






Effect of telenursing training on death anxiety in nurses with a history of COVID-19

Fatemeh Azariannejad¹, Mahin Naderifar^{2*}, Elaheh Asadi Bidmeshki³, Mohammadreza Firouzkohi⁴, Abdolghani Abdollahimohammad⁴, Majid Reza Akbarizadeh⁵

¹MSc, Department of Nursing, Faculty of Nursing and Midwifery, Zabol University of Medical Sciences, Zabol, Iran

²Department of Pediatrics, Faculty of Nursing and Midwifery, Zabol University of Medical Sciences, Zabol, Iran

³Assistant Professor, Department of Nursing, Zabol University of Medical Sciences, Zabol, Iran

⁴Department of Medical Surgical, Faculty of Nursing and Midwifery, Zabol University of Medical Sciences, Zabol, Iran

⁵Associate Professor of Pediatric Infectious Disease, Department of Pediatrics, School of Medicine, Amir al-Mominin Hospital, Zabol University of Medical Sciences, Zabol, Iran

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* Corresponding author:

Mahin Naderifar

Department of Pediatrics, Faculty of Nursing and Midwifery, Zabol University of Medical Sciences, Zabol, Iran

Email: mahin.naderifar@gmail.com

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ABSTRACT

Introduction: In light of the global spread of COVID-19 and its profound impact on public health and casualties, nurses have been thrust onto the front lines in the battle against this disease, resulting in heightened psychological distress and anxiety. Addressing these issues promptly and effectively is crucial during these challenging times. Therefore, this study aims to investigate the impact of telenursing training in reducing death anxiety among nurses with a history of COVID-19.

Material and Methods: This quasi-experimental study involved two groups of 20 nurses with a history of COVID-19 and higher levels of death anxiety. Data were collected using Templer's death anxiety questionnaire and a demographic information questionnaire. In the test group, the intervention was conducted through WhatsApp groups over five sessions. Training methods to reduce death anxiety were presented through explanatory text, PowerPoint presentations, and audio files, with five-day intervals between sessions. The control group did not receive any intervention. Twenty days after the sessions, both groups completed the death anxiety questionnaire again. Data were analyzed using t-tests and chi-square tests.

Results: The findings indicated a significant difference in the average score of death anxiety between the test and control group after telenursing training ($p < 0.05$).

Conclusion: Telenursing training effectively reduces death anxiety among nurses with a history of COVID-19. Telenursing proves to be a cost-effective and organized intervention for managing symptoms, early diagnosis of complications, ensuring post-care quality, exchanging information, and providing health education.

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INTRODUCTION

Nurses, being the primary care providers in hospitals, are in close contact with COVID-19 patients, putting them at a higher risk of contracting the virus [1]. Furthermore, healthcare workers during the COVID-19 pandemic exhibit a higher prevalence of mental symptoms compared to previous outbreaks [2].

Studies indicate that nurses, especially those in

Wuhan, China, experienced elevated levels of anxiety, depression, fear, anger, and stress due to the intense workload and direct exposure to COVID-19 patients [3]. In Iran, research reports a 30.4% prevalence of mental disorders, including anxiety, among healthcare workers [4]. The sudden emergence and rapid spread of the coronavirus have added to their anxiety levels [5]. Death anxiety, a type of anxiety, particularly stands out, with more than half of nurses experiencing moderate to severe death anxiety [6, 7].

Given the widespread anxiety among nurses, it is crucial to explore therapeutic approaches. Telenursing, utilizing remote communication technology, offers a cost-effective and organized solution to manage symptoms, diagnose complications early, ensure quality aftercare, exchange information, and provide health education [8]. This approach becomes even more relevant in a post-discharge scenario, where telenursing can help identify and rectify care gaps [9].

The profound impact of COVID-19 on nurses' mental health, especially regarding death anxiety, necessitates innovative interventions. Telenursing, with its remote psychotherapy capabilities, emerges as a promising solution. As society faces the ongoing threat of COVID-19, harnessing modern facilities for remote psychotherapy becomes imperative to maintain mental well-being [10]. This study aims to evaluate the impact of telenursing training on death anxiety among nurses with a history of COVID-19.

MATERIAL AND METHODS

This study follows a quasi-experimental design with a pre-test-post-test approach. The target population comprises all nurses with a history of COVID-19 infection working at Amir al-Mominin Ali (AS) Hospital in Zabol, Iran in 2022. A sample of 70 individuals who met the inclusion criteria randomly divided into test and control groups. These participants initially completed a death anxiety questionnaire. Subsequently, 40 individuals with the highest levels of death anxiety were randomly assigned to either the test or control group. The sample size determination was based on Sheykhi et al., with 20 individuals allocated to each group, considering potential sample dropouts [11].

Participants in the study were required to meet certain criteria, including voluntary participation, access to a smartphone for telenursing, holding a bachelor's degree or higher in nursing, having a sole employment as a nurse without any part-time jobs or additional employment, absence of incurable diseases in themselves or immediate family members, willingness to participate, no known mental illness, no prior training in death anxiety reduction methods, and a history of COVID-19 infection within the past six months. Exclusion criteria included unwillingness to cooperate at any research stage, emigration or death of a nurse, concurrent participation in other studies, inaccuracies in questionnaire completion, and encountering anxiety-inducing events within the last six months of the study.

The study was conducted at Amir al-Mominin Ali (AS) Hospital in Zabol, Iran after obtaining necessary permissions. Data collection involved a two-part questionnaire, with the first section covering

demographic information such as gender, education level, age, marital status, employment status, and health history. The second section employed Templer's death anxiety questionnaire. This self-administered questionnaire consisted of fifteen yes/no questions, with a higher score indicating increased death anxiety. The questionnaire's validity and reliability were established in prior studies [12].

Respecting subjects' rights and privacy was paramount. Participants volunteered for the research, provided written consent, and their information was kept confidential.

Both groups underwent pre-testing before the intervention. The test group received telenursing-based education via a WhatsApp group across five sessions (Table 1) [1, 5, 13, 14]. Various techniques to reduce death anxiety, including explanatory text, PowerPoint presentations, and audio files, were delivered over five sessions with five-day intervals. The test group was required to confirm their completion of each session's content via SMS. Non-responders were prompted three days later and removed from the group if still unresponsive. The control group did not receive any intervention. Both groups completed the death anxiety questionnaire again 20 days after the session conclusion. Data were analyzed using t-tests and chi-square tests, with using SPSS version 24.

Table 1: Telenursing-based training sessions

First: Members' awareness of the group's rules, stating a short article related to COVID-19 and death anxiety
Second: Playing soothing music and teaching relaxation techniques to reduce death anxiety
Third: Playing soothing music and teaching mental imagery to reduce death anxiety
Fourth: Playing soothing music and teaching other methods and techniques to reduce death anxiety
Fifth: Reviewing and summarizing what was said in previous sessions

RESULTS

The findings obtained from this research about demographic information are shown in Table 2.

Table 2 presents the results of a chi-square statistical test, indicating that there was no statistically significant difference between the variables of gender, marital status, employment status, shift, and degree in both the control and intervention groups ($p > 0.05$).

Table 3 reveals that there was no statistically significant difference in the death anxiety scores before the intervention ($p > 0.05$). However, following the telenursing training intervention in the test group, the death anxiety scores exhibited a statistically significant difference ($p < 0.001$).

Table 2: Individual characteristics of research units in two intervention and control groups

Variable		Intervention		Control		p
		Number (n=20)	%	Number (n=20)	%	
Sex	Male	6	30	9	45	3.27
	Female	14	70	11	55	
Marital status	Married	16	80	18	90	3.76
	Single	4	20	2	10	
Employment Status	Plan	3	15	1	5	4.83
	Contractual	1	5	0	0	
	A treaty	1	5	2	10	
	Official	15	75	17	85	
Shift	Morning	3	15	6	30	0.55
	Evening	3	15	0	0	
	Night	4	20	9	45	
	Circulating	10	50	5	25	
Infected with COVID-19	Yes, once	16	80	14	70	5.37
	Yes, twice	4	20	5	25	
	Yes, three times and more	0	0	1	5	

Table 3: Comparison of mean and standard deviation of death anxiety in two test and control groups before and after the intervention (n=20)

Death anxiety level	Average (SD)		t	95% Confidence limits	p
	Test	Control			
Before	61.10 (6.47)	57.60 (6.27)	1.73	-0.5, 7.58	0.091
After the	41.50 (7.02)	63.10 (5.47)	-10.84	-25.6, -17.56	<0.001

DISCUSSION

The aim of this study was to investigate death anxiety among nurses employed at Amir al-Mominin Ali (AS) Hospital in Zabol City who had previously contracted COVID-19. The research findings indicate that telenursing-based training can effectively reduce death anxiety in nurses. Furthermore, the study's results reveal no significant relationship between gender, marital status, employment status, shift work, or degree level and the level of death anxiety.

The results of this research, as well as other related studies, emphasize the impact of stress factors on the mental health of nurses and medical staff. Given that the physical and mental well-being of nurses directly affects the quality of patient care and their performance, efforts should be made to mitigate stress within this group.

It's worth noting that nurses may experience higher levels of death anxiety in hospital settings compared to normal circumstances. Anxiety disorders and fear are common psychological issues during pandemics, and the sudden emergence of COVID-19 has

contributed to heightened anxiety levels [11].

Research has shown that women tend to score higher on death anxiety tests than men [15, 16]. Additionally, internet-based treatments have proven effective in reducing symptoms of depression and anxiety [17]. Digital interventions and online therapeutic methods, especially for individuals with limited digital resources, should be considered during pandemics [18].

The findings of this study align with previous research conducted by Dadgari [19], Soleimani [20], and Masoudzadeh [21], which also indicated that nurses experience death anxiety, even in non-pandemic conditions. Given the ongoing COVID-19 epidemic, it is expected that nurses' moderate levels of death anxiety are consistent with previous findings.

Regarding the relationship between general characteristics and death anxiety, this study's results are in line with the research of Dadgari [19] and Aghajani [6], as they did not find any significant correlations with age, gender, education level, having children, or work experience.

While no direct studies investigating the effect of telenursing on nurses' death anxiety with COVID-19 were identified in the literature review, similar studies support the findings of this research. For instance, the Rahbar Karbasdehi [22] study conducted to investigate the impact of telehealth methods on patients with chronic diseases during the COVID-19 pandemic showed that these methods can effectively reduce patients' anxiety.

It's important to acknowledge certain limitations of this research, such as the potential for nurses in the control group to obtain information from other sources, which was beyond the researcher's control. Additionally, personal and family issues during the research period and any hidden anxiety individuals may have had could introduce errors in the results.

In response to the primary research question regarding the effectiveness of telenursing-based training in reducing death anxiety, the results of this study clearly demonstrate that such training has a positive impact on reducing death anxiety among nurses with a history of COVID-19 [23-25].

CONCLUSION

Managers and healthcare programs, particularly the Rizan program in the field of health, have the opportunity to enhance the well-being of nurses and the quality of healthcare services provided by leveraging the findings of this research. Recognizing the significance of this study, it can serve as a foundation for future research initiatives.

The current study has demonstrated the efficacy of

telenursing-based training in reducing death anxiety. Consequently, nursing students and research professionals can incorporate the outcomes of this study into their future investigations. It is advisable to assess the applicability of this treatment method in other professions, should it prove effective. Moreover, it is recommended that this research be replicated with a larger sample size and over an extended timeframe, while also exploring the impact of telenursing training in the context of other medical conditions.

AUTHOR'S CONTRIBUTION

All authors contributed to the literature review, design, data collection and analysis, drafting the manuscript, read and approved the final manuscript.

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CONFLICTS OF INTEREST

The authors declare no conflicts of interest regarding the publication of this study.

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No financial interests related to the material of this manuscript have been declared.

ETHICS APPROVAL

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