The Safe Coping Strategy of Nurses Working in the Care Units of Patients with COVID-19: A Qualitative Study

Abstract

Background: Nurses are in direct contact with patients with COVID-19 and have faced much tension with the rapid spread of coronavirus. This study aimed to explore the safe coping strategies of nurses when facing the COVID-19 pandemic. **Materials and Methods:** In this qualitative study, data were collected from September 20 to December 20, 2020, in Isfahan (Iran) through individual semi-structured interviews with 12 nurses working in the five referral centers for patients with COVID-19. Informants were selected via purposeful sampling and interviewed in one or several sessions at the appropriate time and place. The interviews continued until data saturation. All interviews continued until no new data were added to the continuous content analysis. Data analysis was performed using conventional content analysis based on Graneheim and Lundman's approach. We used Guba and Lincoln's criteria (including credibility, transferability, conformability, and dependability) to guarantee trustworthiness and rigor. **Results:** Safe coping strategies for nurses were discovered in two categories of "wise liberation" and "care," and six subcategories. "Wise liberation" consisted of four subcategories: "living in the moment," "accepting the inner and outer world," "life enrichment," and "building opportunities." "Care" contained two subcategories: "caring for others" and "caring for oneself." **Conclusions:** Discovering safe coping strategies for nurses could set the stage for special educational–therapeutic interventions so they can better understand their experiences and take advantage of the best coping strategies.

Keywords: *Strategies, coping, COVID-19, nurses, occupational health, adaptation, psychological*

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Introduction

On January 3, 2020, the World Health Organization declared COVID-19 a public health emergency at the international level.[1] Based on official statistics, until September 21, 2021, 117,526 deaths have been identified out of 5,442,232 people having COVID-19 in Iran.[2] The percentage of the contamination of medical staff during the outbreak of the disease in China (February 24, 2020) is 15%.[3] Nurses are people in society who are in direct contact with patients. Several studies have been conducted on the relationship between different occupations and the risk of COVID-19. In most of these studies, jobs related to healthcare systems have been considered the riskiest from this perspective.[4] Thus, the nurses experienced much stress.[5,6] Of nurses facing the coronavirus pandemic, about 50% of them reported depression, 45% anxiety, 34% insomnia, and 71% stress, which significantly affected their quality of life.[7,8]

Furthermore, due to the direct contact with patients, experiences such as fear of transmitting the virus to their colleagues and families,[9,10] feeling confused,[11] helplessness, emotional overload, anxiety, lack of sleep,[9] and post-traumatic stress disorder, and as a result, their unwillingness to come to work[6] are among the experiences of nurses working in the care unit of patients with COVID-19. Working in intensive care units is inherently stressful. By affecting nurses' health, occupational stress reduces individual performance and the quality of patient care and increases mental illness, health problems, reduced quality of working life, and increased occupational burnout.[11]

In the face of these challenges, nurses use a variety of strategies that are usually individual and influenced by personal experiences in a social context. These strategies remain largely unknown to nursing

managers during the COVID-19 pandemic.[12] Accordingly, to equip nurses with a safe encounter with the psychological consequences of the COVID-19 pandemic, research actions based on their personal experiences are essential.[13]

Structured analysis of nurses' personal experiences provides valuable tools for better organization of human resources and infrastructure in unpredictable health emergencies.[14] Therefore, the experience should be the focus of the study because it reflects the socio-cultural and personal aspects by conveying the underlying elements and interpreting reality. In this regard, experience-based research, such as qualitative research, is the most appropriate approach to examining coping strategies experienced by nurses during the COVID-19 epidemic.

Based on the history reviewed in this field, qualitative research on nurses' experience in epidemic diseases, such as acute respiratory syndrome[15] or influenza, has provided useful information.[16] Also, during the COVID-19 pandemic in Iran and other countries, coping strategies have been studied through qualitative and quantitative research. However, the researcher has not found a study examining nurses' safe coping strategies. This study aimed to explore the safe coping strategies of nurses when facing the COVID-19 pandemic.

Materials and Methods

This qualitative study was a preliminary phase of a research project for developing an educational psychological information package. In this phase, verbal individual semi-structured interviews with 12 nurses were collected from September 20 to December 20, 2020, in five referral centers for patients with COVID-19 (Isfahan-Iran). A total of 16 interviews were conducted with 12 nurses. Informants were selected via purposeful sampling and interviewed in one or several sessions at the appropriate time and place. The interviews continued until data saturation. All interviews continued until no new data were added to continuous content analysis. The individual semi-structured interviews were between 20 and 45 min, and the individual semi-structured interviews were first recorded by the interviewer with the informed consent of the nurses and immediately transcribed by the interviewer at the appropriate time and place.

Interviews with nurses according to the main research question, first with general questions such as "What is your experience working in the coronary care unit?" Then, by transcription of the interviews, data were coded and analyzed simultaneously by two researchers. As necessary, probing questions (in emotional and behavioral terms and situations of the working atmosphere) were used in other interviews in the next stages.

Data analysis used conventional content analysis based on Graneheim and Landsman's approach.[15] To achieve initial codes, semi-structured interviews were examined on a sentence-by-sentence basis, and then the main and

conceptual message was extracted and recorded. After re-examining initial codes by three researchers, each code was fitted into another concept as a category based on the group consistency with all researchers. Initial codes that were semantically similar were included in a sub-category, and sub-categories also were organized as the main category. Semi-structured interviews continued until completing sub-categories and categories or formed new categories.

To ensure the validity of the data, the transcript text and analysis were given to participants so that they could express their opinions about data accuracy and analysis, so required corrections were made through member checking.

We used Guba and Lincoln's criteria (including credibility, transferability, conformability, and dependability) to guarantee trustworthiness and rigor. The researcher investigated data credibility by having long and close contact with the participants and spending enough time collecting and analyzing data. For peer checking and reviewing, three participants were asked to check the accuracy of the typed texts. The research team also coded some interviews separately and re-examined some conflicting codes and categories. For conformability, codes and extracted subcategories and categories were evaluated and approved by three observers familiar with qualitative studies and health psychology. Findings dependability was carried out in two stages: taking on-time notes, using the views of project participants, and studying and matching codes with the whole data. Finally, transferability or fittingness provided rich explanations of the data by interviewing different participants and providing direct quotes and examples.[15]

Ethical considerations

This study has been extracted from the first phase of the research proposal "preparation of educational-therapeutic package based on psychological flexibility (acceptance-based) and evaluation of its impact on quality of work–life, job burnout, work–family conflict, and mental health of the care team working in COVID-19 patients' coded IR.MUI.MED.REC.1399.026 approved by the Isfahan University of Medical Sciences Ethics Committee 2020-04-08. All participants were justified about the study and signed the informed consent form to participate in the research.

Results

Participants in the study were nurses working in intensive care units for patients with COVID-19 [Table 1]. The process of formation of primary and secondary codes, subcategories, and categories is shown in Table 2. Finally, 68 primary codes were extracted, which showed positive psychological adaptation strategies of nurses in two categories of "wise liberation" and "care," with six subcategories. "Wise liberation" consisted of four subcategories: "living in the moment," "accepting the inner and outer world," "life

Table 1: Demographic features of nurses (study samples)

Code	Gender	Age	Work length (years)	Education degree	Marital status
P1	Female	35	10	Bachelor's degree	Married
P2	Female	33	8	Bachelor's degree	Married
P3	Female	36	11	Bachelor's degree	Married
P4	Female	29	3	Bachelor's degree	Single
P5	Female	30	4	Bachelor's degree	Married
P6	Female	28	2	Master's degree	Single
P7	Female	35	5	Master's degree	Married
P8	Female	36	8	Bachelor's degree	Married
P9	Female	47	28	Bachelor's degree	Married
P10	Male	49	16	Bachelor's degree	Married
P11	Male	29	2	Bachelor's degree	Single
P12	Male	34	6	Master's degree	Married

enrichment," and "building opportunities." "Care" contained two subcategories "caring for others" and "self-care."

Category 1: Wise liberation

In this study, the first main category emerging from the positive psychological adaptation of nurses was "wise liberation." How a nurse thinks about the challenges of the pandemic era has a tremendous impact on how they deal with these events.

1-1-Living in the moment:

Many nurses report that by paying attention to what they are doing, not just the outcome, they can better deal with a pandemic situation and its prognosis. A nurse said: "*I do not believe in the goal, but in the path,*" "*Because I have more opportunities, I enjoy the taste of food and coffee even better than before*" (p1).

Living in the moment allows the person to experience and enjoy all the available moments. One of the nurses stated: "*I use all the available facilities to live in the moment. For example, to prevent the virus transmission to family members, I have been living alone for a few weeks and enjoying the solitude myself. I reflect on myself and feel good about all the suffering I have. I taste food and drinks and try to taste every bite of food*" (p9).

1-2-Accepting inner and outer world:

Acceptance in human psychology is a person's assent to the reality of a situation, recognizing a process or condition (often a negative or uncomfortable situation) without attempting to change it or protest it. One of the nurses stated, "Well*, we have come to terms with this situation, and when we entered this profession, we accepted all these difficulties. We need to think more about how we can manage this situation and continue with our responsibilities*" (p8).

Many nurses, while experiencing immutable physical conditions (such as masks, gloves, and warm protective clothing) and special psychological conditions (such as

overwork, family work, and conflicts), accepted the existing conditions and performed their duties. The nurses stated that: "*Painless experience makes no sense, and I am fully receptive to the experiences; the proverb (you cannot go in the rain and not get wet) applies to our situation*" (p1).

1-3-Life enrichment:

Because COVID-19 affects all physical and psychosocial aspects of individuals, nurses try to enrich different aspects of their lives by embracing value-based behaviors. In fact, by performing effective behaviors in various aspects of life and concerning others, they can get rid of unpleasant thoughts and feelings and experience a valuable life. For example, a nurse stated, "*Because I love sports as much as my job, I exercise for an hour every day; hard-working hours have not stopped me from exercising.*"(p6). *Alternatively, "I try to communicate with my family through video calls."* (p3)*. Alternatively, "I did not pay attention to my diet before, but these days I eat more fruits and rich foods."* (p5).

1-4-Building opportunities:

Another way nurses coped in the face of the COVID-19 pandemic was to turn threats into opportunities, with some nurses saying: "*I want to gain something positive from these hard times; we always wanted to do things we had no chance of doing. Now I think God has given me this opportunity and he says this is the time*" (p5).

Category 2: Care

The second category of nurses' safe coping strategies with COVID-19 was called care. Psychological care helps a person cope with the emotional pressures associated with the COVID-19 pandemic and regain their mental health, which includes the two subcategories:

2.1. Caring for others:

From the nurses' point of view, caring for others was not merely physical care but focused on the psychological aspects of colleagues and patients. The nurses stated, "*I like to psychologically do something for patients so that they feel better; our idea is that people do not experience new hardship, and we seek to make people feel better*" (p3).

Alternatively, "In the section of all colleagues, we try to take care of each other in different ways. For example, we have a birthday, sometimes we go to shifts instead of our colleague" *(p7). Alternatively, "Sometimes we give a colleague or patient a chance to get angry and aggressive and try not to react and be patient in these situations" (p2).*

2.2. Caring for self (self-care):

Another strategy for nurses' safe exposure was self-care. Self-care includes decisions and actions for health, prevention of social dangers and injuries, and the ability to meet physical and psychosocial needs. The nurses announced: "*These days, I have tried to take care of my nutrition and health more than before.*" *I use safety*

Table 2: Categories and sub-categories

Categories	Subcategories	Primary codes
Wise liberation	Living in the moment	Enjoying life, appreciate all the moments of life, enjoy the process
		Being here and now, paying attention to the route, low purposefulness, do not get stuck on goals
	Accepting the inner and outer world	Acceptance of suffering, do not avoid painful experiences, acceptance of conditions, accepting internal situations in difficult situations, experiencing non-judgmental emotions, seeing thoughts, being stuck in thoughts and feelings, the meaning of suffering
	Life enrichment	Maintaining the balance of life in certain circumstances, maintaining a healthy lifestyle, maintaining efficient operation, maintaining and continuing the normal course of life on hard days, creativity and flexibility in the way of life, proper management of various areas of life, paying attention to all areas of life, pay attention to a healthy lifestyle
	Building opportunities	Gain new opportunities in new circumstances, identify opportunities, meet the challenges, openness to opportunities, focus on the strengths of the situation, capture the moments, turn threats into opportunities, identify new ways to live, build, pay close attention to personal growth, problem-oriented confrontation, take advantage of opportunities, being active about circumstances and not a passive action
Care	Caring for others	Empathy with the patient, paying attention to others and understanding them interpersonal understanding, attention to the psychological aspects of patients, feeling altruistic, twinning with the patient, caring for patients replication with others, high devotion, interpreting the behavior of others, benevolence for others, the desire to reduce the suffering of others, service motivation, reduce the hard experiences of others, create a good mood for others, efforts to heal the suffering of patients, kindness to others
	Caring for self (self-care)	Understand our mental states, interpretation of experiences, pay attention to the emotions caused by the experiences, understand the reasons for our behavior, ensure understanding your mind and that of others, visualization of thoughts and mental states, self-concept tags,

Contd...

Table 2: Contd...

Categories	Subcategories	Primary codes
		pay attention to our feelings, high self-blame, pay attention to your interests, heal your suffering, more opportunity to be with yourself, kindness to yourself, take more care of yourself in difficult situations, high boast

equipment in my work environment" (p9). Alternatively, "To take care of myself, I try to pursue my interests. I try to watch movies at least once a week. I read my favorite book at night. Before going to bed, I try to write a note for myself for a few minutes and empathize with myself" (p9).

Discussion

This study aims to discover positive psychological adaptation strategies for nurses working in care units for patients with COVID-19. After analyzing data, two main categories of "wise liberation" and "care" were detected.

Consistent with other research, "wise liberation" creates a flexible psychological state among nurses, leading to empiricism in the face of inner and outer experiences, and determining the kind of nurse's reaction to new experiences.[16] In the safe strategy of "wise liberation," the ability to communicate with the present moment and the ability to distinguish oneself from psychological inner experiences and thoughts are facilitated by the strategies of "living in the moment" and "accepting inner and outer world," respectively, thus leading to psychological flexibility,[17] this finding is in line with other research. Ching *et al.*, in a study to discover the coping strategies of nurses in clinical situations, "coping avoidance," which is one of the examples of "not accepting the inner and outer world," is an anon effective coping strategy for nurses with highly occupational burnout and low resilience, against which the strategy of "problem-solving" is an effective coping strategy for nurses with low occupational burnout and high resilience.[18] These results are being confirmed with our results. Furthermore, in the study of Ching *et al.*, the category of "discovering opportunities" is among the identified categories of nurses' experience, which supports the results of the current study.[18] In another study conducted using content analysis by Tavangar *et al.* (2013) to investigate the coping strategies of nurses with work–family conflict, one of the categories of the study was found to be "being in the moment," which is in agreement with the results of this research.[19] Also, in this study, nurses remain fairly committed to valuable goals using the strategies of "life enrichment" and "building opportunities." "Building opportunities" is in line with "active adjustment," which is one of the categories in a study by Sun *et al.* (2020) aimed at "discovering the psychological experiences of nurses caring for COVID-19 patients'.[20] Also, in the

study of Sun *et al.* aimed at discovering the psychological experiences of nurses caring for COVID-19 patients, the category of "life regulation" is one of them that agrees with the categories discovered in the present study, "life enrichment."[20] Finally, the findings of this study are consistent with that of Babore (2020) and other work findings that problem-solving is the most important positive psychological adaptation strategy in reducing the stress of nurses caring for COVID-19 patients.[21–24]

The next category was called "care," which includes sub-categories of "caring for others" and "caring for oneself." Nurses should establish a cordial relationship with patients through compassionate behaviors so that they can respond to their pain and suffering. Caring is potentially associated with the ability to alleviate the suffering of others.[25] In other words, health professions psychologically require having an empathetic attitude toward caring for patients.[26] Our findings also support professional nursing standards that expect nurses to treat patients with compassion in a way that, in ethical codes presented by America's Nursing Association, nurses have been asked to be compassionate in their treatment of patients.[27] Following the findings of the present study, developing healthy protective behaviors was one of the nurses' coping strategies in China.[28]

Indeed, care is regarded as an empathetic act, and in the meantime, compassion for others, in any shape or form, requires self-compassion. According to the results of the present study, in a study by Zhang *et al.* (2021), autosuggestion was one of the nurses' coping strategies during home isolation for the 2019 novel coronavirus in China.[28] The researchers concluded that positive autosuggestion was much more effective in increasing COVID-19 counteraction and reducing feelings of fear.[28] In this regard, Cai *et al.* (2020) reported in their research that medical staff did not express a significant desire to reduce stress by consulting a psychologist to discuss their feelings, especially in the population of physicians and medical technicians.[21] Also, in research by Windarwati *et al.* (2021), following appropriate self-protection measures (mask, gown) was one of the identified strategies.[24]

With the results of their study, Gremer and Niff (2013) state that self-compassion acts as an adaptive response in nurses and protects them from stressful factors.[29] Also, in the research of Ching *et al.* (2020) to discover the coping strategies of nurses in clinical settings, "self-blame," which is an insecure strategy and one example of not caring behavior for oneself, is the coping strategy of nurses with high occupational burnout and low resilience. In contrast, "self-protection strategies" are the coping strategy of nurses with low occupational burnout and high resilience.[18]

Because participants in this study were nurses working in intensive care units for patients with COVID-19 in educational–medical centers, generalizing these findings to other medical staff that does not have nurses or nurses who are working in private and training health centers or to the students of related disciplines, should be done with caution. Although the purpose of qualitative studies is not to generalize data, it is hoped that this limitation will be reduced in the next research by extending the sampling range to other medical staff.

Considering that this study was conducted in a particular area and affected by the COVID-19 pandemic, it is suggested that other discovered areas of the problems of nurses working under specific conditions in the care units of patients with COVID-19 be studied in future studies and the psycho-social intervention of nursing community be analyzed. Also, researchers recommend research based on qualitative content analysis of the experiences of home-care workers of patients with COVID-19 so that by recognizing the safe coping strategies of these caregivers, the health team will also be sensitive to their problems and concerns. Comprehensive interventions will also be planned for these patients' health teams and caregivers.

A specific study of safe coping strategies in COVID-19 nurses has been one of the strengths of this study. However, due to the characteristics of qualitative research, the sample size of this study was limited. We were also unable to conduct focused group interviews due to health protocols. In addition, this study was a short-term study. Long-term experience researching people can be a valuable way to discover the future. Finally, only 3 of the 12 participants were male. However, these data do not show gender bias because most nurses are female.

Although to exploring safe coping strategies in this study for nurses in COVID-19 referal hospitals, that was the strengths of this study, due to the characteristics of the qualitative research, and limited sample size, generalisation is limited to same situations and context. As another limitation, we were unable to conduct focused group interviews due to COVID-19 situiaion and health protocols and only 3 of the 12 nurses participants were male. However, there were no gender bias because most nurses are female. In addition, short-term duration of this study has hindered the acquisition of long-term experiences of nurses. So long term experiences of nurses, ould be valuable to discover more strategies in the future.

Conclusion

The results identified safe strategies for nurses in the face of the recent pandemic in healthcare centers for patients with COVID-19 (in Isfahan-Iran). Discovering safe coping strategies for nurses could contribute to educational–therapeutic interventions specific to nurses who need them to better understand their problems and use the best coping methods to deal with them. Moreover, the findings of this study could be adopted by policymakers for initiating programs for boosting nurses' quality of work life

through nurses' empowerment and designing empowerment programs for nurses to apply safe coping strategies.

Conflicts of interest

Nothing to declare.

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