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Original Article

The Effect of Online Meaning-Centered Therapy alongside Death Awareness on Death Anxiety, Meaning in Life, and Demoralization among Nurses during the COVID-19 Pandemic

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ABSTRACT

Background: The widespread psychological challenges resulting from the secondary effects of the COVID-19 pandemic significantly affect nurses' mental health. This study aimed to develop and evaluate the effectiveness of an Online Meaning-Centered Therapy (OMCT) protocol and Awareness of Death (AD) in helping nurses cope with death anxiety, find meaning in life, and deal with feelings of demoralization during the pandemic.

Methods: The study used a quasi-experimental design with pre-test and post-test evaluations, a control group, and a three-month follow-up period. The target population was male and female nurses in Corona care departments in Tehran, Iran, from February to May 2021. Thirty nurses were purposefully selected. Fifteen participants were randomly assigned to the intervention group and 15 to the control group. The intervention group received 15 sessions of OMCT and AD, each lasting 54 minutes. The control group did not receive any intervention. Measurement tools included the Persian version of Tampler's Death Anxiety Scale (DAS), The Meaning in Life Questionnaire (MLQ), and the Demoralization Scale (DS). Statistical analysis was done using a t-test and repeated measures ANOVA in SPSS-26.

Results: Findings showed no significant differences between the intervention and control groups at the pre-test stage for death anxiety (47.13±6.61 vs 47.60±5.60, P=0.835), meaning in life (50.66±6.45 vs 49.93±8.72, P=0.796), and demoralization (60.26±9.26 vs 61.00±7.65, P=0.813) indicating the positive impact of the intervention in reducing death anxiety, improving meaning in life, and decreasing demoralization in the intervention group.

Conclusion: These results indicate that OMCT and AD together have the potential to decrease death anxiety, enhance nurses' sense of Meaning in Life, and relieve feelings of demoralization. Amidst technological progress, the significance of utilizing meaning-centered therapy to address death awareness during times of crisis and suffering and discover ways to find meaning becomes evident.

Keywords: Meaning-Centered Therapy, Awareness of Death, Death, Anxiety, Demoralization, Nurses, COVID-19

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Introduction

The COVID-19 pandemic demonstrated that nothing is permanent and everything can change. It highlighted the vulnerability of human life globally, showing that it can end unexpectedly. It is essential to accept death as a natural part of life while still striving to live fully. A positive outlook on life and death is crucial for finding meaning (1). Dealing with the pandemic and its various strains has been a draining ordeal for the global community, particularly for healthcare workers and nurses, presenting many challenges and impacting multiple facets of human existence (2). During the pandemic, many individuals faced profound sorrow and anxiety following the death of their loved ones (3). Confronted with this virus, we felt vulnerable and insecure, with death hovering nearby (4). According to the latest update from the WHO, as of July 21, 2024, there have been 776,065,709 confirmed cases of COVID-19 worldwide, leading to 7,054,891 deaths (5). In Iran, as per data, 146,811 individuals have lost their lives, and 7,627,186 people have been affected by the virus (6). Studies indicate that the impact of this crisis on human mental well-being is profound (7). Also, there is strong evidence of the widespread and profound impact of the crisis on the mental health of healthcare workers and the front lines of disease prevention (8, 9).

In all pandemics, nurses have always played a vital role, putting their lives at risk in caring for patients and those on the brink of death. Nurses are the backbone of the healthcare system (10). This pandemic has affected many psychological variables, including critical variables such as death anxiety, the meaning of life, and demoralization (11-13). During the COVID-19 pandemic, reminders of death were so prevalent that avoiding thoughts related to death was nearly impossible (14). It is said that death anxiety is the root of all fears (15). Death anxiety arises after realizing that oneself, loved ones, and acquaintances will no longer exist, and they will lose their world (16). Although recognizing mortality can also lead to intense feelings of dread or purposelessness and can result in various harmful coping mechanisms, meaning-making can lift people above preoccupations with self-preservation and death anxiety (17). Remembering and confronting death because of COVID-19 presented particular difficulties for individuals, one of which is undermining the meaning that individuals have attributed to their lives. Finding meaning in adverse situations can play a beneficial approach in coping with the COVID-19 pandemic and other similar crises. When confronted with existential threats, people often seek to find meaning in difficult experiences, such as the challenges posed by COVID-19 (18).

The meaning of life is fundamental to understanding demoralization, with a close relationship between the two variables (19). Some studies have highlighted the severe demoralization experienced by individuals during the COVID-19 pandemic, with nurses being particularly affected (20). Numerous countries, mental health organizations, and researchers have been actively seeking solutions to address the psychological impact of the crisis (17-20). Diverse approaches have been employed to enhance the mental well-being of individuals during pandemics. Interventions centered on finding meaning in life highlight the inevitability of suffering. Given the challenging circumstances that heighten death anxiety and demoralization, meaning-centered therapy focused on fostering resilience and meaning can prove beneficial (21). According to Frankl, the fundamental human desire and necessity is to find meaning in life. If this sense of meaning is lacking, it can create an existential void and, at its worst, lead to depression. Throughout his various works and commentaries, Frankl stressed enthusiastically that meaning is attainable even in the most challenging circumstances of life (22). Maning-centered therapy is a pragmatic method that emphasizes the natural inclination to seek out the meaning and purpose of life, and it promotes mental well-being even in the face of challenges (23). Confronting people with the reality of death is an integral part of treating death anxiety.

Most people are not consciously afraid of death. Various methods, such as case studies and dream interpretations, can help clients become aware of their fear of death. Yalom examines clients' defenses against death by analyzing transferences. For instance, a client avoiding the end of therapy may reveal their attitude towards death. Therapists need to be diligent in utilizing these strategies. Clients must acknowledge their anxiety, defenses, and beliefs about death (24). The effectiveness of existential and meaning-based therapies during pandemics has been investigated. Therefore, meaning-based approaches can be beneficial during pandemics. (17, 18, 21, 25).

The unprecedented nature of COVID-19 led to nurses experiencing collective trauma. This demographic is recognized as particularly vulnerable to mental health challenges during this period (26). The fundamental fear of death underlies all other concerns. This apprehension arises when individuals recognize the inevitability of their mortality and that of their loved ones and others, resulting in the realization that they will ultimately lose all that they cherish (16). Nurses were at the forefront of the battle against the COVID-19 pandemic, facing high levels of work-related stress, the risk of infection, fear of spreading the virus to their families, lack of resources and equipment, and feelings of isolation. These circumstances could potentially trigger or exacerbate feelings of death anxiety, decrease the sense of purpose in life, and lead to demoralization among nurses (27).

Research has been carried out to address mental health issues among nurses during the COVID-19 pandemic. However, no study has been conducted in the local context to investigate the impact of Online Meaning-Centered Therapy (OMCT) protocol and Awareness of Death (AD) on the variables of meaning in life, death anxiety, and demoralization in nurses caring for COVID-19 patients. Meaning-Centered Psychotherapy (MCP) aims to assist patients by connecting them to various sources of meaning, such as history, attitude, creativity, and experience. This evidence-based intervention is designed to alleviate distress. In addition to enhancing patient care, MCP could support healthcare professionals by enriching their sense of meaning in their work and reducing burnout. Burnout occurs when there is a lack of balance between a clinician's job demands and available resources. The impact of COVID-19 on the healthcare workforce has worsened burnout and overall well-being among healthcare professionals (26, 27). Accordingly, this research aimed to fill this gap by exploring these effects. Developing strategies to support frontline nurses in facing challenges brought on by the pandemic is essential. The study sought to investigate how OMCT and AD affect nurses' fear of death, sense of purpose in life, and feelings of despair amid the COVID-19 crisis.

Methods

Study Design and Setting

The research methodology employed in this study was quasi-experimental, incorporating pre-test and post-test measures with a control group and a 3-month follow-up period, aligning with its practical objectives. The study focused on male and female nurses working in Corona care units in Tehran, Iran, from February to May 2021.

Participants and Sampling

The study's target population included male and female nurses in departments focused on COVID-19 care in Tehran, Iran, specifically in pulmonary and ICU units as well as medical emergency centers, from February to May 2021. Adequacy of the sample size was done using G*Power software, considering $\alpha=0.05$, $\beta=0.05$, and the mean and standard deviation of Death anxiety at pre-test and post-test in the intervention group were estimated to be 47.13 ± 6.61 vs 37.40 ± 5.60. Based on the G*Power software formula, the sample size was equal to 30 people. The intervention group consisted of 15 randomly assigned participants, while the control group also included 15 participants. The researchers employed a random number

table to allocate participants to either the intervention or control group. This method maintained fairness by assigning each participant a unique random number before placing them into a specific group based on a table of random numbers.

The study focused exclusively on nurses in high-risk areas for COVID-19, such as ICUs, pulmonary and infectious disease units, and emergency departments. These nurses were on the front lines of the battle against the virus. The total statistical sample showed higher levels of death anxiety and a significant decline in morale. They also reported lower levels of meaning in life regarding experiencing and searching for meaning. Participation in meetings required agreement and consent, serving as an additional criterion for inclusion.

Individuals with severe untreated depression, other psychiatric disorders, or mild cognitive impairment were excluded. While such criteria have typically been considered for selecting a nursing job, the demographic questionnaire included questions like, "Have you ever been diagnosed with depression or psychological disorders?" and an open-ended inquiry about the medications they were taking: "Do you take any specific psychotropic medication? If so, please specify its name." This approach aimed to exclude such cases from the primary statistical sample.

Individuals with severe untreated depression, other psychiatric disorders, or mild cognitive impairment were not included in the study. Participants under the age of 20 or over 60 were excluded from the study sample. Questionnaires related to cities outside of Tehran were removed from the analysis. Additionally, surveys from hospitals without a department admitting COVID-19 patients or from non-COVID-19 wards in hospitals with such a department were excluded, except 115 emergency rooms in Tehran, which were randomly included in the study (Figure 1).

Intervention

Of the 62 participants, 31 were eligible for random assignment to either the intervention or control group. Among these, 16 participants remained in the intervention group, while 15

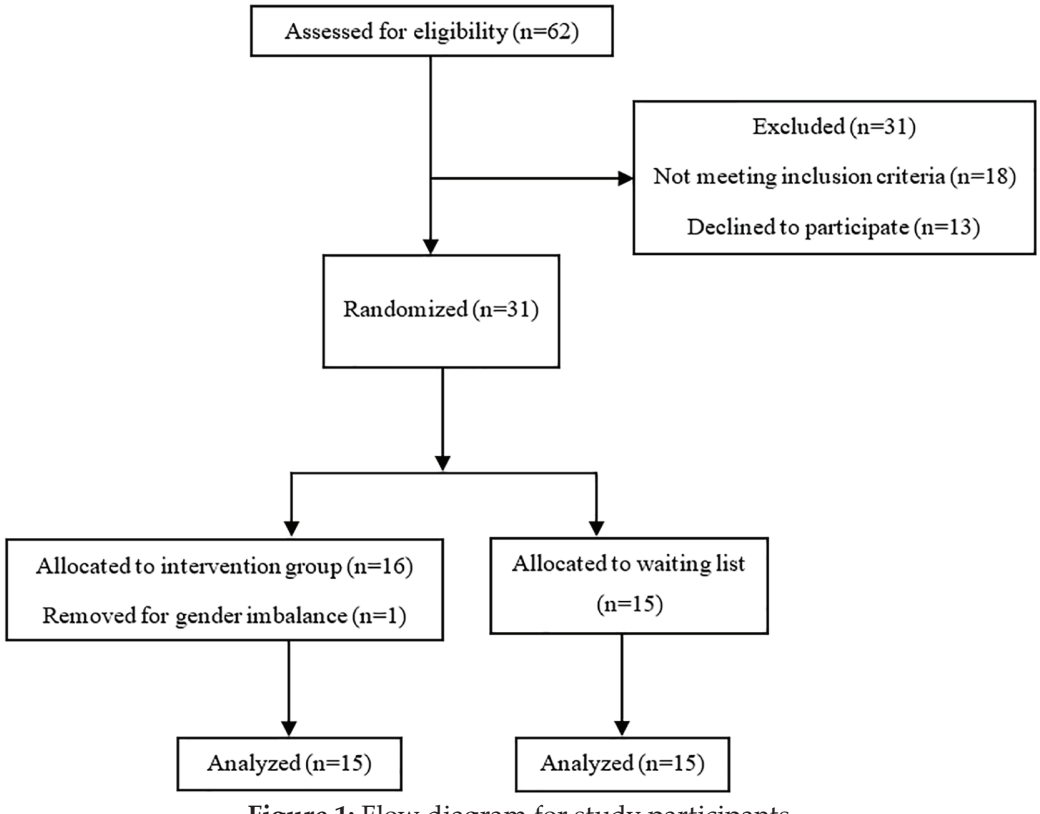

Figure 1: Flow diagram for study participants

stayed in the control group. Ultimately, one participant from the intervention group was removed due to gender imbalance. Fifteen virtual meaning-centered and raising death awareness conversations were conducted, each lasting 54 minutes, to accommodate the nurses' shifts and avoid tiring the audience too much. Various topics were discussed during these sessions, and a podcast was created for nurses to listen to during their

Table 1: The content of meaning-centered therapy and death awareness sessions

Session	Content
1	General overview, introduction of the facilitator and participants, appreciation for the nurses' attendance, guidance on discussing the meaning of life, prompting discussion on existential concerns, and ensuring confidentiality along with adherence to group rules.
2	Reviewing the previous session, explaining Yalom's fundamental human concerns (such as death, freedom, loneliness, and emptiness), and discussing how humans deal with our anxieties through defense mechanisms, including an example from everyday life.
3	"Existence Precedes Essence" and Frankl's perspective on the significance of discovering meaning in life before it is understood, which is referred to as preknowledge about meaning in life.
4	Initial definitions of responsibility, freedom, and avoiding responsibility raise questions about our actual levels of responsibility in different situations. At what moments do we realize that the pen of creation is in our own hands?
5	Fatalism and free will, human destiny, problem-solving, authentic living...
6	Various unconscious defense mechanisms of avoiding responsibility, the differences between duty and responsibility.
7	Responsibility is essential for mental health; how much does an authentic life depend on it? The definition of the phrase "locus of control" indicates that it diminished during the COVID-19 pandemic, as indicated by Martin Seligman's concept of learned helplessness.
8	Achieving any goal revolves around self-fulfillment, the most significant human mission. However, the weight of this responsibility is so heavy that many individuals prefer to pursue an easier path in life. Confronting the reality of mortality helps us find meaning. The ability to contemplate death is a valuable advantage, as living with the awareness of our impermanence allows us to appreciate this brief opportunity. Ultimately, we have only one life to live, which is the essence of an authentic life.
9	Yalom's two main perspectives on the meaning of life: Cosmic meaning, which looks at the overall meaning of life, and terrestrial meaning, which focuses on the meaning of one's individual life. The unconscious religiousness and the unconscious God existential approaches developed by by Frankl.
10	Yalom's explanation of two of Heidegger's modes of existence: A person truly awakens when they enter the second stage of existence. Only through profound experiences, often referred to as boundary situations, can an individual reach this stage. The fear of death can prevent us from fully enjoying life…
11	We use defense mechanisms in response to death anxiety. With the awareness of mortality, we prioritize eliminating jobs incompatible with our existence.
12	Difference between existential void and neogenic neurosis: Disrupting a person's previous meaning system is challenging at some stages of life, but later, it leads to the growth of consciousness.
13	Similarity of creativity and altruism: Both concepts express something outwardly, while their deeper meanings remain hidden. Bringing something to life in another person is a vital aspect of mature, creative love. Repairing romantic relationships also demands a high level of ingenuity.
14	The Eye Nebula technique and solution have advantages and disadvantages. Where should we use it, and where is it better not to use it so as not to be absurd? It can be used in problems, depression, and crises.
15	Facing existential crises and moving toward commitment and responsibility associated with finding meaning in life and the finitude of life, along with a few exercises to explore life's meaning; An overall review of all sessions.

breaks and shifts. In the WhatsApp group, some related books, movies, and animations that explored themes of meaning in life, loss of demoralization, and death anxiety were introduced to the participants. These resources encouraged discussion engagement by incorporating nurses' voices into the podcasts, increasing attentiveness to their colleagues' opinions (Table 1).

Following the meaning-centered discussions and death awareness sessions, the participants completed the questionnaire in February to determine their post-test scores. It was conducted again three months later to assess the results and the long-term impact of the intervention, with follow-up scores collected in May. A booster session was held once between the post-test and the follow-up.

Tools/Instruments

The study employed three questionnaires: the Templer's Death Anxiety Scale (DAS), the Meaning in Life Questionnaire (MLQ), and the Demoralization Scale (DS). All scales were checked for their validity and reliability.

***Tampler's Death Anxiety Scale (DAS)*:** The scale developed by Templer and Ruff in 1971 is designed to assess an individual's level of death anxiety (28). The short Persian version of Templer's scale (29) includes 15 statements that participants must rate as true or false. The Likert-type scale allows respondents to rate their agreement with statements on a scale of 1 to 5, with one being strongly disagree and five being strongly agree. Scores on the scale range from 15 to 75, with lower scores meaning lower levels of death anxiety (15-35), moderate scores showing moderate levels of death anxiety (36-55), and higher scores implying high levels of death anxiety (56-75). A higher score on this scale suggests a higher level of death anxiety (29).

Validity and Reliability - A three-factor solution was selected based on the principal components analysis results and the scale items' interpretation, accounting for 60.38% of the variance. A confirmatory factor analysis then supported the adequacy of the 3-domain structure of the DAS. Goodness-of-fit indices showed an acceptable fit overall with the full model {$\chi(2)(df)=262.32$ (61), $\chi(2)/df=2.04$ [Adjusted Goodness of Fit Index=0.922, Parsimonious Comparative Fit Index=0.703, Normed Fit Index=0.912, CMIN/DF=2.048, and Root Mean Square Error of Approximation=0.055]}. Convergent and discriminant validity were demonstrated with the construct fulfilled. The Cronbach's alpha and construct reliability exceeded 0.70. This study utilized the Persian version of the DAS, which has been examined for its validity and reliability among family caregivers of cancer patients (29).

***The Meaning in Life Questionnaire (MLQ)*:** The scale was developed by Steger and colleagues in 2006 as a survey consisting of 10 items and two subscales and designed to evaluate two aspects of meaning in life: the presence of meaning and the seeking of meaning (30). The presence of meaning in life is determined by questions 1, 4, 5, 6, and 9, with question 9 being scored in reverse to assess the meaningfulness of life. Meanwhile, the sum of questions 2, 3, 7, 8, and 10 reflects the effort put into searching for meaning. The Likert scale used for scoring the questionnaire ranges from "completely false" (1) to "completely true" (7). In the current research, the Persian version developed by Majdabadi was used (31).

Validity and Reliability - The validity of the MLQ was confirmed with a CVI of 0.72 and a CVR of 0.83 (30). The questionnaire demonstrated internal reliability, with Cronbach's alpha coefficient ranging from 0.52 to 0.87 in previous research (32-35).

***Demoralization Scale (DS-24)*:** In 2004, Kissane and colleagues conducted a study to create and validate the demoralization scale. This self-report tool assesses the levels and intensity of demoralization in advanced cancer patients (36). The survey includes 24 questions rated on a 1-5 Likert scale, ranging from "Never" to "Always". The questionnaire assesses various aspects comprising meaninglessness (5 questions), boredom (5 questions), feelings of hopelessness (6 questions), helplessness (4 questions),

and a sense of failure (4 questions). The scoring method involves assessing specific questions to determine the scores for different subscales: Questions 20, 14, 4, and 3 relate to meaninglessness; Questions 24, 23, 22, 21, 18, and 6 pertain to despair; Questions 16, 15, 13, 11, and 10 are associated with boredom; Questions 9, 8, 7, and 5 reflect feelings of helplessness; and questions 19, 17, 12, and 1 show feelings of failure. Questions 19, 17, 12, 6, and 1 are scored reversely.

Validity and Reliability - The reliability of this scale is demonstrated by Cronbach's alpha coefficients for its five components. The alpha coefficients for the loss of meaning and purpose, dysphoria, disheartenment, helplessness, and sense of failure components are reported as 0.87, 0.85, 0.89, 0.84, and 0.71, respectively, in Kissane and colleagues' original research (36). These coefficients demonstrate good internal consistency and reliability in evaluating the different dimensions of demoralization. In Persian research by Bahmani and colleagues, the reliability coefficient was found to be 87.2% in healthy individuals and 96.7% in those with HIV infection (37). Besides, the Cronbach's alpha coefficient in a study conducted by Naghiay and colleagues in Iran demonstrated a scale validity coefficient of 0.86 (38).

Data Collection

Despite efforts to select participants who have experienced a significant decrease in demoralization, the sample size limitations prevented a comprehensive selection process. Initially, the sample for the study was purposefully, nurses chosen from three hospitals in Tehran (Amir Al- Momenin Teaching Hospital, BooAli Teaching Hospital, and Farhikhtegan Teaching Hospital), along with National Medical Emergency in Tehran. Subsequently, all pertinent nurses (62 individuals) were asked to complete a series of questionnaires that included a demographic survey and questions about death anxiety, meaning in life, and demoralization using Porsline, a popular online survey platform. The eligible participants then received the links through SMS and WhatsApp applications. The participants were notified that their involvement was voluntary and their responses would remain confidential. Within the intervention group, podcasts, discussions, and exercises were provided to the participants via WhatsApp. Additionally, the researcher was available by phone to help with any difficulties. The questionnaires were carefully checked to ensure that they were completed. Any incomplete questionnaires were excluded in every stage. The procedure was repeated after three months to assess the results and the long-term impact of the intervention, with the follow-up scores in May.

Data Analysis

The collected data were analyzed using both descriptive and inferential statistical methods. Descriptive statistics included tables summarizing the mean, standard deviation, and results from the Kolmogorov-Smirnov test. The analysis also evaluated the impact of OMCT and AD on nurses' death anxiety, the meaning of life, and demoralization during the COVID-19 pandemic. The results were thoroughly analyzed using a t-test and repeated measures ANOVA in SPSS-26. According to the results of covariance analysis, in the post-test and follow-up stages, the control and intervention groups were assessed for death anxiety, the meaning of life, and the demoralization of nurses. Before analyzing, the sphericity assumption was confirmed to ensure the homogeneity of the covariance matrix scores. Mauchly's W coefficient did not show significance for the variables studied ($P<0.01$); therefore, the Greenhouse-Geisser method was utilized for interpreting the results.

Ethics - After the participants had received consent, an educational program was carried out. Participants had the option to opt out of the program at any time. It was guaranteed that their identities would remain confidential and that their personal information would not be disclosed in the research. The ethical guidelines established by the Islamic Azad University North of Tehran Branch were

adhered to throughout the research.

Results

The research involved 15 female and 15 male participants. The study also found that the intervention and control groups were comparable in gender and marital status. The chi-square test (χ^2) findings showed no significant difference between the two groups regarding gender (P=7.13) and marital status (P=0.624). The mean age of the participants ranged from 30 to 40 years old (53.3±9.89), and %.73.3 of the participants also held a bachelor's degree. The findings indicated that the intervention and control groups were homogenous in age and education levels. The results of the Mann–Whitney U test revealed no significant difference between the two groups' age (P=0.478) and education (P=0.517) (Table 2).

Descriptive statistics, including mean and standard deviation, were used for the research hypotheses test. According to the current research design, the t-test and repeated measures ANOVA were used to compare between and within groups effects. First, the Shapiro-Wilk test was used to check the normality of the distribution of the dependent variables. Since the significance level for death anxiety (intervention group: SW=0.954, P=0.070 and control group: SW=0.956, P=0.090), meaning in life (intervention group: SW=0.965, P=0.186 and control group: SW=0.959, P=0.133), demoralization (intervention group: SW=0.968, P=0.247 and control group: SW=0.967, P=0.231), were greater than 0.05, the null hypothesis was accepted and as a result, the normality of the distribution of death anxiety, meaning in life and demoralization were confirmed at the 95% confidence level.

The results of Levene's test for evaluating the equality of variances among the groups regarding death anxiety (F=1.393, P=0.264), meaning in life (F=1.828, P=0.127), and demoralization (F=1.465, P=0.234) indicated significance levels greater than 0.05. Therefore, the two groups had similar variances for these variables during the pre-test stage. The results of the t-test and repeated measures ANOVA for between and within-group comparison are reported in Table 3.

Based on the results of Table 3, In the pre-test stage, there was no significant difference between the intervention and control groups in the death anxiety(P=0.835), meaning in life(P=796), and demoralization(P=0.813). However, in the post-test stage and follow-up stage, there was a significant difference between the intervention and control groups in the death anxiety (P<0.0001), meaning in life (P<0.0001), and demoralization

Table 2: Demographic description of the research sample

Variable	Groups	Intervention group	%	Control group	%	χ^2	P-value
Gender	Male	6	40	7	46.7	0.163	0.713
	Female	9	60	8	53.3		
Marital status	Single	2	13.3	3	20	0.240	0.624
	Married	13	86.7	12	80		
Variable	**Groups**	**Intervention group**	**%**	**Control group**	**%**	**Mann–Whitney U test**	**P-value**
Age	Age below 30 years	1	6.7	3	13.3	0.696-	0.478
	31 to 40 years old	8	53.3	5	33.3		
	41 to 50 years	6	40	6	40		
	51 to 60 years old	0	0	1	6.7		
	61 years old	0	0	1	6.7		
	Groups	15	100	15	100		
Education	Associate's degree	4	26.7	2	13.3	-0.647	0.517
	Bachelor's degree	9	60	11	73.3		
	Master's degree	2	13.3	2	13.3		

χ^2: Chi-square test

Table 3: Mean and standard deviation of the death anxiety, meaning in life, and demoralization in intervention and control groups

Variables	Groups	Mean±SD			Within group P-value
		Pre-test	Post-test	Follow-up	
	Intervention Group	47.13±6.61	37.40±3.88	40.93±5.39	<0.0001
	Control Group	47.60±5.60	47.00±6.17	47.26±6.76	0.719
	Between-group test P-value	0.835	<0.0001	<0.0001	-
Meaning in life	Intervention Group	50.66±6.45	59.53±5.31	57.66±6.60	<0.0001
	Control Group	49.93±8.72	50.60±8.16	51.26±7.23	0.273
	Between-group test P-value	0.796	<0.0001	<0.0001	-
Demoralization	Intervention Group	60.26±9.26	45.93±6.57	48.53±8.48	<0.0001
	Control Group	61.00±7.65	62.53±6.89	62.00±7.09	0.445
	Between-group test P-value	0.813	<0.0001	<0.0001	-

SD: Standard Deviation

(P<0.0001). Also, the results showed that the difference between the pre-test period, the post-test period, and the follow-up period in the intervention group was significant for death anxiety (P<0.0001), meaning in life (P<0.0001) and demoralization (P<0.0001). However, in the control group, no difference was found between the stages of the study in the death anxiety (P=0.719), meaning in life (P=273), and demoralization (P=0.445).

Discussion

This research examined the impact of the OMCT protocol and AD on death anxiety, the meaning of life, and demoralization among nurses during the COVID-19 pandemic. Analysis revealed significant differences in mean scores for all measured variables (death anxiety, meaning of life, and demoralization) across three assessment phases (pre-test, post-test, and follow-up) during the COVID-19 pandemic.

It is important to note that no identical title was found discussing congruent and noncongruent studies. However, other research can be improved by investigating these variables with the distinct sample groups identified in their studies, which showed that existential education decreased death anxiety and enhanced the sense of meaning for individuals affected by COVID-19 (39-43).

Kukli and colleagues demonstrated that there is an inverse relationship between demoralization and death anxiety concerning the meaning of life for COVID-19 mourners. Finding meaning in life during times of trauma presents challenges. This reverse correlation among the three variables may offer a solution within the specific context of the COVID-19 pandemic and similar crises, providing a framework for utilizing such theoretical models in psychotherapy and interventions to support the patient's emotional well-being (36). In the research conducted by Esmaeilpour and colleagues in 2022, the study results indicated a significant reduction in death anxiety and loneliness among participants who underwent logotherapy and solution-oriented therapy (40). Similarly, Sheykhi and colleagues (2019) found that training programs based on the meaning of life in nurses' subjective well-being positively impacted the anxiety of death and burnout in nurses (41). Ahmadian and colleagues (2019) conducted a practical study to assess the effectiveness of a meaningful life-based training program on nurses' well-being. The results demonstrated a significant improvement in mental well-being among nurses who participated in the program,

with significantly higher mental well-being scores observed in the post-test phase (42). Alizadeh and colleagues (2021) investigated the effect of teaching the existential meaning of death on reducing death anxiety and enhancing individuals' sense of meaning during the COVID-19 pandemic (43). They found significant differences in the post-test scores of the intervention group, indicating that existential psychotherapy training could effectively assist those coping with COVID-19 (43). A recent study by Alipour and colleagues showed that logotherapy based on Rumi's ideas improved anxiety and depression among frontline nurses during the COVID-19 crisis (44). This intervention did not remarkably affect frontline nurses' distress during the COVID-19 pandemic. A study by Vos and colleagues conducted in 2015 examined the effectiveness of various existential therapies in addressing issues such as death anxiety and the search for meaning in life (45). The research found that treatments centered on finding meaning significantly enhanced an individual's sense of purpose immediately following the treatment. The results of the present study align with this discovery. However, moderate effects on specific aspects of mental health, including psychopathology and self-efficacy, were observed during the follow-up period, differing slightly from the findings of the current study (45). Yet, the present study indicated that meaning-centered therapy, when focused on awareness of death within the intervention group, was effective in the follow-up assessments.

Additionally, this research suggests that incorporating meaningful interventions into organizational programs for therapy staff can enhance the overall sense of purpose in life. Finally, the recent findings indicate that including meaning-focused interventions in comprehensive programs within the Ministry of Health and Medicine can improve the morale of healthcare workers, such as nurses. Accordingly, Wong and colleagues proposed that clinicians be trained to address existential suffering to help patients transition from feeling hopeless to feeling more alive than ever (46). It is crucial to recognize that, similar to the significant changes in mental illness and psychotherapy following World War II, the mental health needs in the COVID-19 era will also evolve. While the cheerful melodies of positive psychology may not resonate with individuals facing struggles and hardships, melancholic tunes could comfort those in distress. Moreover, various forms of well-being and happiness are suitable for different life stages, as highlighted.

Limitations and Suggestions

Removing outliers sometimes causes facts to remain hidden from the researcher's perspective. Additionally, the inflexible work schedules of nurses made it challenging to conduct in-person interventions, prompting the use of podcasts as an alternative method for delivering interventions to all participants. Despite these obstacles, the researchers tried to maintain a strong connection with the intervention group and remained available for any concerns that could arise during face-to-face meetings, which were limited in number. More time and additional meetings are necessary to understand both conscious and unconscious death anxiety fully. This limitation highlights the need for additional research on case studies. Further Persian scales related to meaning in life, encompassing coherence, purpose, and significance, should be evaluated and developed. Meaning-centered therapy, alongside awareness of death, aims to empower individuals to address anxiety and concerns effectively. When individuals recognize their mortality, it triggers thought processes that assist them in managing existential anxiety. However, this awareness can also provoke feelings of guilt, fear of isolation, and a loss of identity. The awareness of death among nurses and caregivers, as well as the understanding of death by patients, families, and healthcare providers, can profoundly affect patient lifestyle and care. Meaning-centered therapy provides specific protocols to tackle these issues. As a result, meaning therapy is valuable for helping individuals

overcome worries and anxieties, as it boosts resilience by heightening awareness of one's circumstances.

Conclusion

During the COVID-19 pandemic, significant changes were observed in death anxiety, the meaning of life, and demoralization in the research. The intervention and control groups of nurses exhibited noticeable differences in several variables. It seems that group virtual therapy focusing on the meaning and awareness of death affected death anxiety, the search for meaning in life, and demoralization among nurses during the coronavirus outbreak. As technology advances, enabling remote psychotherapy, it is essential to recognize the importance of meaning-centered therapy in addressing death awareness during crises and suffering. Nurses positioned on the front lines of healthcare are significantly affected by these challenges, including the ongoing COVID-19 pandemic. Thus, virtual meaning-centered therapy, focusing on death awareness, could be a valuable therapeutic intervention. According to the findings, nurses in high-stress environments should receive therapeutic interventions aimed at finding meaning to reduce anxiety associated with death during future pandemics.

Abbreviations

AD: Awareness of Death
MCP: Meaning-centered Psychotherapy
OMCT: Online Meaning-Centered Therapy

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Authors' Contribution

NA and HB carried out conceptualization and performed data curation. NA conducted the investigation, and HB led the methodology development. NA and HB handled project administration and carried out resource acquisition and provision. HB supervised the research. NA prepared the original draft, reviewed it, and edited the manuscript. Both authors approved the final revision.

Conflict of Interest

There is nothing to declare.

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Ethical Considerations

Following informed consent, participants engaged in an educational program with the explicit right to withdraw at any stage. Confidentiality was rigorously maintained, ensuring anonymity of identities and non-disclosure of personal information in research outputs. The study followed the ethical guidelines set by the Islamic Azad University, North Tehran Branch, with the code IR.IAU.TNB.REC.1400.067, in line with the principles governing research involving human subjects.

Availability of Data and Materials

The supporting data for the study can be requested from the corresponding author.

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