

COVID-19-Related Anxiety and Coping Strategies among Nursing Professionals Working in COVID ICU: A Cross Sectional Survey

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Abstract

During the COVID-19 pandemic, nursing professionals along with other health care workers worked as the pillars of the health care system. There have been difficult times when nursing professionals have overworked despite of shortage of resources, continuously wearing PPE over hours and overfilled ICUs. Thus, while confronting the numerous COVID-19 related challenges, nursing professionals might have experienced anxiety and utilised various coping strategies to reduce their anxiety. This cross-sectional survey was conducted using web-based questionnaire. Information was collected from 200 nursing personnel working in COVID ICU of selected tertiary care hospital. The questionnaire used for data collection comprised of 3 sections: first section focused on socio-demographic profile of subjects, second section included the Self-Rating Anxiety Scale and third included Brief COPE Scale. The result revealed that the majority of the subjects (61%) had no COVID 19-related anxiety whereas 33.5 percent of subjects had mild to moderate COVID 19-related anxiety. However, only 5.5 percent of the subject reported marked to severe form of COVID 19-related anxiety. The highest anxiety scores were identified for items: (1) I get feelings of numbness and tingling in my fingers & toes, (2) I feel weak and get tired easily (3) I have nightmares. In order to cope up with anxiety, majority of the nursing professionals' approach 'praying or meditating' coping style mechanism followed by positive reframing and planning. Covid-19 has caused mild to moderate anxiety in significant number of nursing professionals. Thus, the hospital administration and nurse managers should focus on early screening for anxiety, providing psychological support to nurses and training in effective coping strategies.

Key words: COVID-19, Anxiety, Coping strategy

The novel coronavirus (COVID-19) is a new disease caused by SARS-CoV-2, that is not previously seen in the humans which is known to impact all groups of people of different age. On 13 January 2020, first case of infection outside of China was reported; thereafter by 11 March 2020, there were over 120,000 cases with 4300 deaths reported due to COVID-19 and so it was declared a pandemic by World Health Organization and the number continued to rise (Sharma et al, 2020).

The cases of COVID-19 kept increasing dramatically, which overwhelmed the healthcare system and escalated nurse anxiety levels. With this high surge in cases and widespread infection there was a shortage of public health officials. The rapid spread of COVID-19 increased the burden and posed a great challenge to nursing professionals across the world. With an

increasing ratio of patients to nurses, they were susceptible to psychological hazards of working with COVID-19 patients due to their routine monitoring and handling infectious patients. Higher workload, psychological stress, fatigue, occupational burnout, lack of knowledge of the pathogen and physical and psychological violence has deeply compromised the quality of health care given by nurses and amplify the severity of infection in their health care system (Ali et al, 2020; Elbay et al, 2020; Nickell et al, 2004; Nie et al, 2020).

Nurses have to struggle to maintain their mental and emotional health while providing care to severely ill and infectious patients and create a compromising position which is difficult to cope with. Continuous exposure to high level stress and long hours of continuous work without break during outbreak of various infectious diseases has been linked to substance abuse as well as increase in anxiety, depression and suicidal tendencies among health care workers (Es-lami et al, 2015; Gurvich et al, 2020).

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The frontline nurses reported to have a high risk of psychological distress, such as sleep disturbance, loss of self-confidence and inability to make decisions, as well as physical health problems which hinder professional performance and in turn, the quality of care to patients (Nickell et al, 2004; Nie et al, 2020; Eslami et al, 2015; Gurvich et al, 2020). Due to the severity and rapid progression of the disease and since there is no effective treatment for the disease so far, many supportive measures have been given, many patients rapidly deteriorate, succumb to critical conditions and die. This might have increased anxiety, decreased nurses' confidence and reduced personal accomplishment. In turn, effective use of coping strategies are needed to help nursing professional to manage their anxiety levels (Eslami et al, 2015; Gurvich et al, 2020; Salari et al, 2020; Cabarkapa et al, 2020).

Several morale supportive interventions for nurses working in highly stressful areas have been identified in previous studies, including positive attitude in the work place and acknowledgement of their efforts, social and family support, clear communication of directives and support from supervisors (Tahar et al, 2020). In Indian setting limited researches were conducted for studying psychological health during the times of pandemic for nurses and efficacies of various coping strategies. Thus, the investigator conducted this survey to assess COVID-19-related anxiety level and coping strategy among Nursing professionals while working in COVID ICU.

Material and Methods

This cross-sectional survey was conducted from August 2021 to September 2021 in the second phase of Covid-19, using web-based questionnaire. Information was collected from 200 nursing personnel working in COVID ICU of selected tertiary care hospital. Eligibility criteria for inclusion included nursing professionals working in COVID ICU since beginning of pandemic, those who can understand or read English language and who were willing to participate in the study. New recruits, contractual employees, and outsourced nursing professions were excluded from the study. Ethical permission was taken from the concerned authorities to conduct the study.

Details of survey website were provided to 212 nursing professionals recruited in the study using consecutive sampling technique. Information received from 200 nursing professionals who completed the survey questionnaire, depicted response rate of 94 percent, which was compiled for analysis.

The questionnaire used for data collection comprised of three sections: first section focused on sociodemographic profile of subjects which included age, gender, marital status, educational level, and years of experience; second section included

Self-Rating Anxiety Scale (SAS); and third section included Brief COPE scale. Self-Rating Anxiety Scale developed by Zung's was used to assess anxiety among nursing professionals. SAS is a self-report Likert scale with 20 items. Scoring for each item ranged from 1-4 with total score of scale ranging from 20-80. Score of 20-44 indicated normal range i.e., no anxiety. Score of 45-59 depicted mild to moderate anxiety, 60-74 score showed marked to severe anxiety levels; and 75 and above score represented extreme anxiety levels.

Coping strategies used by nursing professions were assessed by using Brief COPE developed by Carver, 1997. The brief COPE scale comprised of 14 subscales and 28 items, with 2 items in each subscale. This subscale included active coping, planning, positive reframing, acceptance, humour, religion, using instrumental support, self-distraction, denial, using emotional support, venting, substance use, behavioural disengagement, and self-blame. Score for each item ranged from 1 - 4; and for each subscale it ranged from 1 - 8. Higher scores depicted increased utilisation of that particular coping strategy.

Need of the study

The cases of COVID-19 went on increasing dramatically, tending to overwhelm the healthcare system and escalate nurse anxiety levels. With this high surge in cases and widespread infection there was shortage of public health officials. The nurses had to struggle to maintain their mental and emotional health while providing care to severely ill and infectious patients and create a compromising position which is difficult to cope with. Continuous exposure to high level stress and long hours of continuous work without break during outbreak of various infectious diseases has been linked to substance abuse as well as increase in anxiety, depression and suicidal tendencies among health care workers.

The frontline nurses reported to have a high risk of psychological distress, such as sleep disturbance, loss of self-confidence and inability to make decisions, as well as physical health problem which hinder professional performance and in turn, the quality of care to patients. Since there has been no effective treatment for the disease so far, many supportive measures were given. Many patients rapidly deteriorated and succumbed to critical conditions.

Table 1: Level of COVID-19-related anxiety among nursing professionals

Level of Anxiety (Score)	Number of participants (%)
Normal range/ No anxiety (20-44)	122 (61)
Mild to moderate anxiety (45-59)	67 (33.5)
Marked to severe anxiety (60-74)	11 (5.5)
Extreme anxiety (75 and above)	00 (00)

Table 2: Ranking of COVID-19-related anxiety items

S. No.	Items	Mean $\pm$ S.D.	Rank
1	I feel afraid for no reason at all	1.91 $\pm$ 0.89	5
2	I get upset easily or feel panicky	1.86 $\pm$ 0.90	9
3	My arms and legs shake and tremble	1.87 $\pm$ 0.73	8
4	I feel weak and get tired easily	2.14 $\pm$ 0.87	2
5	I am bothered by dizzy spells	1.99 $\pm$ 0.92	4
6	I can breathe in and out easily	1.90 $\pm$ 0.70	7
7	I get feelings of numbness and tingling in my fingers & toes	2.15 $\pm$ 0.86	1
8	My face gets hot and blushes	1.84 $\pm$ 0.97	10
9	I fall asleep easily and get a good night's rest	1.90 $\pm$ 0.99	6
10	I have nightmares	2.02 $\pm$ 1.03	3

This might increase anxiety, decrease nurses' confidence and reduce personal accomplishment. In turn, effective uses of coping strategies are needed help Nursing professional to manage their anxiety levels.

Supportive interventions for nurses working in highly stressful areas have been identified in previous studies, including positive attitude in the work place and acknowledgement of their efforts, social and family support, clear communication of directives and support from supervisors. In Indian setting limited researches have been conducted for studying psychological health during the times of pandemic for nurses and efficacies of various coping strategies.

Thus, the investigator conducted this survey to assess COVID-19 related anxiety level and coping strategy among nursing professionals while working in COVID ICU.

Objective

To assess COVID-19 related anxiety level and coping strategy among nursing professionals while working in COVID ICU

Review of Literature

Mehta et al conducted a study on the impact of the COVID-19 pandemic on intensive care unit workers evaluating the impact of the pandemic, coping strategies, symptoms of post-traumatic stress disorder (PTSD). Regression analyses were performed to determine the predictors of psychological symptoms nurses. It was found that they were more likely to report PTSD symptoms (33%) and psychological distress (23%) than physicians (5% for both) and other health disciplines

Tables 3: Coping styles employed by nursing professional

S. No.	Coping style	Subscales	Items	Mean $\pm$ S.D.	Rank
1	Avoidant Coping	Self-distraction	- I've been turning to work or other activities to take my mind off things. - I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.	1.85 $\pm$ 0.73	07
		Denial	- I've been refusing to believe that it has happened. - I've been saying to myself "this isn't real."	1.01 $\pm$ 0.14	14
		Substance use	- I've been using alcohol or other drugs to make myself feel better. - I've been using alcohol or other drugs to help me get through it.	1.05 $\pm$ 0.21	13
		Behavioural disengagement	- I've been giving up trying to deal with it. - I've been giving up the attempt to cope.	1.65 $\pm$ 1.03	08
		Venting	- I've been saying things to let my unpleasant feelings escape. - I've been expressing my negative feelings.	1.21 $\pm$ 0.40	11
		Self-blame	- I've been criticising myself. - I've been blaming myself for things that happened.	1.03 $\pm$ 0.08	12
2	Approach Coping	Active coping	- I've been concentrating my efforts on doing something about the situation I'm in. - I've been taking action to try to make the situation better.	1.98 $\pm$ 1.03	04
		Emotional support	- I've been getting emotional support from others. - I've been getting comfort and understanding from someone.	1.97 $\pm$ 0.89	05
		Use of informational support	- I've been getting help and advice from other people. - I've been trying to get advice or help from other people about what to do.	1.55 $\pm$ 0.89	09
		Positive reframing	- I've been trying to see it in a different light, to make it seem more positive. - I've been looking for something good in what is happening.	3.14 $\pm$ 0.64	02
		Planning	- I've been trying to come up with a strategy about what to do. - I've been thinking hard about what steps to take.	2.12 $\pm$ 1.09	03
		Acceptance	- I've been accepting the reality of the fact that it has happened. - I've been learning to live with it.	1.89 $\pm$ 0.84	06
3	Miscellaneous	Humour	- I've been making jokes about it. - I've been making fun of the situation.	1.28 $\pm$ 0.54	10
		Religion	- I've been trying to find comfort in my religion or spiritual beliefs. - I've been praying or meditating.	3.37 $\pm$ 0.63	01

professionals (19% and 14%). Variables associated with PTSD and psychological distress included female sex (beta-coefficient [B], 1.59; 95% confidence interval [CI], 1.20 to 2.10 and B, 3.79; 95% CI, 1.79 to 5.78, respectively; $p < 0.001$ for differences in scores across groups) and perceived increased risk due to PPE shortage or inadequate PPE training (B, 1.87; 95% CI, 1.51 to 2.31 and B, 4.88; 95% CI, 3.34 to 6.43, respectively). Coping strategies included talking to friends/family/colleagues (80%), learning about COVID-19 (78%), and physical exercise (68%) (Shelvin & McBride, 2020). More similar and supportive studies are not available in the literature

Results

Information collected from web-based survey was compiled and analysed using SPSS software (version 21). Analysis of socio demographic variables using descriptive method revealed that majority (63.5%) of the subjects were of the age group from 25-30 years and more than half of the subjects were females. Majority (83%) subjects were post graduate in nursing and maximum, 58 percent were having experience more than two years to five years. More than half 52 percent of subjects were unmarried or single. Majority (61%) of nursing professionals had no anxiety with their anxiety scale score lying in normal range (Table 1). However, 33.5 percent of nursing professionals depicted mild to moderate COVID 19-related symptoms. Table 2 and Table 3 shows the anxiety score of participants.

Coping Strategy:

Religion items of approach coping including 'I've been trying to find comfort in my religion or spiritual beliefs' and 'I've been praying or meditating' were the highest rated coping style employed by nursing Professionals followed by positive reframing and planning (Table 3). However, denial and substance use items of avoidance coping were the least rated used coping strategies to deal with COVID 19-related anxiety.

Discussion

The study was conducted among nursing professionals to investigate the COVID-19-related anxiety and coping strategy used while working in COVID ICU, using a web-based survey. The study observed that the majority of participants (61%) in this study experienced no COVID 19-related anxiety whereas 33.5 percent participant had mild to moderate level of anxiety. Salari Nader et al (2020) in their study found anxiety among 25.8 percent and stress among 45 percent of the hospital staff caring for COVID-19 patients. This may be due to the fact that nurses have wider knowledge of the nature of COVID-19, its transmission and symptoms and measures to prevent the disease which could contribute to the lower

anxiety levels.

In the present study the high levels of anxiety were associated with physical symptoms like nightmares, feeling of weakness, numbness and tingling in fingers & toes, and easily tiredness. 'Tingling' and 'sleep disturbance' were reported to be the most pronounced symptoms in study conducted by Skalski et al (2020), while in a study conducted by Shelvin et al (2020) high levels of anxiety were linked to somatic symptoms such as fatigue and gastrointestinal manifestations.

Majority of participants were female (57.5%) and relatively young in this study. Higher anxiety levels were reported in females which suggests that there might be gender differences in terms of expressing their emotions as they are more sensitive, and more vulnerable to anxiety. Our study shows that older participants expressed less anxiety than younger which suggest that higher age participants usually having more working experience and confidence in dealing and managing with pandemic crisis.

This study found that majority of the nursing professionals approached religious ways of coping style followed by positive reframing and planning. A similar study by Eslami et al (2015) and Ali et al (2020) found that majority of nurses practiced religious or spiritual activities and relaxation activities to deal with anxiety. Gurvich et al (2020) reported that majority of participants (50.55%) responded positively to stress whereas (49.45%) were more likely to utilise negative coping behaviours such as fantasy, avoidance and self-blame.

Limitations

This study has various limitations as the survey was conducted online due to this ongoing pandemic. Therefore, the sampling was web-based, creating possibility of selection bias. Second, the survey was conducted only in one tertiary care hospital in Mohali which could not reflect the whole situation of Nursing professional stress level while working in COVID ICU.

Recommendation

The study recommends that the hospital administration and nurse managers need to focus on early screening for anxiety, providing psychological support to nurses and training in effective coping strategies.

The study can be utilised to develop structure teaching programme for the Nurses to decrease anxiety level and to strengthen their effective coping strategies. The study can be conducted to evaluate anxiety level of other health professionals. A study can also be conducted to evaluate the impact of the COVID-19 pandemic on Nurses working in the same setting.

Implications

The current study can help the hospital administration and nurse managers in early screening for anxiety, to provide psychological support to nurses and training them in effective coping strategies.

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