub-themes were identified, and a detailed description was developed; 6. The essential structure of the description of the experience was identified; 7. Finally, the participants validated the findings description and the fundamental structure of the findings.

2.5 Study rigor

To establish this study's rigor, the researchers considered each participant's interview's credibility, dependability, and transferability (Lincoln & Guba, 1985). Therefore, the authors conducted an audit trial to achieve credibility throughout the data collection process. This process was done to ensure that the interpretation was based on participants' reports. In addition, the authors discussed ensuring the selection of the most relevant codes and sub-themes and themes. Furthermore, the dependability of this study was achieved, as the authors used interview guidelines as interview memoirs to all participants. This process was done to ensure consistency during data collection. Finally, appropriate selection of participants, data collection, and analysis with relevant quotations can be used to judge these findings' transferability.

2.6 Ethical considerations

This study was approved by the Research Ethics Committee of Universitas Advent Indonesia (Approval code: No.132/KEPK-FIK.UNAI/EC/XII/20). Participants were informed of the purpose of the study, voluntary participation, and the right to withdraw from the study. Consent was obtained from each participant.

5
3. Results

3.1 Characteristics of the participants

Using purposive sampling, seven participants were identified using purposive sampling, consisting of 3 male nurses (43%) and 4 female nurses (57%) aged between 25 and 47 years old. The number of days for treatment ranged from 10 days to 21 days (Table 2).

Table 2. Participants' characteristics

Participant Number	Gender	Age (Years)	Isolation (Days)
R1	Female	27	21
R2	Female	30	10
R3	Male	25	21
R4	Male	31	14
R5	Male	47	18
R6	Female	40	12
R7	Female	28	10

1 The initial codes were classified into themes and sub-themes based on their meaning and conceptual similarity. As a result, 3 themes and 15 sub-themes emerged from the data (Figure 1). The themes are 'Pre-isolation', 'During isolation', and 'post-isolation'.

3.2 Theme 1: Experience at diagnoses (Pre-isolation)

Pre-isolation is participants' descriptions of their experiences before being isolated in the hospital isolation unit. Two sub-themes emerged from the interview data: participants 'initial reactions and early symptoms.

3.2.1 Initial reaction

Participants' reactions when first identified COVID-19 positive were fearful and anxious about their condition, family situation, and the social consequences of the disease. The participants feared death. They perceive death as an unpleasant and unexpected event. (P3) said, "...we often deal with patients who die, especially in the ER. It [the death] all happens so quickly. It's terrifying. I'm afraid that I will end up like that."

Most of the participants were also worried that they would die without their families being present. For example, one participant said, "When I saw the death of another patient, their family were unable to see them for the last time. I was afraid I would die like this" (P6).

Most participants reported fear and worry that they would infect their family members. P4 shared his feelings by saying, "I always think of my children. I'm worried they may also get exposed [by corona virus]." Likewise, (P7) explained how she tried not to pass the disease on to her husband: "... I refused to be held by my husband. I'm afraid of transmitting it [COVID-19] to him" (P7)

Moreover, the majority of participants reported fear of being ostracized by the environment and society. (P2) explained, "It happened in other places. Nurses and their families were evicted from the neighborhood where they lived. I'm terrified to be outcasted and ostracized." This situation makes them unwilling to report their condition to the authorities. One participant said about this issue: "... I was afraid to inform the neighborhood leader, people may know and ostracized me" (P7).

To some participants, being contracted to COVID-19 was hard to believe because they are certain that they have complied with the preventive measure. For example, (P3) reported, "... I had mixed feelings; how could I get COVID? I always wear full PPE!". Participants were also trying to digest the surprising information, and not a few of them were getting emotional as they could not accept the COVID test result. (P2) said, "...I didn't believe I got COVID. It was hard to accept being diagnosed positive for COVID. I was crying."

3.2.2 Early symptoms

Participants mentioned several symptoms when they were talking about how their body initially reacted to the infection. The symptoms include body aches, general weakness, fever,

cough, sore throat, loss of taste and smell. Comments below illustrate the initial symptoms reported by participants:

“I was wondered, why I’m not feeling well. I had headache, sore throat, body aches, weakness, [and] nausea. Very uncomfortable.” (P7)

“The first symptoms were just fever, a day of fever and cough. On the fifth day, I lost my sense of smell and lost my taste.” (P3)

3.3 Theme 2: Experience in the isolation room

This theme was about participants’ experiences when isolated in the hospital. Participants who have undergone isolation as part of the treatment and spread prevention shared several impressions and experiences include: ‘Feelings of being in isolation room’, ‘Physical symptoms’, ‘Spiritual experiences’, ‘Communications’, ‘Motivations’, ‘Facilities in the isolation room’, ‘Activities during isolation’, ‘Attention from the health care team’, and ‘Swab results.’

3.3.1 Feelings of being in an isolation room

Most participants reported that they were alone, stressed, and frustrated while undergoing isolation treatment. For example, one participant stated, “... I feel like I’m being dumped, no one was there with me in the room except an old woman who can’t communicate” (P6). The expression of disappointment was seen from P6. The loneliness made her feel stressed; (P6) added, “I can go crazy if I stay here for a long time. I don’t know whom I can interact with.”

For participants who were isolated in the emergency room, the situation became much worst because they were exposed to more COVID-19 patients with various levels of severity. In addition, the busy and loud emergency room environment was not conducive for participants to rest, which eventually created stress and frustration. (P5) explained, “I was treated temporarily in the ER isolation because the inpatient isolation was full. There were a lot of screaming patients, and some of them were in bad conditions. I was so stressed, I cried.”

3.3.2 Physical symptoms

During their isolation period, some participants reported a more deteriorating physical condition. Similar to their initial symptoms, participants in this stage were still experiencing headaches, body aches, general weakness, loss of appetite, loss of taste and smell. In addition, however, they were also experiencing shortness of breath, coughing to the point of urinating, nausea, vomiting, and diarrhea. “My body was frail compared to several days before isolation ... I started to have a bloated stomach, nauseated, vomited, and also a decreased sense of smell” (P4). Likewise, (P5) commented, “...On the 3rd day, every time I came out of the bathroom, I was short of breath, like someone who ran a long distance, I felt very stuffy”. Several participants also stated that enduring these symptoms was very tiring. As (P7) said, “It’s tough to endure. That condition made me exhausted.”

3.3.3 Spiritual Experiences

Participants reported that they had spiritual experiences that helped them keep going through the isolation processes. Some participants felt closer to God during their illness and prayed harder. For example, (P7) said, “I prayed more often and drew closer to God.” (P2) also explained that her spiritual practices make her strong to overcome problems experienced while in isolation, “Suffering from COVID-19, I became aware of the importance of having a relationship with God who gives me strength and keeps me healthy” (P2).

In addition, many participants reported that they found peace and power simply by remembering God. As (P4) said, “I believe that God will not give anything that is something we cannot bear, and it will not exceed our own strength.”

3.3.4 Communications

Communication was an important point that participants often reported—particularly communication with other patients, health workers, and families. Many participants conveyed that communication with other patients in the isolation unit was excellent and supportive. (P6), for example, was glad to be able to communicate and create a friendship with other patients. She

said, “It’s nice to have roommates to share with finally. We talked and got to know each other” (P6). Another participant commented: “By chance, I share my room with my coworkers who also get COVID. We encourage each other to stay motivated” (P4). To some participants, maintaining communication with their loved one were significant to help them survive as (P6) said, “While being treated in the isolation room, my sisters always contacted me. They strengthened me.”

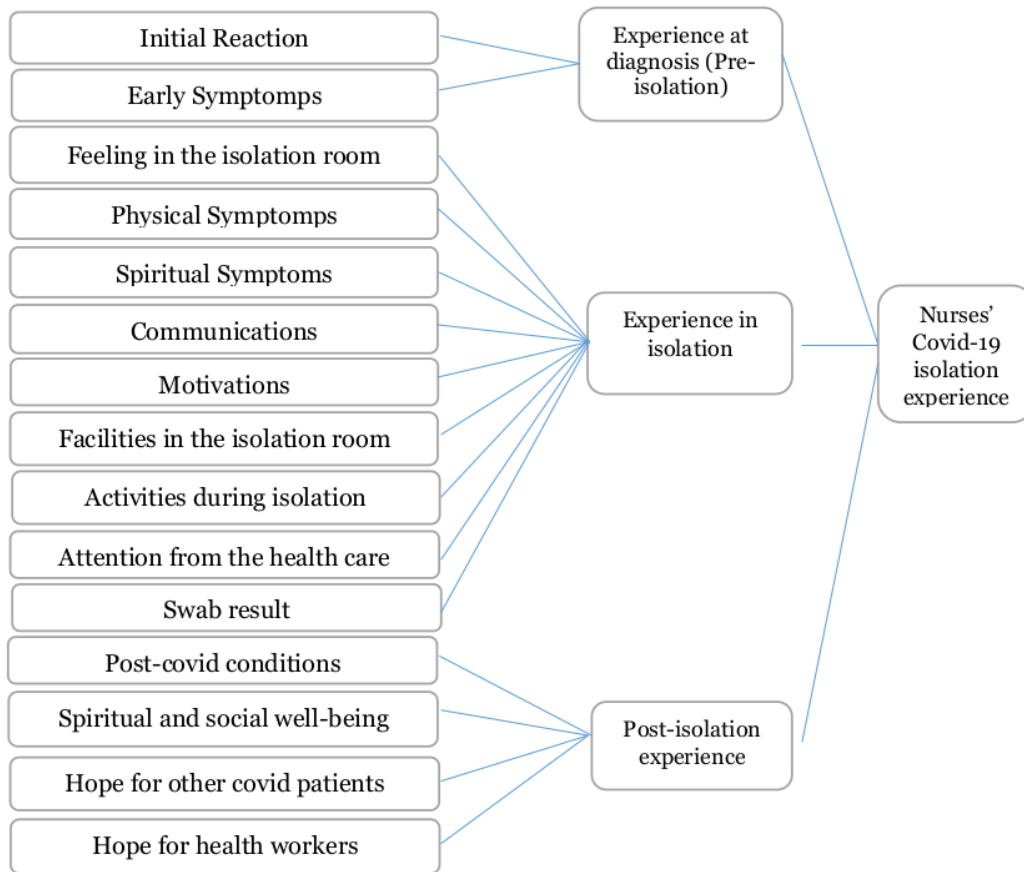


Figure 1. The subthemes and themes

3.3.5 Motivation

Several factors motivated participants to recover from COVID and thrive. First, most of the participants realized the significant role and support of family and friends in recovering from the COVID-19 disease and overcoming the psychological stress. According to participants, even though the family was not physically present with them during hospitalization and quarantine, the support of family members, such as nutritional, emotional, and religious support, was very effective in helping them recover and cope. For example, one participant said, “Family, children and coworkers, they prayed together and motivated me through video calls. Everything they did during my isolation had strengthened me through the treatment process.” (P7).

In addition, participants also reported that their family are their reasons to survive and stay alive. As (P1) said, “I have to keep going and motivate myself to recover fast because my mother is widowed and old. I don’t want to make her worry about my conditions.” Likewise, R3 conveyed his concerns about his family during the isolation period, “I have two children. They needed me. I need to recover soon.”

Participants also reported high self-motivation to recover, stating that they should not allow life's stresses to harm their health. (P2), for example, said, "I have to be able to motivate myself... So, I thought positively and tried to be happy." Similarly, (P1) revealed, "If I think negatively, I will stay in the isolation room longer" (P1).

3.3.6 Facilities in the isolation room

The majority of the participants reported that the facilities in the isolation room was inadequate, uncomfortable and caused disappointment. (P6) was one of the participants who were not pleased with the facilities due to the unclean environment. He said, "Geez, the room was dirty ... maybe it hasn't been cleaned when the previous patient was discharged" (P6). Another was not fully satisfied, noticing that there was no essential life-saving resource in the room. He said, "The facilities are okay even though oxygen is not available in my room, maybe because this is a newly opened room" (P1)

3.3.7 Activities during isolation

Some participants stated that reporting on their activities gave them energy such as sunbathing, breathing exercises, being independent in meeting physical needs, and helping other patients. For example, (P2) was excited to share her activity during the isolation period. She stated, "I always sunbathe, and in my room, I practised breathing by singing. I felt much better afterwards" (P2).

As nurses, participants also help other patients in their room meet their needs even when they status as patients. For example, (P7) shared, "My roommate, she's elderly, was suffocated, so I helped take care of her." Likewise, (P6) reported, "I'm in a room with an old woman who was short of breath and using oxygen. So I took care of her."

3.3.8 Attention from the health care team

Some participants stated that they received less attention from nurses and doctors. They assumed that this was because of their profession as nurses, so the other health care providers consider them to be able to take care of themselves as long as there are no significant physical problems. As (P3) said, "It's because I am a nurse. So when a nurse or doctor comes, I didn't get a full explanation of my conditions, and they considered that I can take care of myself."

3.3.9 Swab results

Swab results need to be negative before participants are allowed to exit the isolation unit and return home. However, participants stated that the results of the PCR swab took a long time, so their time to come out of isolation took longer. For example, (P2) reported, "The PCR results were too long... I have to wait a few days [after the swab] until I can go home." Not just waiting for a few days, some participants even had to wait weeks. "I waited for the results of the second PCR for two weeks. Hopefully, in the future, the results can be faster" (P6)

3.4 Theme 3: Post-isolation experiences

Participants' experiences after the isolation were completed and when they were able to return home had changed many different aspects of their lives. These experiences also created hopes and expectations for other COVID patients and health workers. The post-isolation experience consists of 'post-COVID conditions', 'spiritual and social well-being', 'hope for other covid patients' and 'hope for health workers.'

3.4.1 Post-COVID conditions

The physical conditions of participants after the isolation and after their test came back negative did not make their stamina and strength return as normal before they had COVID-19. Many participants reported that the condition of their body post-COVID is easy to get tired, especially when doing daily activities. One participant commented, "Although my test was negative, there's a thing called post-COVID reaction. My body gets tired easily... Even now, after 2 months, I'm not as fit as I used to be" (P6).

Participants' COVID experiences had changed the way they live and encouraged better discipline in the prevention measurement of COVID-19. They understand the importance of

complying with health principles, such as taking the benefit of sunbathing, eating healthy food, washing hands, wearing masks, and social distancing to maintain one's health. For example, (P3) described, "Now I disciplined myself to wear a mask and regularly sunbathe. I'm also trying to have a healthy diet, fruits and vegetables, and regularly consume vitamin supplements".

3.4.2 *Spiritual and social well-being*

Participants reported that post-COVID experience, they are more spiritually aware and find peace through spiritual activities. "My spiritual life has changed. I have a special prayer time commitment in the morning and evening. I thank God for giving me a second chance" (P3).

Participants also reported that they found happiness to help and support friends who indicated COVID-19. For example, (P6) said, "If I hear a friend has COVID, I'll be happy to send them food. I'll support them." Another participant echoed this, "Yesterday a friend of mine and his family had a positive COVID-19 test result, so I sent them food supplies... I feel glad doing little things to make them happy and less stress with the situation" (P4).

3.4.3 *Hope for other COVID patients*

Participants reported their experience in getting through the isolation period by emphasizing the importance of motivation, positive thinking, and stresslessness. These are hopes they have for COVID-19 patients. For example, (P2) said, "My message is, I've been through it and recovered, so you do too," and another commented, "don't stress it too much, keep eating, have lots of rest and make yourself happy" (P7).

3.4.4 *Hope for health workers*

Participants had different expectations for health workers caring for patients with COVID-19, especially those working in the isolation room. Some participants suggested that nurses need to improve communication with their patients and support patients in hospital isolation; as (P3) argued, "I hope that the nurses can motivate the patient more and have a conversation with them. Try to comfort them. Most of the time, nurses are the only person they can talk to." Other participants emphasized the importance of COVID-19 knowledge to nurses so they would provide effective care to their patients. "Nurses who work in the isolation unit need to increase their knowledge and skills related to COVID-19 and its treatments. Hopefully, they can provide the best nursing care" (P5).

4. Discussion

This study explored the experience of nurses who were isolated in the hospital due to COVID-19 infection. Three themes were generated from the interviews, those were pre-isolation experiences, experience in the isolation room, and post-isolation experiences.

4.1 *Theme 1. Experience at diagnoses (Pre-Isolation)*

Nurses' initial responses to the fact that they were COVID-19 positive included feared and worried. This study also indicated that COVID-19 patients experienced fear and anxiety in several dimensions, such as a terrible fear of death, fear of infection and fear of being isolated by the environment. These results are consistent with data obtained by Taylor et al. (2020), who identified five symptom factors of coronavirus-related stress and anxiety: (1) danger and contamination, (2) fear of economic consequences, (3) coronavirus-related xenophobia, (4) compulsive examination and reassurance, and (5) symptoms of traumatic stress. In their findings, Taylor et al. (2020) also highlighted that their participants also expressed fear of a hard and painful death as they observed the deaths of other patients, with deteriorating clinical conditions, awareness of the COVID 19 high mortality rate worldwide shown in the media, and being away from family members. Banzett et al. (2020) reported that patients in the acute phase of the disease might often fear death due to worsening clinical conditions. Patients confirmed with COVID-19 tend to experience stress related to the conditions they experience, which can affect their physical, emotional, mental, social, and spiritual state (Roman et al., 2020). The finding related to COVID-19 patients is also accords with that of Sarfika et al. (2021) involved 1,622 participants from 34 provinces in Indonesia and reported that the prevalence of depression in Indonesia was 28.5% mild depression, 18.4% moderate depression, and 24.8%

severe depression. In addition, social media exposure (SME), age, gender, occupation, and self-rated health (SRH) was significantly influencing depression ($p < 0.05$) (Sarfika et al., 2021).

Nurses in this study were frustrated by stigmatization and afraid of being ostracized. Research in India shows that some patients are stigmatized because of COVID-19 (Sahoo et al., 2020). Patients with COVID-19 are always stigmatized due to feelings of rejection and the negative view of society towards the disease (Moradi et al., 2020). The negative consequences of the stigma of controlling COVID-19 disease include hiding the condition, avoiding treatment and immediately implementing healthy lifestyle behaviours, and interfering with patient identification and supervision (Asadi-Aliabadi et al., 2020; Bhattacharya et al., 2020).

4.2 Theme 2. Experience in the isolation room

As a result of their isolation, the nurses in this study frequently felt frustrated and alone. According to Kar et al. (2020), quarantined COVID-19 people experienced various mental disorders, such as boredom, loneliness, anger, depression, anxiety, rejection, and hopelessness. Nurses in this study were worried about fulfilling their family responsibilities while they were away from family and isolated. This situation also caused sadness, especially when separated from loved ones. The statement of stress experienced by nurses was generated thinking about their health condition that would worsen. This finding is consistent with a study by Giallonardo et al. (2020) who reported that patients in isolation might have been affected psychologically due to the number of uncontrolled COVID-19 cases and the death rate.

Spiritual experiences, positive thoughts and perceptions of social support influenced participants' perspectives on this disease and their attitudes towards this disease in the stages of diagnosis, treatment, hospitalization and post isolation. They increased the level of adjustment to the disease condition. Shaban et al. (2020) also found that people diagnosed with COVID-19 modified their behaviors, including healthy eating, positive thinking, lifestyle changes, and becoming more spiritual. The participants' spiritual awakening is a God-centered spirituality that means finding God's meaning as a source of strength in their difficult situation (Shaban et al., 2020). Furthermore, Jesmi et al. (2021) also reported that patients with COVID-19 use religious mechanisms such as religious activities and beliefs to reduce their tensions and worries. Improving and training coping mechanisms according to the patient's culture can positively affect these patients. Striving for recovery shows optimism and hope for the future in patients with COVID-19. Spiritual and religious experiences, as solid sources of adjustment, optimism, hope, and meaning, enable individuals to reduce participants' bitter experiences with their illness.

The positive mood of COVID-19 confirmed patients would increase high dopamine in the blood and will optimize and boost the immune system. So, the strategy to support immunity is to maintain a good mood, such as by video calling family and loved ones, playing with handphones and listening to music. A study showed that listening to music for COVID-19 confirmed patients undergoing isolation in the COVID-19 ward is an effective way to reduce anxiety and hallucinations that cause fear and helps to have a more positive experience (Habib, 2021). Meanwhile, listening to music can reduce psychological problems based on subjective reactions to situations. Listening to music is an interacting component in preventing anxiety, boredom, stress and post-traumatic disorders (Panteleeva et al., 2018). It is stated that worship, prayer and al-Quran reading are good alternatives to treat illness psychological well-being and improve quality of life (Umarella et al., 2020).

Based on research by Aunguroch et al. (2020), support from family members shows that humans are social beings who cannot live without social support. Positive emotions play an important role in recovery and psychological adjustment (Sun, et al., 2020). Support from friends can positively respond to health promotion (Habib, 2021). Support from the medical team is urgently needed for patients with confirmed COVID-19 in undergoing treatment and isolation. The care and intervention that the medical team provides professionally every day will generate gratitude from the patient (Wang et al., 2020). Improving facilities, especially swab results, are currently still taking a long time. According to the Ministry of Health of the Republic of Indonesia (2020a), in cases of investigators who are self-isolating, monitoring is carried out by health workers, and monitoring can be carried out if the results of the RT-PCR examination for two consecutive days with an interval of > 24 hours show negative results.

4.3 Theme 3. Post-isolation experiences

The post-COVID-19 syndrome experienced by nurses are varied. Some stated that the post-COVID-19 syndrome could still be felt even though it had been declared negative for COVID-19. This is in line with Shah et al. (2021) who stated that in October 2020, NICE (the national institute for health and care excellence) has recognized the uncertainty of the long-term effects of the SARS-CoV-2 virus and defined post-COVID-19 syndrome as a symptom that lasts longer up to 12 weeks. Long-term physical condition complaints in patients with confirmed COVID-19 vary over time and fluctuate, depending on the severity of the disease and the patient's health status, considering comorbidities and overall weakness. This condition presents with symptoms that can change over time and can affect systems in the body. Common symptoms of the post-COVID-19 syndrome include extreme tiredness and weakness, shortness of breath on light activity, joint pain, persistent low-grade fever, headache, vertigo, runny nose, sore throat, voice changes and difficulty swallowing, loss or change in smell and taste. Prolonged mood swings, hair loss, gastrointestinal disturbances including loss of appetite, abdominal pain, diarrhea, vomiting, inability to concentrate and insomnia (Higgins et al., 2021; Shah et al., 2021).

During post-COVID experience, they are more spiritually aware and find peace through spiritual activities. Spirituality can provide hope and meaning in difficult situations, including during the COVID-19 pandemic (Tuason et al., 2021). Spiritual creates positive emotions in a person. Spirituality and religion can help people in grief in times of crisis and can be a useful "sedative" for humans (Fardin, 2020). Support from the medical team is urgently needed for patients with confirmed COVID-19 undergoing treatment in the isolation room. The care and intervention that the medical team provides professionally every day will generate gratitude from the patient (Wang et al., 2020). The provision of care and treatment from the medical team can improve self-management approaches that help patients be more enthusiastic to fight the disease they are suffering from. The satisfaction of clinical interventions received and the quality of care during treatment in the COVID-19 isolation room, as well as the respect received from medical team professionals (Olufadewa et al., 2020).

Dissatisfaction with the clinical intervention received and the quality of care in the COVID-19 isolation room was caused by restrictions on the hours of entry of the COVID-19 medical team into the COVID-19 isolation room. Based on a study by mitigation team of the Indonesian Medical Association (Ministry of Health of the Republic of Indonesia, 2020b), the work shift must pay attention to the duration of work by the regulations, namely *Permenkes* (Health Minister's Regulation) No. 52 of 2018. Shorter working hours are allowed in conditions of abnormal work pressure or high risk, such as the COVID-19 medical team must wear hazmat continuously throughout the shift. Short shifts are recommended over long shifts to help protect against the risk of mental fatigue from heavy workloads. Fatigue can increase the risk of injury and worsen health conditions that are prone to infectious diseases, increase psychological stress that affects the health of the medical team and the quality and safety of the care provided. It is necessary to educate the COVID-19 medical team to confirm COVID-19 patients undergoing treatment in the COVID-9 isolation room regarding changes in the rotation and duration of the medical team's work in the COVID-19 isolation room. This was done to reduce the exposure of health workers to viruses aimed at maintaining physical and mental health and maintaining the quality of service for the medical team.

Cabrini et al. (2020) stated that during the COVID-19 outbreak, healthcare providers were recognized as national heroes. Studies show that patients recovering from COVID-19 regard family as the most important source of support (Shaban et al., 2020). Regarding family support, nurses also take advantage of the patient's family support to overcome the psychological damage caused by COVID-19 (Sun et al., 2020). The nurse's motivation for responsibility and calling for caring for patients and a deep feeling of empathy because of the patient's condition and being away from family members affect patient satisfaction when being treated.

5. Implications and limitations

This study provides insight into the experiences of nurses who were infected with COVID-19 and undergoing isolation in the hospital. Their feelings and needs while diagnosed with COVID-19 and isolated in COVID-19 units are identified in this study. The finding highlights the necessity of family and caregivers' support throughout their isolation period. Useful guidance and training on preventing COVID-19 transmission to nurses are also required, along with

regulations related to PPE (personal protective equipment) and how nurses may return to work after recovering from COVID infection. In addition, the study also has implications for nurses. Nurses diagnosed with COVID-19 may use their experience as a lesson when dealing with COVID-19 patients. From their experiences, the nurse can be more empathetic to patients and families and become more sensitive to patients' physical, social, and spiritual needs in isolation.

The authors acknowledge that this study has limitations. To get information about nurses' experience, we collected qualitative data from one hospital sample. Therefore, the findings may not be generalized as Indonesian nurses' experiences. Additionally, the study is limited by the lack of information on how nurses cope with isolation. Although some information provided may reflect how nurses deal with their situation, the focus of this study was on their experiences only, and results may not reflect actual nurses coping mechanisms towards their isolation treatments. We encouraged further research to be conducted in larger scope of area and wider range of healthcare professionals.

6. Conclusion

This study explored nurses' experiences of COVID-19. It resulted in three main themes: experience at diagnosis (Pre-isolation), experiences during isolation, and post-isolation experiences. It was highlighted from the findings that psychological, social, and spiritual support from family, fellow nurses and nurse managers were significant for nurses' recovery. By understanding pre, during and post COVID-19 isolation, nursing managers will be able to plan appropriate care and use the proper approach to support infected nurses, and this area needs further research. Moreover, nursing managers can protect the nurses during their duty through infection control education and training, as well as regulations that help nurses work during COVID-19 pandemic.

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Author contribution

Both authors (ES, GR) participated sufficiently in the concept, design, analysis, writing, and critical revision of the manuscript. The first author (ES) conducted the interviews and data collection.

Conflict of interest

There is no conflict of interest in this research.

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