e-ISSN: 3023-7270

JNCR

Journal of Nursing Care Research

Volume: 3 Issue: 2 Year: 2026

MHA
MEDIHEALTH ACADEMY

www.medihealthacademy.com

EDITOR-IN-CHIEF

Assoc. Prof. Hilal SEKİ ÖZ

Department of Psychiatric Nursing, Faculty of Health Sciences, Kırşehir Ahi Evran University, Kırşehir, Turkiye

ASSOCIATE EDITOR-IN-CHIEF

Assoc. Prof. Didem AYHAN

Department of Mental Health and Diseases Nursing, Faculty of Health Sciences, Bandırma Onyedi Eylül University, Balıkesir, Turkiye

EDITORIAL BOARD

Prof. Fatma ÖZ

Department of Psychiatric Nursing, Faculty of Health Sciences, Lokman Hekim University, Ankara, Turkiye

Prof. Gökçe DEMİR

Deparment of Public Health Nursing, Faculty of Health Sciences, Kırşehir Ahi Evran University, Kırşehir, Turkiye

Assoc. Prof. Arzu YÜKSEL

Department of Psychiatric Nursing, Faculty of Health Sciences, Aksaray University, Aksaray, Turkiye

Assoc. Prof. Ezgi Seyhan AK

Department of Surgical Nursing, Florence Nightingale Faculty of Nursing, İstanbul University-Cerrahpaşa, İstanbul, Turkiye

Assoc. Prof. Kerime BADEMLİ

Department of Psychiatric Nursing, Faculty of Nursing, Akdeniz University, Antalya, Turkiye

Assoc. Prof. Maral KARGIN

Department of Psychiatric Nursing, Faculty of Health Sciences, Cyprus Science University, Girne, CYPRUS

Assoc. Prof. Sibel ARGUVANLI ÇOBAN

Department of Psychiatric Nursing, Faculty of Health Sciences, Zonguldak Bülent Ecevit University, Zonguldak, Turkiye

Assoc. Prof. Yunus KAYA

Department of Child Development, Faculty of Health Sciences, Aksaray University, Aksaray, Turkiye

Assoc. Prof. Zeliha KAYA ERTEN

Deparment of Public Health Nursing, Faculty of Health Sciences, Nuh Naci Yazgan University, Kayseri, Turkiye

Asst. Prof. Amine TERZİ

Department of Internal Disease Nursing, Faculty of Health Sciences, Artvin Çoruh University, Artvin, Turkiye

Asst. Prof. Arif Hüdai KÖKEN

Department of Medical History and Ethics, Faculty of Medicine, Kırşehir Ahi Evran University, Kırşehir, Turkiye

Asst. Prof. Ayşe ÇİÇEK KORKMAZ

Department of Management in Nursing, Faculty of Health Sciences, Bandırma Onyedi Eylül University, Balıkesir, Turkiye

Asst. Prof. Belgin VAROL

Department of Psychiatric Nursing, Faculty of Nursing, University of Health Sciences, Ankara, Turkiye

Asst. Prof. Burcu DULUKLU

Department of Surgery Nursing, Faculty of Nursing, Hacettepe University, Ankara, Turkiye

Asst. Prof. Emine KORKMAZ

Department of Fundemental Nursing, Faculty of Health Sciences, Kırşehir Ahi Evran University, Kırşehir, Turkiye

Asst. Prof. Miray AKSU

Department of Fundemental Nursing, Gülhane Faculty of Nursing, University of Health Sciences, Ankara, Turkiye

Asst. Prof. Nurdan ÇAKIL AYMELEK

Department of Obstetrics and Gynecology Nursing, Faculty of Health Sciences, Kırşehir Ahi Evran University, Kırşehir, Turkiye

Asst. Prof. Özkan SARIKAYA

Department of Child Development, Faculty of Health Sciences, Kırşehir Ahi Evran University, Kırşehir, Turkiye

Asst. Prof. Seçil EKİZ ERİM

Department of Internal Disease Nursing, Faculty of Health Sciences, Kocaeli University, Kocaeli, Turkiye

Asst. Prof. Yasemin Eda TEKİN

Department of Surgical Nursing, Faculty of Health Sciences, Mudanya University, Bursa, Turkiye

Asst. Prof. Zübeyde Ezgi ERÇELİK

Department of Child Health and Diseases Nursing, Faculty of Health Science, Bandırma Onyedi Eylül University, Balıkesir, Turkiye

ENGLISH LANGUAGE EDITOR

Assoc. Prof. Esra Güzel TANOĞLU

Department of Molecular Biology and Genetics, Hamidiye Health Sciences Institute, University of Health Sciences, İstanbul, Turkiye

STATISTICS EDITOR

Assoc. Prof. Turgut KÜLTÜR

Department of Physical Therapy and Rehabilitation, Faculty of Medicine, Kırıkkale University, Kırıkkale, Turkiye

LAYOUT EDITOR

Kübra YÜRÜMEZ

Graphic/Design, MediHealth Academy Publishing, Ankara, Turkiye

Journal of Nursing Care Research

Contents

Volume: 3 Issue: 2 Year: 2026

ORIGINAL ARTICLES

REVIEW

CASE REPORT

MHA MEDIHEALTH ACADEMY
Journal of Nursing Care Research
Original Article
doi: 10.51271/JNCR-0047

The effect of movie on nursing students' perception and understanding of human dignity and their views on good death

Bilge Dilek Soyaslan*, Günay Öge
Department of Nursing, Faculty of Health Sciences, Ankara Medipol University, Ankara, Turkiye

Cite this article as: Soyaslan BD, Öge G. (2026). The effect of movie on nursing students' perception and understanding of human dignity and their views on good death. *J Nurs Care Res, 3*(2), 39-48. doi:10.51271/JNCR-0047

Received: 29.12.2025 ◆ **Accepted**: 02.03.2026 ◆ **Published**: 13.04.2026

ABSTRACT

Aims: Nurses' attitudes toward terminally ill patients and their families significantly impact the quality of end-of-life care. Through films, nursing students can learn about complex, abstract concepts such as human dignity and a good death.Our aim was to examine the effect of film on nursing students' perceptions and understanding of human dignity and their views on a good death.

Methods: This was an intervention study conducted using a pre-test and post-test design. The study utilized the Descriptive Characteristics Form, the Scale of Human Dignity Perception and Understanding in Nursing, and the Good Death Scale. Before watching the film "Wit," students who wished to participate were given data collection forms and scales, which were administered again after watching the film.

Results: There was no significant difference in scores on the Scale of Human Dignity Perception and Understanding in Nursing and its sub-dimensions before and after watching the film ($p>0.05$). The Cohen's d test statistic indicated that the film did not significantly affect the perceived perception and understanding of human dignity in nursing ($d<0.20$). It was found that nursing students with a high level of perception and understanding of human dignity also had a high perception of a good death.

Conclusion: Watching the film Wit did not result in a statistically significant change in nursing students' perceptions and understanding of human dignity. However, students with higher levels of human dignity perception also demonstrated a stronger perception of a good death, indicating a meaningful relationship between these concepts. Film-based interventions may be more effective when integrated into structured educational programs that include reflection and discussion.

Keywords: Nursing students, nursing education, good death, human dignit

INTRODUCTION

Films are a dynamic learning method that helps retain information, encourages the learning of desired behaviors and complex material, enhances course content, and presents it visually (Oh et al., 2019). By providing a safe learning environment, films motivate learning on cognitive, affective, and behavioral levels, leading to positive changes in students' knowledge, beliefs, and attitudes (Moore & Miller, 2020). Students watching the film identify with the characters and experience the situations the characters go through. In this way, abstract concepts that are difficult to understand are concretized, making them easier to learn. Additionally, interaction increases among students who share similar experiences, allowing the intended concepts to be reinforced (Oh et al., 2019). In nursing education, the use of films has introduced the concept of "Cinenurducation." Through Cinenurducation, students learn the fundamental concepts of nursing while also developing their professional nursing identity. Moreover, using technological methods like films correctly and effectively has helped students understand situations they might not fully experience (Park & Cho, 2021). A study conducted with nursing students found that using the film method helped them acquire profession-specific skills such as communication skills, empathy, and critical thinking (Susanto et al., 2021). Another study found that nursing students found the use of films beneficial for learning course material (Cambra-Badii et al., 2024).

One of the films used in nursing education is "Wit." This film portrays the relationship between Vivien Bearing, who longs for human connection during her chemotherapy, and Nurse Susie, who guides her in making decisions about refusing life support and discussing her life (Moosvi & Garbutt, 2020). It is observed that Nurse Susie effectively handles her patient's care, has a positive professional perception of her role, and that the care she provides has repercussions even after death. Students, while watching a patient's journey from diagnosis to death, also have the opportunity to explore their own beliefs, values, and attitudes. The film can be beneficial for nursing

***Corresponding Author:** Bilge Dilek Soyaslan, bilgedilekkokce@gmail.com

This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

students as it addresses many ethical issues such as patient/team communication, the biopsychosocial model, research ethics, medical errors, human dignity, palliative care, and death (Soner, 2018). The concepts of human dignity and death featured in the film are fundamental concepts that form the essence of nursing and shape nursing care. A terminally ill patient has the right to end their life with dignity, and nursing care should be planned according to the patient's values and needs (Mousazadeh & Rakhshan, 2022).

A good death is defined as dying with dignity in an environment where the patient's suffering is minimized. It includes alleviating the patient's symptoms, avoiding invasive procedures, preserving autonomy and privacy, maintaining respect and meaningful relationships with loved ones, and providing dignified and peaceful care in a safe environment. Since nurses are among the professionals responsible for the care of terminally ill patients, their attitudes toward these patients and their families play a significant role in the quality of end-of-life care (Aşiret et al., 2020). Death, an integral part of life, is one of the most challenging moments that nursing students often encounter very early and frequently. A study conducted with nursing students found that they generally had negative feelings about death and needed education on this topic (Szczupakowska et al., 2021). A qualitative study examining nursing students' professional identity and death experiences indicated that students' perceptions of death were shaped by observing experienced nurses in clinical practice, emphasizing the inclusion of end-of-life care in the nursing curriculum (Gillan et al., 2021). The philosophy of end-of-life care encompasses the patient's existential integrity, independence, human dignity, and perception of a good death. These concepts actually overlap with compassionate care, a crucial aspect of psychiatric nursing. The presence of therapeutic communication in the care process allows the individual to open up and express their fears, as this process can be physiologically and psychologically challenging for both the individual and their family. By incorporating physiological and psychosocial parameters in symptom management, the phenomenon of death can evolve from a purely medical stage into a process that respects the individual's autonomy and meets the criteria for a good death. Therefore, in this study, we plan to examine nursing students' perceptions of "human dignity" before and after watching the film "Wit," which features a nurse with effective communication and nursing values, and a patient receiving end-of-life care, and to explore their views on the concept of "good death" addressed in the film.

METHODS

Ethical Statement

This study was conducted with the approval of the Ankara Medipol University Ethics Committee for Non-interventional Clinical Researches (Date: 22.01.2024, Decision No: 14). All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki.

Study Design

This study employed a pre-test and post-test design. The aim was to determine the effect of a film on nursing students' perceptions and understanding of human dignity, as well as their views on a good death.

Study Setting and Sampling

The study population comprised 125 students enrolled in the Communication in Health Services and Mental Health and Disease Nursing courses. A total of 107 students volunteered to participate in the study. These students included those taking the Communication in Health Services course as part of their first-year nursing curriculum and those enrolled in the Mental Health and Disease Nursing course. A pre-test was conducted a week before the topic of communication in end-of-life care was introduced. During the scheduled week, students were asked to watch the film "Wit" as part of the end-of-life care and communication topic and to come to class prepared. Completing the data collection forms took approximately 20 minutes. Before watching "Wit," students who wished to participate were given data collection forms and scales, which were administered again after watching the film. Before the data collection phase began, students were informed both in writing and orally that the study had no effect on their academic achievement scores. Additionally, the authors were not involved in the data collection phase, and data was collected by a research assistant who did not teach any theoretical or practical courses.

Data Collection Tools

Descriptive Characteristics Form: This form includes questions about whether students chose the profession willingly, their liking for their department, their preferred clinic to work in after graduation, whether they have a relative receiving end-of-life care, and whether they have previously worked in a clinic where end-of-life care is provided (Teles et al., 2020; Susanto et al., 2021; Zorba Bahçeli et al., 2022).

Scale of Human Dignity Perception and Understanding in Nursing: Developed by Yıldırım and Palandöken (2021), this 5-point Likert scale (1-Strongly disagree; 5-Strongly agree) consists of 43 items designed to measure the perception and understanding of human dignity in nursing. It has three sub-dimensions: "Perception," "Care," and "Understanding," with no reverse items. Scores range from 43 to 215, with higher scores indicating a greater perception and understanding of human dignity. The Cronbach's alpha value of the scale is 0.91. In this study, the Cronbach's alpha coefficient was found to be 0.99.

Good Death Scale: Developed by Schwartz et al. (2003) to determine nurses' perceptions of a good death. This 4-point Likert scale (1-Not at all; 4-A lot) consists of 17 items across three sub-dimensions: "Psychosocial and Spiritual," "Personal Control," and "Clinical Management." Scores range from 17 to 68, with higher scores indicating a more positive perception of a good death. The Cronbach's alpha value of the scale is 0.91. In this study, the Cronbach's alpha coefficient was found to be 0.93.

Statistical Analysis

Data were analyzed using SPSS 21.0 software. The Mann-Whitney U test and Kruskal-Wallis H test were employed. The Wilcoxon Signed Ranks test was used to compare pre-test and post-test scores of the scales. Spearman's Rho correlation test examined the relationship between the perception and understanding of human dignity in nursing and the perception of a good death. A statistical significance level of

0.05 ($p<0.05$) was accepted. To determine the film's effect on students' perception and understanding of human dignity and their views on a good death, Cohen's d effect size was calculated. According to Cohen (1988), a d value of 0.20-0.50 indicates a "small effect," 0.50-0.80 a "medium effect," and 0.80 and above a "large effect." (Cohen, 1988).

$$d = \frac{\bar{X}_1 - \bar{X}_2}{(SS_1 + SS_2)/2}$$

RESULTS

Demographic Findings

The demographic characteristics of the 107 nursing students who participated in the study are summarized in Table 1. Of these participants, 51.4% are in their third year of study. The sample predominantly consists of females, comprising 86% of the participants, while males account for 14%. The majority of the participants, 60.7%, fall within the 21-22 age group. Additionally, 56.1% of the students reported choosing their department due to the ample job opportunities it offers. Notably, 28% of the participants expressed a preference for working in psychiatric clinics upon graduation.

Table 1. Participants according to demographic characteristics

Demographic variable	Groups	n	%
Class	1st year	40	37.4
	2nd year	12	11.2
	3rd year	55	51.4
Gender	Female	91	86.0
	Male	16	14.0
Age	18-20 years	20	18.7
	21-22 years	65	60.7
	23-27 years	22	20.6
Liking their department	Yes	80	74.8
	No	7	6.5
	Indecisive	20	18.7
Reason for choosing their department	Many job opportunities	60	56.1
	Family preference	8	7.5
	Love for the profession	39	36.4
Preferred department/clinic after graduation	Psychiatric clinics	30	28.0
	Surgical clinics	23	21.5
	Emergency department	12	11.2
	Oncology clinics	12	11.2
	Pediatric clinics	12	11.2
	Internal medicine clinics	8	7.5
	Indecisive	10	9.3

Findings on the Effect of the Film on Nursing Students' Perception and Understanding of Human Dignity and Good Death

According to Table 2, there was no significant difference in the scores on the Scale of Human Dignity Perception and Understanding in Nursing, nor in its sub-dimensions, before and after watching the film ($p>0.05$). The Cohen's d test statistic further indicated that the film did not have a significant effect on the perceived perception and understanding of human dignity in nursing, with a value of d less than 0.20, suggesting a negligible effect.

Findings on the Relationship Between Human Dignity Perception and Understanding in Nursing and Perception of Good Death

Table 3 presents the findings concerning the relationship between human dignity perception and understanding in nursing and perception of good death. A statistically significant positive correlation ($r=0.58$; $p<0.01$) was observed between human dignity perception and understanding in nursing and perception of good death. This indicates that nursing students who have a higher perception and understanding of human dignity also tend to perceive good death more positively. The findings suggest that a heightened level of human dignity perception and understanding in nursing corresponds to a higher perception of good death among nurse candidates with a high level of human dignity perception and understanding in nursing.

Findings Related to the Comparison of Human Dignity Perception and Understanding in Nursing Scores According to Demographic Variables

According to the findings in Table 4, it was determined that the Scale of Perception and Understanding of Human Dignity in Nursing and sub-dimension scores did not differ significantly ($p>0.05$) according to the participants' gender, class of study, and liking the department they studied. It was found that the perception sub-dimension scores and the Scale of Perception and Understanding of Human Dignity in Nursing scores did not differ significantly according to the age groups of the participants ($p>0.05$); understanding ($x^2=6.17$; $p<0.05$) and care ($x^2=6.10$; $p<0.05$) sub-dimension scores showed significant differences according to age groups. According to the Mann Whitney U pairwise comparison test results, the comprehension and care scores of the participants in the 23-27 age groups were significantly higher than the scores of the participants in the 18-20 age group. According to the findings in Table 4, it was determined that comprehension ($x^2=6.39$; $p<0.05$), perception ($x^2=6.53$; $p<0.05$), care ($x^2=6.21$; $p<0.05$) sub-dimension scores and Scale of Perception and Understanding of Human Dignity in Nursing ($x^2=6.93$; $p<0.05$) scores showed a significant difference according to the reason for choosing the department. According to the Mann Whitney U pairwise comparison test results, the scale and sub-dimension scores of human dignity perception and understanding in nursing of the participants who preferred the department due to having more job opportunities and liking the profession were significantly higher than the scores of the participants who preferred the department due to family preference (Table 4).

It was determined that the perception and care sub-dimension scores and the Scale of Perception and Understanding of Human Dignity in Nursing scores did not differ significantly ($p>0.05$) according to the department/clinic where the participants wanted to work after graduation, while the Understanding ($x^2=14.63$; $p<0.05$) sub-dimension scores showed a significant difference according to the department/clinic where they wanted to work after graduation. According

Table 2. Comparison of pre-test and post-test scores

Scale and dimension	Pre-test mean±SD	Post-test mean±SD	Difference mean±SD	z	p	d
Understanding	66.42±13.34	66.46±14.02	-0.04±10.99	-1.350	0.177	0.003
Perception	56.83±11.49	56.74±12.50	0.09±10.42	-0.757	0.449	0.008
Care	67.52±12.78	66.27±14.45	1.25±11.89	-0.508	0.612	0.092
Human dignity perception and understanding in nursing	190.78±36.51	189.47±39.73	1.31±31.97	-1.112	0.266	0.034
Psychosocial and spiritual	30.92±5.02	30.75±5.46	0.17±3.61	-0.223	0.823	0.032
Personal control	10.01±2.20	10.16±2.22	-0.15±1.61	-0.978	0.328	0.068
Clinical management	15.61±3.17	15.79±3.54	-0.18±2.62	-0.698	0.485	0.054
Good death	56.53±9.49	56.69±10.50	-0.16±6.92	-0.398	0.691	0.016

SD: Standard deviation Z: Mann Whitney U, d: Cohen's d value

Table 3. The relationship between human dignity perception and understanding in nursing and good death

Scale and dimension	1	2	3	4	5	6	7	8
1-Understanding	1							
2-Perception	0.76**	1						
3-Care	0.79**	0.86**	1					
4-Human dignity perception and understanding in nursing	0.90**	0.91**	0.93**	1				
5-Psychosocial and spiritual	0.49**	0.56**	0.58**	0.59**	1			
6-Personal control	0.47**	0.52**	0.49**	0.54**	0.76**	1		
7-Clinical management	0.39**	0.55**	0.49**	0.53**	0.87**	0.74**	1	
8-Good death	0.47**	0.58**	0.56**	0.58**	0.97**	0.84**	0.94**	1

Spearman's Rho correlation

to the Mann Whitney U comparison test results, the comprehension scores of the participants who wanted to work in psychiatry, surgery and emergency departments upon graduation were significantly higher than the scores of the participants who wanted to work in pediatrics (Table 4).

Findings related to the comparison of Good Death Scale and subscale scores according to demographic variables

According to the findings in Table 5, it was determined that the Good Death Scale and sub-dimension scores did not differ significantly ($p>0.05$) according to the age groups of the participants, their liking for the department they studied, and the reasons for choosing the department they studied.

It was determined that the psychosocial and spiritual, personal control sub-dimension scores and Good Death Scale scores did not differ significantly ($p>0.05$), while the clinical ($x^2=6.15$; $p<0.05$) sub-dimension scores differed significantly according to the class of the participants. According to the Mann Whitney U pairwise comparison test results, the clinical sub-dimension scores of the participants in the third grade were significantly higher than the scores of the participants in the first grade. It was determined that the participants' psychosocial and spiritual, clinical sub-dimension scores and Good Death Scale scores did not differ significantly according to gender ($p>0.05$), while personal control ($z=-2.25$; $p<0.05$) sub-dimension scores showed a significant difference. The personal control sub-dimension score of female participants was found to be significantly higher than that of male participants. It was found that the psychosocial and spiritual sub-dimension scores did not differ significantly ($p>0.05$), while the personal control ($x^2=16.49$; $p<0.05$) and clinical management ($x^2=15.08$; $p<0.05$) sub-dimension scores and the Good Death Scale score ($x^2=13.12$; $p<0.05$) differed significantly according to the department / clinic where the participants wanted to work after graduation. According to the Mann Whitney U pairwise comparison test results, the personal control, clinical management sub-dimension scores and Good Death Scale score of the participants who wanted to work in the psychiatry clinic upon graduation were found to be significantly higher than the scores of the participants who wanted to work in surgical units, emergency department, oncology and pediatric units upon graduation.

DISCUSSION

Nurses should fulfill their roles within an ethical framework that respects human dignity. A patient care approach implemented in this manner enhances patient satisfaction and quality of life. Nursing theorist Watson stated that nursing care should be individual-centered, incorporating both verbal and non-verbal communication techniques effectively, with kindness, and in a manner that respects the individual's dignity. Authentic care honors the individual and a healing environment should maintain human dignity (Kabasakal & Kitiş, 2021). The approach that respects human dignity continues during the dying process as well. During this process, the patient should receive social support, symptom relief, and autonomy support (Mousazadeh & Rakhshan, 2022). The concept of a good death is defined as ending life care without dependency on others, with few or no symptoms, without suffering in sleep, quickly, having said goodbye to loved ones, maintaining dignity and human respect, and without unnecessary invasive treatment and interventions (Rafii & Abredari, 2023). Therefore, nurses need to be knowledgeable about the components of a good death

Table 4. Comparison of human dignity perception and understanding in nursing scores according to demographic variables

Demographic variable		Understanding mean±SD	Perception mean±SD	Care mean±SD	Total mean±SD
Class					
1st year		65.85±11.74	57.28±10.09	67.40±10.93	190.53±31.04
2nd year		58.42±21.29	48.92±17.48	61.50±20.35	168.83±58.31
3rd year		68.58±11.75	58.24±10.36	68.93±11.83	195.75±33.11
	x^2 (SD)	4.748(2)	5.833(2)	3.246(2)	5.393(2)
	p	0.093	0.054	0.197	0.067
	Significant difference	-	-	-	-
Gender					
Female		66.23±14.02	56.33±12.09	67.05±13.53	189.61±38.53
Male		67.60±8.21	59.93±6.15	70.40±5.99	197.93±19.42
	z	-0.11	-1.14	-0.57	-0.86
	p	0.909	0.256	0.569	0.390
Age					
18-20 years		60.70±17.21	51.50±14.95	61.90±16.28	174.10±47.54
21-22 years		67.80±11.34	58.25±9.98	69.46±10.96	195.51±31.19
23-27 years		67.55±14.12	57.50±11.28	66.91±13.27	191.95±37.19
	x^2 (SD)	6.166(2)	4.115(2)	6.095(2)	5.466(2)
	p	0.046	0.128	0.047	0.065
	Significant difference	B,C>A	-	B,C>A	-
Liking their department					
Yes		65.14±14.85	55.53±12.66	66.16±14.33	186.83±40.76
No		68.86±6.96	56.57±7.37	70.86±5.52	196.29±18.07
Indecisive		70.70±5.61	62.15±4.09	71.80±4.05	204.65±12.13
	x^2 (SD)	1.41(2)	7.285(2)	2.913(2)	3.37(2)
	p	0.494	0.128	0.233	0.185
	Significant difference	-	-	-	-
Reason for choosing their department					
Many job opportunities		69.65±8.73	58.90±8.75	69.80±9.19	198.35±25.49
Family preference		51.88±23.80	44.38±20.26	54.88±23.36	151.13±66.91
Love for the profession		64.44±14.44	56.21±11.58	66.62±13.47	187.26±38.09
	x^2 (SD)	6.395(2)	6.534(2)	6.21(2)	6,927(2)
	p	0.041	0.038	0.045	0.031
	Significant difference	A,C>B	A,C>B	A,C>B	A,C>B
Preferred department/clinic after graduation					
Psychiatric clinics		68.93±14.72	57.97±13.17	68.60±15.14	195.50±42.52
Surgical clinics		67.70±8.05	58.52±6.36	70.43±6.26	196.65±18.12
Emergency department		69.75±7.05	59.92±5.52	69.58±6.73	199.25±18.17
Oncology clinics		63.92±9.32	55.25±7.90	67.33±8.48	186.50±23.63
Pediatric clinics		54.33±23.88	45.83±20.56	54.83±23.32	155.00±67.26
Internal medicine clinics		66.13±10.33	57.88±7.40	68.88±4.45	192.88±17.28
Indecisive		69.70±6.06	60.10±4.89	69.50±3.84	199.30±12.30
	x^2 (SD)	14.635(6)	9.99(6)	10.653(6)	12.419(6)
	p	0.023	0.125	0.100	0.053
	Significant difference	A,B,C>E	-	-	-

SD: Standard deviation

to provide appropriate care to individuals (Mastroianni et al., 2021).

There are factors that influence the satisfaction of nursing students with their chosen field of study (Ergün et al., 2021). For example, students' perception of success, economic difficulties, and peer support play a role (Priode et al., 2020). In this study, it was found that 74.8% of the students loved their chosen field of study. A study conducted in 2022 determined that 95.97% of students had a positive attitude towards the profession (Humane, 2022).

There are intrinsic and extrinsic factors influencing nursing students' career choices. Among the extrinsic factors, the

Table 5. Comparison of Good Death Scale and subscale scores according to demographic variables

Demographic variable		Psychosocial and spiritual mean±SD	Personal control mean±SD	Clinical management mean±SD	Total mean±SD
Class					
1st year		30.78±5.03	9.83±2.24	15.18±3.18	55.78±9.34
2nd year		27.33±7.74	9.08±3.18	13.83±4.13	50.25±14.44
3rd year		31.8±3.92	10.35±1.87	16.31±2.75	58.45±7.63
	x^2 (SD)	4.009(2)	1.946(2)	6.155(2)	4.716(2)
	p	0.135	0.378	0.046	0.095
	Significant difference	-	-	C>A	-
Gender					
Female		31.17±4.88	10.20±2.13	15.68±3.13	57.05±9.19
Male		29.33±5.75	8.87±2.36	15.13±3.46	53.33±10.95
	z	-1.25	-2.25	-0.46	-1.24
	p	0.210	0.025	0.648	0.214
Age					
18-20 years		29.40±7.10	9.05±2.65	14.35±4.11	52.8±13.15
21-22 years		30.94±4.54	10.17±2.02	15.66±2.94	56.77±8.40
23-27 years		32.23±3.85	10.41±2.13	16.59±2.54	59.23±7.87
	x^2 (SD)	2.133(2)	4.125(2)	3.638(2)	2.694(2)
	p	0.344	0.127	0.162	0.260
	Significant difference	-	-	-	-
Liking their department					
Yes		30.64±5.02	9.89±2.20	15.34±3.17	55.86±9.45
No		32.00±6.19	10.71±1.60	17.57±2.76	60.29±10.18
Indecisive		31.65±4.73	10.25±2.40	16.00±3.13	57.90±9.45
	x^2 (SD)	2.651(2)	1.54(2)	3.169(2)	2.594(2)
	p	0.266	0.463	0.205	0.273
	Significant difference	-	-	-	-
Reason for choosing their department					
Many job opportunities		31.82±3.44	10.37±1.76	15.9±2.6	58.08±6.71
Family preference		25.75±9	8.75±3.24	13.5±5.04	48±16.57
Love for the profession		30.59±5.47	9.72±2.48	15.59±3.43	55.9±10.54
	x^2 (SD)	3.325(2)	2.682(2)	2.109(2)	3.283(2)
	p	0.190	0.262	0.348	0.194
	Significant difference	-	-	-	-
Preferred department/clinic after graduation					
Psychiatric clinics		33.00±3.30	10.93±1.78	17.40±2.39	61.33±6.66
Surgical clinics		31.17±3.76	9.78±2.00	14.61±2.87	55.57±7.79
Emergency department		29.25±5.12	9.83±1.95	15.25±2.63	54.33±9.01
Oncology clinics		29.00±5.97	8.50±2.43	14.50±3.50	52.00±11.28
Pediatric clinics		29.50±8.11	9.17±2.59	15.00±4.45	53.67±14.44
Internal medicine clinics		31.13±4.64	9.88±3.09	16.00±2.88	57.00±10.07
Indecisive		29.90±5.22	10.90±1.29	14.70±2.98	55.50±7.41
	x^2 (SD)	9.782(6)	16.494(6)	15.08(6)	13.117(6)
	p	0.134	0.011	0.020	0.041
	Significant difference	-	A>B,C,D,E	A>B,C,D,E	A>B,C,D,E

SD: Standard deviation

high employment rate plays an important role in students' selection of the profession (Salminen-Tuomaala & Herttuala, 2022). In this study, it was observed that 56.1% of the students chose the profession due to the high employment rate. Ergün et al.'s study found that 60.8% of the students chose the nursing profession because of the high employment rate (Ergün et al., 2021). A study published in 2022 revealed that 47% of the students were influenced by the high employment rate when choosing the profession (Salminen-Tuomaala & Herttuala, 2022). In this study, it was found that 36.4% of the

students chose the nursing department because they loved the profession. This can be explained by the intrinsic factor of feeling suitable for the profession (Salminen-Tuomaala & Herttuala, 2022).

It has been observed that the opinions of families influence students' career choices by 7.5%. This can be explained by the intrinsic factors of being influenced by social media and others' opinions (Salminen-Tuomaala & Herttuala, 2022). In the study by Ergün et al., it was shown that 7.1% of the students chose the nursing profession at the request of their families (Ergün et al., 2021). During nursing education, students receive a comprehensive education. Additionally, students may have preferences for specific clinics they wish to work in after graduation. In this study, 28% of the students expressed a desire to work in psychiatric clinics after graduation. This is seen as the students perceiving psychiatric nursing as a field that offers professional satisfaction and a desire to help individuals with mental disorders (Uzun & Demir, 2020).

In the pre-test the average scores of students on the Scale of Human Dignity Perception and Understanding in Nursing were found to be 190.78±36.51. In a study conducted in 2021 aimed at developing the scale, the average scores were found to be 210.34±7.82 in the pre-test and 209.30±10.73 in the post-test (Yıldırım & Akın Palandöken, 2021). In a study conducted in 2023, the average scores for the meaning sub-dimension were reported as 67.1±15.4, for the perception sub-dimension as 57.9±13.5, for the care sub-dimension as 68.1±15.1, and the overall scale average score was 193.1±43.8 (Nacak, 2023). In a qualitative study conducted with postgraduate nursing students, participants defined a good death as being pain-free, having the opportunity to say goodbye to loved ones until the last moment, avoiding unnecessary medical interventions, being in the place of their choice, and not creating a burden of care (Zorba Bahçeli et al., 2022). When looking at the sub-dimensions and total average scores of the Good Death Scale in this study, similar results were found to those obtained in the study conducted in 2022 (Bayraktar et al., 2022).

The literature shows that the technique of using films is utilized in the education and training of nursing students. Studies have demonstrated that using films is effective for teaching specific topics or developing desired skills in various areas, such as pediatric nursing (Oh & Steefel, 2016), psychiatric nursing (Mathew & Mathew, 2018; Terzioğlu et al., 2017), and women's health and diseases nursing (Cambra-Badii et al., 2024). In this study, it was observed that the film-watching technique did not result in a significant difference in the average scores of the Scale of Human Dignity Perception and Understanding in Nursing, as well as the Good Death Scale ($p>0.05$; $d<0.20$). This may be due to the high average scores of the students on both scales. In this study, it was found that nursing students with a high level of perception and understanding of human dignity also had a high perception of a good death. There was a positive significant relationship between the perception and understanding of human dignity and the perception of a good death. No other studies examining the relationship between the perception and understanding of human dignity and the perception of a good death were found in the literature. One study examined the attitudes of intensive care nurses towards end-of-life care and their perceptions of a good death, finding a significant positive moderate relationship ($r=0.425$; $p<0.001$). Another study investigating the effectiveness of nurses in end-of-life care and its relationship with the perception of a good death found a positive, moderate, and significant relationship between the concept of a good death and end-of-life care competence (Zarei, Dehghan, & Mongolian Shahrbabaki, 2022).

In this study, it was found that the scores of the Scale of Human Dignity Perception and Understanding in Nursing and its sub-dimensions in nursing did not show significant differences based on the students' gender, class, or liking of their department. However, it was found that the perception and understanding sub-dimensions showed significant differences in the 23-27 age group ($p<0.05$). In a study using the Scale of Human Dignity Perception and Understanding in Nursing, it was determined that the "Meaning" sub-dimension scores were statistically significantly higher in the 21-23 age group compared to the 18-20 age group (Nacak, 2023). The literature review revealed only one study using a similar scale related to understanding and perceiving human dignity in nursing (Nacak, 2023). However, studies using the "Nurses' Professional Values Scale," which includes human dignity as one of its sub-dimensions, were also reviewed. Studies aimed at determining nursing students' perceptions of professional values found no significant difference between classes in the "human dignity" sub-dimension, with high scores observed (Elmalı, 2020; Ibrahimoglu et al., 2020). Another study found that operating room nurses had high professional values, with the highest average score in the human dignity sub-dimension (Tuna & Kahraman, 2021). This study's results may be related to the increase in individuals' experiences with age, greater interaction in clinical practice, and experiencing care that maintains human dignity. A similar conclusion was reached in another study, which found that nursing students experienced the concept of human dignity in care through clinical practice experiences, observations, and interactions with patients (Stikholmen et al., 2022). In this study, it was determined that the scores on the Scale of Human Dignity Perception and Understanding in Nursing were significantly higher among students who chose the profession because they liked it and because of job opportunities, compared to those whose families chose the department for them ($p<0.05$). A study indicated that students generally chose the nursing profession due to job opportunities, interest in the profession, and love for the profession, and that individuals who willingly chose the profession were more likely to succeed, provide effective care, and find satisfaction in the profession (Özveren et al., 2017). It was also found that students who wanted to work in psychiatry, surgery, and emergency services after graduation had significantly higher scores in the "understanding" sub-dimension of the Scale of Human Dignity Perception and Understanding in Nursing compared to those who wanted to work in pediatric clinics ($p<0.05$). The literature also reports that nursing students particularly struggle with communication when dealing with pediatric patients (Teles et al., 2020).This result is thought to be related to the students' personality traits, difficulties in communicating with pediatric patients, and lack of prior experience in caring for pediatric patients.

In this study, it was found that the psychosocial and spiritual, clinical sub-dimension scores, and the total scores of the Good Death Scale did not show significant differences

according to the gender of the students (p>0.05). However, the personal control sub-dimension scores showed a significant difference (z=-2.25; p<0.05), with female students scoring significantly higher in this sub-dimension compared to male students. A similar study found no significant differences between the Good Death Scale scores and the variables of age, gender, marital status, education level, and choosing the profession willingly among nurses (Rumeysa Bayram, 2023). In this study, it was found that the total scores of the Good Death Scale and its sub-dimensions did not show significant differences based on the age of the students, their liking of their department, or their reasons for choosing their department (p>0.05). However, the clinical sub-dimension scores showed significant differences according to the class level of the students (x^2=6.15; p<0.05), with third-year students scoring significantly higher in the clinical sub-dimension compared to first-year students. This difference is thought to be related to third-year students taking a palliative care and end-of-life care course for the first time in the curriculum during the research period and having more clinical practice experience, which leads to more exposure to the concepts of death and end-of-life care. A similar study found that the attitudes towards the perception of a good death were not affected by age group or the experience of providing care to terminal patients during clinical practice. However, students who received education on death had significantly higher Good Death Scale scores compared to those who did not (56.79±6.86) (p<0.05) (Bayraktar et al., 2022). Another study found no statistically significant relationship between the age, gender, previous encounters with death, and the Good Death Scale scores and its sub-dimensions. However, unlike this study, first-year students had significantly higher average scores on the Good Death Scale (p<0.05) (Çevik et al., 2021). The perceptions of nurses regarding death are influenced by characteristics such as age and education. As individuals age, they tend to see the death process as a natural part of life. With increased education and experience, nurses become more effective in providing care and treatment with a good death approach (Ceyhan et al., 2018). However, a study found that younger nurses working in intensive care and emergency departments experienced more anxiety related to death and held more negative attitudes towards patients in the end-of-life period (Sahin et al., 2017). Xia and Kongsuwan (2020) also found that younger nurses had higher fears related to death and more negative attitudes towards patients, which was attributed to their lack of experience and a tendency to avoid negative emotions (Xia & Kongsuwan, 2020). Another study investigated oncology nurses' attitudes towards caring for dying patients, their principles of living with dignity in the face of death, and their views on a good death. It was found that nurses' personal and professional characteristics influenced their attitudes towards caring for dying patients, their principles of living with dignity in the face of death, and their views on a good death (Uzunkaya Oztoprak & Terzioglu, 2024).

In this study, it was found that the psychosocial and spiritual sub-dimension scores did not show significant differences based on the departments/clinics where students wanted to work after graduation (p>0.05). However, the total scores of the Good Death Scale did show significant differences (x^2=13.12; p<0.05), with students who wanted to work in psychiatry clinics having significantly higher Good Death Scale scores compared to those who wanted to work in surgical units, emergency services, oncology, and pediatric units. This may be due to the students' personality traits, communication skills, and the belief that the concept of death is more prevalent in other clinical settings. Contrary to this study findings, a study determined that nurses' views on good death did not vary according to the department in which they worked (Özyalçın& Çevik, 2023). One sub-dimension of the Good Death Scale includes the psychosocial and spiritual aspects of death. It is emphasized that care should be provided in a manner that ensures the individual's privacy, supports their cultural and religious beliefs, maintains their dignity, and integrates spiritual care into nursing care (Danacı, Özbudak, & Ağaçdiken, 2022). A study examining nursing students' views on spiritual care and good death found that students had positive attitudes towards the principles of a good death (Duru Aşiret et al., 2020).

Limitations

The limitations of this study are the limited sample group and the fact that it was conducted in a single centre. In addition, it is thought that students may have difficulty in adapting complex concepts such as good death and human dignity to their lives. Therefore, randomised, multi-centre studies can be conducted.

Future Research

Feature films can be utilized as a technique in nursing education, adding variety to the learning experience. Mixed-method research can be conducted to determine the effectiveness of films and to explore students' experiences, thereby providing a better understanding of the films' impact. In this way, the targeted content can be reflected in the world created by the film, and post-film opinions can be solicited.

CONCLUSION

One example of using different instructional and teaching techniques in courses is the use of films. Through films, students can observe diseases and their impact on individuals and their families. In our study, we consider the use of a different teaching technique as a strong aspect of the research.

In this study it was found that nursing students with a high level of perception and understanding of human dignity also had a high perception of a good death. In the holistic nursing approach, patient care and communication are integrated. Nurses need to adopt an approach that preserves human dignity and have a solid understanding of the concept of a good death in order to provide care for terminally ill patients. These concepts must be carefully emphasized in nursing education. Using cineeducation within the course content, especially before students encounter terminally ill patients, can be beneficial for fostering empathy and helping students embrace their nursing roles.

ETHICAL DECLARATIONS

Ethics Committee Approval

This study was conducted with the approval of the Ankara Medipol University Ethics Committee for Non-interventional Clinical Researches (Date: 22.01.2024, Decision No: 14).

Informed Consent

Written informed consent was obtained from all individual participants prior to their inclusion in the study. Participants were fully informed about the study's aims, procedures, potential risks and benefits, and their rights-including the right to withdraw at any time without consequence. All participants voluntarily signed a written informed consent form.

Peer Review Process

This manuscript was subject to external peer review.

Conflict of Interest

The authors declare no conflicts of interest related to this study.

Financial Disclosure

The authors received no financial support for the conduct or publication of this research.

Author Contributions

Concept: BDS; Design: BDS; Control: BDS, GÖ; Data Collection and/or Processing: BDS, GÖ; Analysis and/or Interpretation: BDS, GÖ; Literature Review: BDS, GÖ; Article Writing: BDS, GÖ; Critical Review: BDS, GÖ.

REFERENCES

Aşiret, G. D., Kütmeç Yılmaz, C., & Gökşin, İ. (2020). Relationship between the nursing students' attitudes towards spiritual care and the principles of a good death. *Perspectives in Psychiatric Care*, *56*(4), 913-919. https://doi.org/10.1111/ppc.12511

Bayraktar, D., Gunes, Ü., Bayraktar Balıkçı, B. B., & Khorshid, L. (2022). Investigation of nursing students' attitudes towards perceptions of good death. *Journal of Nursology, 25*(3), 132-137. https://izlik.org/JA62ZN47NL

Bayram, R. (2023). Determination of intensive care nurses' attitudes and behaviors towards end-of-life care and their views on good death [Doctoral dissertation, Avrasya University]. Institute of Health Sciences, Department of Nursing.

Cambra-Badii, I., Baños, J.-E., Biurrun Garrido, A., Alcaraz-Vidal, L., Vila Granados, R., & Robleda Font, G. (2024). A cinenurducation activity using Call the Midwife to teach about sexually transmitted infections and preeclampsia: design, implementation, and assessment. *Nurse Education Today, 138*, 106198. https://doi.org/10.1016/j.nedt.2024.106198

Ceyhan, Ö., Özen, B., Zincir, H., Şimşek, N., & Başaran, M. (2018). How intensive care nurses perceive good death. *Death Studies, 42*(10), 667-672. https://doi.org/10.1080/07481187.2018.1430084

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Lawrence Erlbaum Associates.

Danacı, E., Özbudak, E., & Ağaçdiken, S. (2022). Ways of knowing in nursing; spiritual knowing. *Dokuz Eylul University Faculty of Nursing Electronic Journal, 15*(4), 557-567. https://doi.org/10.46483/deuhfed.961304

Elmalı, H. (2020). Determination of professional values of nursing students. *Journal of Academic Research in Nursing, 6*(1), 125-131. https://doi.org/10.5222/jaren.2020.59272

Ergün, Y., Mutlu, Ç. I., Demir, D., Berker, E., & Anık, G. (2021). Nursing students' expectations from education and satisfaction levels. *Gümüşhane University Journal of Health Sciences, 10*(4), 799-808. https://doi.org/10.37989/gumussagbil.748093

Fadıloğlu, Ç., & Aksu, T. (2013). Validity and reliability of the Good Death Scale. *Journal of Ege University Nursing Faculty, 29*(1), 1-15.

Gillan, P. C., Jeong, S., & van der Riet, P. (2021). Embodied good deaths and disembodied bad deaths: undergraduate nursing students' narratives of experience. *Nurse Education Today, 97*, 104674. https://doi.org/10.1016/j.nedt.2020.104674

Humane, S. (2022). Attitude of nursing students towards nursing profession: digital survey. *International Journal of Science and Healthcare Research, 7*(4), 13-19. https://doi.org/10.52403/ijshr.20221003

Ibrahimoglu, O., Mersin, S., Kilic, H. S., & Kahraman, B. B. (2020). Professional values of nursing students in Turkey. *International Journal of Caring Sciences, 13*(2), 878-884.

Kabasakal, A., & Kitiş, Y. (2021). A conceptual analysis of Watson's Theory of Human Caring. *Health Academy Kastamonu, 6*(2), 45-50. https://doi.org/10.25279/sak.516353

Mastroianni, C., Marchetti, A., D'Angelo, D., Artico, M., Giannarelli, D., Magna, E., Motta, P. C., Piredda, M., Casale, G., & De Marinis, M. G. (2021). Italian nursing students' attitudes towards care of the dying patient: a multi-center descriptive study. *Nurse Education Today, 104*, 104991. https://doi.org/10.1016/j.nedt.2021.104991

Mathew, M. A., & Mathew, M. J. (2018). A study to assess the effectiveness of movie based educational package in teaching psychiatry for undergraduate nursing students in selected nursing college at Thiruvalla. *Asian Journal of Nursing Education and Research, 8*(2), 275-277. https://doi.org/10.5958/2349-2996.2018.00053.8

Moore, A. K., & Miller, R. J. (2020). Video storytelling in the classroom: the role of narrative transportation. *Journal of Nursing Education, 59*(8), 470-474. https://doi.org/10.3928/01484834-20200723-10

Moosvi, K., & Garbutt, S. (2020). Shifting strategies: using film to improve therapeutic communication and nursing education. *Nursing Education Perspectives, 41*(2), 134-135. https://doi.org/10.1097/01.NEP.0000000000000431

Mousazadeh, N., & Rakhshan, M. (2022). Dignified death: A concept analysis and implications for nursing. *Family Medicine & Primary Care Review, 24*(2), 146. https://doi.org/10.5114/fmpcr.2021.110362

Nacak, U. A. (2023). Nursing students' understanding and perceptions of human dignity [Master's thesis, Hacettepe University Institute of Health Sciences].

Oh, J., & Steefel, L. (2016). Nursing students' preferences of strategies surrounding cinenurducation in a first year child growth and development courses: a mixed methods study. *Nurse Education Today, 36*, 342-347. https://doi.org/10.1016/j.nedt.2015.08.019

Oh, J., Kim, S. J., Kim, S., Kang, K. A., Kan, J., & Bartlett, R. (2019). Development and evaluation of flipped learning using film clips within a nursing informatics course. *Japan Journal of Nursing Science, 16*(4), 385-395. https://doi.org/10.1111/jjns.12245

Özveren, H., Gülnar, E., & Özden, D. (2017). Determination of the factors that affect the choice of career of the nursing students. *Turkish Journal of Clinics and Laboratory, 8*(2), 57-64. https://doi.org/10.18663/tjcl.320040

Özyalçın Özcan, D., & Çevik, B. (2023). Opinions of cancer patients, their relatives, and nurses on good death. *OMEGA-Journal of Death and Dying, 86*(4), 1473-1492. http://doi.org/10.1177/00302228211053473.

Hyangjin, P. A. R. K., & Haeryun, C. H. O. (2021). Effects of nursing education using films on perception of nursing, satisfaction with major, and professional nursing values. *Journal of Nursing Research*, *29*(3), e150. https://doi.org/10.1097/JNR.0000000000000433

Priode, K. S., Dail, R. B., & Swanson, M. (2020). Nonacademic factors that influence nontraditional nursing student retention. *Nursing Education Perspectives, 41*(4), 246-248. https://doi.org/10.1097/01.NEP.0000000000000577

Rafii, F., & Abredari, H. (2023). Death with dignity in end-of-life nursing care: concept analysis by Rodgers' evolutionary method. *Iranian Journal of Nursing and Midwifery Research, 28*, 179-187. https://doi.org/10.4103/ijnmr.ijnmr_440_21

Sahin, D. S., Önal, Ö., & İnanç, B. B. (2017). Attitudes of nurses working in emergency and intensive care units toward good death and death anxiety. *Journal of Clinical and Analytical Medicine, 8*, 75-79. https://doi.org/10.4328/JCAM.4949

Salminen-Tuomaala, M., & Herttuala, N. (2022). What factors influenced students' decision to choose nursing? *Advances in Image and Video Processing, 10*(5) 284-293. https://doi.org/10.14738/aivp.105.13237

Soner, G. (2019). An analysis of the characteristics of Nurse Susie Monahan Character in 'Wit' film within the framework of nursing definition of Virginia Avenel Henderson. *Turkey Journal of Bioethics, 5*(4), 151-164. https://doi.org/10.5505/tjob.2018.42714

Stikholmen, T., Nåden, D., & Alvsvåg, H. (2022). Discovering dignity through experience: how nursing students discover the expression of dignity. *Nursing Ethics, 29*(1), 194-207. https://doi.org/10.1177/09697330211012042

Susanto, T., Yunanto, R. A., & Nur, K. R. M. (2021). Cinema education using family films for improving the ability of nursing students in language and communication ability in family nursing care: a pilot study. *Education for Health, 34*(3), 120-121. https://doi.org/10.4103/efh.EfH_64_20

Szczupakowska, M., Stolarek, P., Roszak, M., Głodowska, K., & Baum, E. (2021). Patient's death from the perspective of nursing students. *Frontiers in Public Health, 9*, 636582. https://doi.org/10.3389/fpubh.2021.636582

Teles, M. G., Mendes-Castillo, A. M. C., Oliveira-Kumakura, A. R. D. S., & Silva, J. L. G. (2020). Clinical simulation in teaching pediatric nursing: students' perception. *Revista Brasileira de Enfermagem, 73*, e20180720. https://doi.org/10.1590/0034-7167-2018-0720

Terzioğlu, C., Eskiyurt, R., & Özkan, B. (2017). Investigation of the awareness of students in care practices by showing a movie in psychiatric nursing education. *Journal of Health Sciences and Professions*, *4*(3), 149-161. https://doi.org/10.17681/hsp.304904

Tuna, R., & Kahraman, B. (2021). Professional values of operating room nurses in a state hospital and affecting factors. *Journal of Intensive Care Nursing, 25*(2), 60-67.

Uzun, S., & Demir, S. (2020). Views of the senior nursing students about working at a psychiatry clinic after graduation: a qualitative study. *Gümüşhane University Journal of Health Sciences, 9*(2), 172-185. https://doi.org/10.37989/gumussagbil.732539

Uzunkaya Oztoprak, P., & Terzioglu, F. (2024). Attitudes of oncology nurses towards care of dying patients and the principles of dying with dignity and their views on good death. *OMEGA-Journal of Death and Dying, 88*(3), 961-976. https://doi.org/10.1177/00302228211057743

Xia, L., & Kongsuwan, W. (2020). Factors relating to nurses' end-of-life care. *Journal of Biosciences and Medicines, 8*(6), 189-200. https://doi.org/10.4236/jbm.2020.86018

Yildirim, D., & Akin Palandöken, E. (2021). Development of scale human dignity perception and understanding in nursing. *Turkey Clinics Journal of Nursing Sciences, 13*(3). https://doi.org/10.5336/nurses.2020-79913

Zarei, F., Dehghan, M., & Shahrbabaki, P. M. (2022). The relationship between perception of good death with clinical competence of end-of-life care in critical care nurses. *OMEGA-Journal of Death and Dying*, *91*(1), 401-417. https://doi.org/10.1177/00302228221134721

Bahçeli, P. Z., Çınar, D., & Akça, N. (2022). Good death perception in end-of-life care: nursing students experience. *Dokuz Eylul University Faculty of Nursing Electronic Journal, 15*(3), 270-278. https://doi.org/10.46483/deuhfed.987622

MHA MEDIHEALTH ACADEMY
Journal of Nursing Care Research
Original Article
doi: 10.51271/JNCR-0048

The relationship between self-compassion, symptom severity, and suicide probability in patients diagnosed with depression

Nazlı Köse[1], Döndü Çuhadar*[2]
[1]Department of Nursing, Psychiatric Nursing Master's Program, Gaziantep University Health Science Institute, Gaziantep, Turkiye
[2]Department of Psychiatric Nursing, Health Science Faculty, Gaziantep University, Gaziantep, Turkiye

Cite this article as: Köse N, & Çuhadar D. (2026). The relationship between self-compassion, symptom severity, and suicide probability in patients diagnosed with depression. *J Nurs Care Res, 3*(2), 49-55. doi:10.51271/JNCR-0048

Received: 05.12.2025 ◆ **Accepted**: 22.03.2026 ◆ **Published**: 13.04.2026

ABSTRACT

Aims: Depression is a mental disorder that significantly affects public health, where suicide is seen 3-4 times more than other psychiatric disorders. Self-compassion is related to less depressive symptoms and more participation in healthy behaviors. This Research is made to be a descriptive study with the aim of revealing the relationship between self-compassion and symptom severity and suicide probability in patients with depression.

Methods: The study was conducted with patients diagnosed with depression in the psychiatry outpatient clinic and inpatient units of a hospital in Gaziantep. Personal Information Form, Beck Depression Inventory, Self Compassion Scale", Suicide Probability Scale were used. The data were analyzed in IBM SPSS 22.

Results: Depression patients participating in the study was determined a mean BDI score of 34.87±10.33, a mean score of 97.39±14.67 on the SPS, and a mean score of 2.42±0.698 on the SCS scale. It was determined that there is a significant negative correlation between BDI, SPS and SCS mean scores of the patients participating in the study ($p<0.05$).

Conclusions: The results of the study revealed that the severity of depression and the probability of suicide increase as self compassion decreases in patients with a diagnosis of depression. It is recommended to plan interventions to increase self-compassion in individuals diagnosed with depression in order to reduce the probability of suicide and affect recovery positively.

Keywords: Depression, suicide, self-compassion, psychiatric nursing

INTRODUCTION

Depression is defined as a syndrome that includes slowing of physiological functions and thoughts, being in a sad mood, reluctance and immobility in speech, as well as feelings and thoughts such as dullness, worthlessness, and pessimism (Buturak et al., 2011). Depression is among the most common reasons why people seek psychiatric help and psychological support (Iyer & Khan, 2012). Depression is a mental disorder that significantly impacts public health. Its prevalence, risk of chronicity, high suicide rates, associated losses, and economic hardship increase the importance of research on depressive disorders (Başoğul & Buldukoğlu 2015). Depression is the most frequently cited mental health problem as a cause of suicide attempts. Approximately two-thirds of patients with depressive disorders experience suicidal thoughts, and their lifetime likelihood of engaging in suicidal behavior is approximately 15% (Ateşçi et al., 2002). Suicide is a major public health problem; approximately 804,000 people die by suicide annually. Suicidal thoughts and behaviors stem from biological, psychological, clinical, and cultural and social interactions. Psychological risk factors include self-criticism, shame, perfectionism, isolation, distress, and hardship (Cleare et al., 2019). Self-compassion is an important protective factor in the etiology of mental and physical health. It is effective in buffering the impact of stressful life events and in understanding and protecting against the risk of self-harm (Cleare et al., 2019).Low self-compassion can lead to high levels of judgment, over-identification with difficult emotions, feelings of isolation when the individual is suffering, and an increased likelihood of self-harm (Sun et al. 2020).Self-compassion is defined as being open to the emotions that cause one's pain and distress, approaching oneself with caring and compassionate attitudes, being understanding and nonjudgmental toward one's inadequacies and failures, and accepting that negative experiences are part of human life (Neff 2003). Self-compassion has been consistently linked to psychological well-being. This capacity for self-compassion may be shaped by early attachment experiences and may be related to interpersonal difficulties (Mackintosh et al., 2018). Self-compassion is considered a potentially protective factor that promotes psychological well-being and emotional resilience. Therefore, it is associated with a lower likelihood of depression and anxiety (Raes 2010). The concept of self-compassion has been linked to suicidal behavior. It has been postulated that it may directly reduce the risk of suicide, such

***Corresponding Author:** Döndü Çuhadar, donducuhadar@hotmail.com

This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

that individuals who are more understanding of themselves, who know they are not alone in their suffering, and who are mindful of their experiences may be less likely to engage in suicidal behavior (Kelliher Rabon et al., 2018) Suicide has become a significant public health problem today (Aydın et al., 2019). It has been reported that 50-70% of suicide deaths involve a depressive disorder, and it has been suggested that major depression is one of the most common diagnoses in patients who attempt suicide (Ürün et al., 2015). Research suggests that self-compassion is the most important concept that can protect individuals from mental health problems (Mackintosh et al., 2018). Self-compassion has emerged as a robust factor that protects individuals against depressive symptoms. It consists of three main components: self-esteem, self-efficacy, and self-awareness (Neff 2003). Self-esteem requires being warm and understanding rather than ignoring suffering or punishing it with self-criticism. Self-efficacy is the ability to recognize that suffering and personal inadequacy are part of the shared human experience. Finally, self-awareness relates to adopting a nonjudgmental, receptive state of mind in which an individual observes thoughts and feelings as they are (Hlabangana & Hearn, 2019). Self-compassion is associated with physical and mental health outcomes, particularly fewer depressive symptoms and greater engagement in healthy behaviors. Evidence suggests that self-compassion reduces the risk of suicide. It is also possible that self-compassion indirectly reduces suicide risk through its relationship with other factors, including its positive effects on symptoms of psychopathology (depression) and the promotion of engagement in healthy behaviors. Research has found that depressive symptoms are positively associated with suicidal behavior, self-compassion is negatively associated with suicidal behavior, healthy behaviors and self-compassion are negatively associated with depressive symptoms, and self-compassion and healthy behaviors are positively associated with each other (Kelliher Rabon et al., 2018). Many patients with depression feel worthless. The attitudes and behaviors of nurses, who are in constant contact with these patients, are a crucial factor (Pınar & Tel, 2012). Self-compassion is a fundamental characteristic that nurses must possess when helping individuals with health problems and concerns. It is a highly effective element in providing quality care (Özpulat & Günaydın, 2018). Self-compassion, the first component of self-sensitivity, is said to alleviate the pain of negative self-evaluation, enable understanding and acceptance of psychological pain, foster faith in change in the face of emotions stemming from painful experiences, and prevent suicide. Furthermore, a sense of shared humanity provides a feeling of connection to people. It is suggested that individuals who experience psychological pain and suicidal thoughts, yet possess a sense of shared humanity, realize they are not alone and tend to accept the undesirable aspects of their selves rather than act on suicidal thoughts. A review of the literature revealed no studies on the effect of self-compassion on depression and suicide in patients with depression. Therefore, this study is expected to provide evidence for a relationship between self-compassion, suicidal probability, and symptom severity in patients with depression.

Purpose of the Study

This study aimed to determine the relationship between self-compassion and depressive symptom severity and suicide probability in patients diagnosed with depression.

METHODS

Ethical Principles of the Research

Before commencing the research, the research was submitted to the Gaziantep University Clinical Researches and Ethics Committee, and written approval was obtained (Date: 23.10.2019, Decision No:2019/416). All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki. Written permission was obtained from the Chief Physician and the Head of the Department of Psychiatry at Gaziantep Şehitkamil State Hospital, where the research was conducted. The purpose, plan, duration, and expectations of the study were explained to the individuals who participated in the study, and written informed consent was obtained from the patients.

Research Type

This study was conducted as a descriptive and correlational study. The planning and conduct of the research took place between December 2019 and December 2020 at the psychiatry ward/psychiatry outpatient clinic of a State Hospital.

Population and Sample of the Study

The study population consisted of depressed patients aged 18 to 65 years, diagnosed with depression according to DSM V by a doctor, receiving inpatient or outpatient treatment, without comorbid conditions, and without significant physical or cognitive impairments that would prevent them from completing the questionnaire. The total number of patients followed up in the outpatient clinic and hospitalized at the time of data collection was 209. In calculating the sample size, Makintosh et al.s' (2018) study titled " The Relationships Between Self-Compassion, Attachment and Interpersonal Problems in Clinical Patients with Mixed Anxiety and Depression and Emotional Distress " was taken as a reference. In the G- power analysis, the sample size was determined as 134 using the Self-Compassion scale.

Data Collection Tools

In this study, data were collected through face-to-face interviews with patients. The data were collected using a Personal Information Form prepared by the researchers, which included sociodemographic information about the individuals, information about the course of the illness and treatment, the Beck Depression Inventory, the Self-Compassion Scale, and the Suicide Probability Scale.

The personal information form: It consists of 17 questions designed by researchers to determine the sociodemographic characteristics and disease-related characteristics of the participants.

Beck Depression Inventory: The Beck Depression Inventory was developed by Beck et al., (1961) and is a 21-item Self-report Scale used to measure symptoms of depression in the vegetative, sensory, cognitive, and motivational domains. Two independent studies were conducted on its adaptation to Turkish. One was the "Beck Depression Inventory" adapted

by Hisli (1988-1989). The aim of the scale is to objectively quantify the degree of depression. Each item on the scale is scored between 0 and 3. The sum of these scores gives the depression score. The maximum possible score is 63. A high total score indicates a high degree of depression. A depression score of 17 or higher indicates above-normal depression. In the Turkish validity and reliability study of the scale, the Cronbach alpha value was found to be 0.74 (Hisli 1988). In this study, the Cronbach alpha value was found to be 0.85.

Self-Compassion Scale (SCS): Self-compassion is measured with the Self-Compassion Scale, a new scale developed by Neff (2003b). This scale is a self-report measurement tool that assesses characteristics related to the sub-dimensions of self-compassion and relies on the individual providing information about themselves. It was adapted to Turkish by Akın et al. (2007). The Self-Compassion Scale has a 5-point Likert-type scale: (1) never (2) rarely (3) often (4) usually, and (5) always. The sub-scale items of the Self-Compassion Scale are;

- Self-compassion: 2, 6, 13, 17, 21
- Self-judgment: 4, 7, 15, 20, 26
- Awareness of shared experiences: 1, 8, 12, 22
- Isolation: 5, 11, 19, 25
- Consciousness: 9, 14, 18, 23
- Over-identification: 3, 10, 16, 24.

To calculate the total score of the self-compassion scale, the negative subscales Self-judgment, Isolation, and Over-identification are reverse-coded, and the means of the six subscales are summed. The total self-compassion item mean score is obtained. Scores between 1 and 2.5 indicate low self-compassion, scores between 2.5 and 3.5 indicate moderate self-compassion, and scores between 3.5 and 5 indicate high self-compassion. The internal consistency coefficients of the Self-Compassion Scale were found to be 0.77 for the self-compassion subscale, 0.72 for self-judgment, 0.72 for awareness of shared experiences, 0.80 for isolation, 0.74 for mindfulness, and 0.74 for over-identification (Akın et al., 2007). In this study, the reliability value for the self-compassion subscale was 0.78, 0.85 for self-judgment, 0.85 for awareness of shared experiences, 0.76 for isolation, 0.74 for mindfulness, 0.57 for over-identification, and the Cronbach's alpha value for the total self-compassion scale was 0.94.

Suicide Probability Scale (SPS): The Suicide Probability Scale (SPS), developed by Cull and Gill (1988), is a 36-item self-report instrument that measures suicide risk. It can be used with adolescents and adults. Participants rate each item according to the frequency with which they experience the specified emotion or behavior on a 4-point Likert-type scale ranging from "Never or very rarely" to "Most of the time or all of the time.". The scale was modified by Şahin and Batıgün (2000). Responses were taken as "0%," "30%," "70%," and "100%" based on the degree of identification; the scoring is equivalent to the original form. Items 2, 6, 7, 10, 11, 18, 20, 21, 22, 24, 25, 26, 27, 30, 32, 35, and 36 are reverse-coded and scored. The Cronbach's alpha internal consistency coefficient of the scale is reported to be 0.93, and the test-retest reliability coefficient is 0.92 (Batıgün & Şahin, 2018). In this study, Cronbach's alpha was found to be 0.88 for the Suicide Probability Scale, 0.74 for social support/self-perception, 0.76 for anger/impulsivity, 0.67 for hopelessness/loneliness, and 0.87 for suicidal ideation.

Statistical Analysis

In the analysis of participants' sociodemographic characteristics and disease-related variables, t-percentage, mean, and standard deviation were used. The normality of the data distribution was determined using the Kolmogorov-Smirnov (K-S) test. The relationship between the scales was examined using the Spearman correlation coefficient. Cronbach Alpha values were also provided for the reliability analysis of the scales. Analyses were performed using SPSS 22.0 software. A significance level of $p<0.05$ was selected.

RESULTS

The distribution of sociodemographic characteristics of patients diagnosed with depression is shown in Table 1. Of the patients participating in this study, 88.1% were female, and 26.9% were between the ages of 46 and 55. It was found that 62.7% of the patients were married, 86.6% had children, 35.1% were primary school graduates, 85.1% were unemployed, 78.4% had less income than expenses, 7.5% drank alcohol and 35.8% smoked (Table 1).

The distribution of patients' characteristics related to depression is shown in Table 2. Of the patients participating in this study, 90.3% had previously been diagnosed with depression, 17.2% had been hospitalized in a psychiatric clinic, 90.3% had previously received psychiatric treatment, 41.8% had a psychiatric diagnosis in their family and relatives, 29.1% had previously attempted suicide, 10.5% were currently contemplating suicide, and 7.5% had a history of suicide in their family and relatives. The mean score for patients previously hospitalized in a psychiatric clinic was 2.17±1.95, and the mean score for patients who had attempted suicide was 1.84±1.07 (Table 2).

The total scores and means of the BDI, SPS, SCS, and subscales of the patients participating in the study are presented in Table 3. The mean BDI score of the depressed patients participating in the study was 34.87±10.33, the mean score of the social support/self-perception subscale was 45.86±5.29, the mean score of the anger/impulsivity subscale was 13.17±4.18, the mean score of the hopelessness/loneliness subscale was 23.40±2.74, the mean score of the suicidal ideation subscale was 14.96±6.35, and the total mean score of the SPS was 97.39±14.67. From the SPS subscales; The mean score of the self-compassion subscale was 1.73±0.63, the mean score of the self-judgment subscale was 3.00±0.99, the mean score of the awareness of sharing subscale was 2.55±0.98, the mean score of the isolation subscale was 2.72±0.89, the mean score of the consciousness subscale was 1.95 ±0.63, the mean score of the over-identification subscale was 2.55±0.63 and the mean score of the SDS was 2.42±0.69 (Table 3).

The relationships between the Beck Depression Inventory, Suicide Probability Scale, and Self-Compassion Scale in patients with depression participating in the study are presented in Table 4. A significant negative correlation was found between the self-compassion of the patients participating in the study and their depression levels. It was determined that as self-compassion increased, depression levels decreased ($p<0.05$). The study also found a significant

Table 1. Distribution of sociodemographic characteristics of patients diagnosed with depression

Charecteristics	n=134	%
Gender		
Male	16	11.9
Female	118	88.1
Age		
18-25	13	9.7
26-35	20	14.9
36-45	35	26.1
46-55	36	26.9
56 and over	30	22.4
Marital status		
Married	84	62.7
Single	50	37.3
Having child		
Yes	116	86.6
No	18	13.4
Education		
Illeterate	41	30.6
Literate	7	5.2
Primary school	47	35.1
Secondary school	13	9.7
College	17	12.7
University	9	6.7
Working statue		
Working	16	12
Not working	114	85.1
Retired	4	2.9
İncome		
Income is less than expenses	105	78.4
Income is equal to expenses	29	21.6
Alcohol consumption		
Yes	10	7.5
No	124	92.5
Smoking		
Yes	48	35.8
No	86	64.2
Total	134	100.0

Table 2. Distribution of patients' depression-related characteristics

Charecteristics	n	%	
Previous diagnosis of depression			
Yes	121	90.3	
No	13	9.7	
Previous hospitalization in a psychiatric clinic			
Yes	23	17.2	
No	111	82.8	
Previous psychiatric treatment status			
Yes	121	90.3	
No	13	9.7	
History of mental illness in family or relatives			
Yes	56	41.8	
No	78	58.2	
Have attempted suicide before			
Yes	39	29.1	
No	95	70.9	
Current presence of suicidal thoughts			
Yes	14	10.5	
No	120	89.5	
Family history of suicide			
Yes	10	7.5	
No	124	92.5	
	Mean±SD	Min	Max
Number of previous psychiatric ward admissions	2.1±1.9	1.0	9.0
Number of previous suicide attempts	1.8±1.1	1.0	6.0

SD: Standard deviation, Min: Minimum, Max: Maximum

Table 3. BDI, SPS, SCS total and subscale averages of patients diagnosed with depression

	n	Min.	Max.	Mean	SD
BDI	134	16.0	60.0	34.87	10.33
SPS	134	66.0	131.0	97.4	14.67
Social support/self-perception (negative self-evaluation) subscale	134	35.0	56.0	45.86	5.29
Anger/impulsivity subscale	134	6.0	24.0	13.17	4.18
Hopelessness/loneliness subscale	134	13.0	28.0	23.40	2.74
Suicidal ideation subscale	134	7.0	28.0	14.96	6.35
SCS	134	1.0	3.7	2.42	0.69
Self-Compassion subscale	134	1.0	4.4	1.73	0.63
Self-Judgment subscale	134	1.0	4.6	3.00	0.99
Awareness of Sharing subscale	134	1.0	4.7	2.55	0.98
Isolation subscale	134	1.0	4.7	2.72	0.89
Consciousness subscale	134	1.0	3.5	1.95	0.63
Overidentification subscale	134	1.0	4.2	2.55	0.63

BDI: Beck Depression Inventory, SPS: Suicide Probability Scale, SCS: Self-Compassion Scale, SD: Standard deviation, Min: Minimum, Max: Maximum

negative correlation between self-compassion and suicide probability, and that as self-compassion decreased in patients with depression, the likelihood of suicide increased ($p<0.05$).

$p<0.001$ is very significant, $0.001 \leq p<0.001$ is highly significant, $0.01 \leq p<0.05$ is statistically significant, $0.05 \leq p<0.10$ is borderline significant.

r: 0.8-1.0 indicates a very strong relationship, r: 0.6-0.8 indicates a strong relationship, r: 0.4-0.6 indicates a moderate relationship, r: 0.2-0.4 indicates a weak relationship, and r: 0.0-0.2 indicates a very weak relationship.

DISCUSSION

This research was conducted to determine the relationship between self-compassion and symptom severity and suicidal probability in patients with depression. This section discusses the patients' descriptive characteristics, depression-related features, Beck Depression Inventory, Suicide Probability Scale, Self-Compassion Scale and subscale total and mean scores, the relationships between the scales, and the results comparing the scales with descriptive characteristics and descriptive data related to depressive disorder, in light of the literature.

Tablo 4. The relationship between BDI, SPS, and SCS scores in patients diagnosed with depression

		BDI	SPS	Social support/ self-perception (negative self-evaluation) subscale	Social support/ self-perception (negative self-evaluation) subscale	Social support/ self-perception (negative self-evaluation) subscale	Social support/ self-perception (negative self-evaluation) subscale
CSCS	r	-.560**	-.738**	-.708**	-.469**	-.425**	-.595**
	p	.000	.000	.000	.000	.000	.000
Self-compassion subscale	r	-.573**	-.655**	-.602**	-.423**	-.351**	-.544**
	p	.000	.000	.000	.000	.000	.000
Self-judgment subscale	r	-.446**	-.704**	-.689**	-.469**	-.357**	-.566**
	p	.000	.000	.000	.000	.000	.000
Awareness of sharing subscale	r	-.526**	-.706**	-.636**	-.500**	-.390**	-.595**
	p	.000	.000	.000	.000	.000	.000
Isolation subscale	r	-.499**	-.664**	-.669**	-.437**	-.387**	-.514**
	p	.000	.000	.000	.000	.000	.000
Consciousness subscale	r	-.394**	-.529**	-.591**	-.207**	-.256**	-.456**
	p	.000	.000	.000	.000	.000	.000
Over-identification	r	-.552**	-.631**	-.554**	-.467**	-.407**	-.482**
	p	.000	.000	.000	.000	.000	.000
SPS	r	.705**	1.000	.844**	.771**	.529**	.811**
	p	.000	.	.000	.000	.000	.000

BDI: Beck Depression Inventory, SPS: Suicide Probability Scale, SCS: Self-Compassion Scale, CSCS: Cognitive Social Capital Scale

The study found that the mean BDI and SPS scores of the depressed patients participating in the study were high. According to the literature, factors such as hopelessness, melancholia, low social support, early age of onset, disease-related factors (recurrence, lack of remission), and negative life events seen in major depression are risk factors and predictors of suicide (Güleç, 2016). According to the literature, depression is a mental disorder characterized by predominant feelings of hopelessness, grief, and guilt, and involves negative emotions. Prolonged depression increases the likelihood of suicide (Tamam et al., 2012). Therefore, depressive disorder is the most at-risk group for suicide, and as the level of depressive symptoms increases, the likelihood of suicide increases.

Participants in the study were found to have low mean total SCS scores. Self-compassion is a factor that helps individuals cope with negative events without avoidance. It fosters the courage and understanding a person needs. However, individuals with depression experience recurring negative emotions and avoid confrontation. Therefore, individuals experiencing depression have low self-compassion (Kıcalı, 2015).

Participants in the study were found to have higher scores on the SPS subscale, social support/self-perception (negative self-evaluation), than on other subscales. According to the literature, poor social support can lead individuals to hopelessness, loneliness, and suicidal thoughts. Strong social support, on the other hand, is a protective factor against suicidal thoughts and behaviors (Arsel, 2010). According to a study by Önder and Bölükbaşı (2019), negative attributions made toward oneself in low self-esteem lead to the emergence of suicidal thoughts. As self-esteem increases, suicidal thoughts decrease, and a high self-esteem protects against suicide. Individuals with low self-esteem exhibit anxiety, shyness, dependence on others, weak self-confidence, negative self-attributions, and symptoms of depression (Tözün, 2010). Individuals experiencing depression also experience restlessness, anxiety, negative thoughts, feelings of worthlessness, and guilt (Çelik & Hocaoğlu, 2016). Characteristics observed in individuals with low self-esteem are also found in the typical symptoms of depression. This study group consisted of patients with depression. Therefore, it can be assumed that the social support/negative self-evaluation subscale of the SPS subscale was found to be high.

Participating patients were found to have higher mean scores on the self-judgment subscale of the SCS than on other self-compassion subscales. According to the literature, self-judgment refers to blaming oneself for inadequacies and failures (Yıldırım & Sarı, 2018). Symptoms of depression include feelings of inadequacy, worthlessness, recurring negative emotions, guilt, and pessimism (Çelik & Hocaoğlu, 2016). Because the participating patient group exhibited depressive characteristics, it is plausible that self-judgment, a negative subscale of self-compassion, was higher for this reason.

A statistically significant, negative correlation was found between the mean scores of the BDI, SCS, and its subscales in the patients participating in the study. According to the study results, as self-compassion decreased, depression levels increased. According to the literature, self-compassion is a protective factor that buffers against depression. High self-compassion reduces an individual's frustration and, therefore, reduces the likelihood of experiencing depression (Korkmaz, 2018). Self-compassion facilitates coping by moderating people's reactions to negativity. It does not reduce, eliminate, or ward off the impact of negativity. It merely helps individuals suppress unwanted thoughts. Therefore, self-compassion is associated with less rumination, anxiety, self-criticism, depression, and lower perfectionism (Neff & Germer, 2017). Supporting this research, a study by Raes (2010) also determined that self-compassion is an antidote to depression. In other words, as individuals' self-compassion increases, fewer depressive symptoms are observed, while as self-compassion decreases, more depressive symptoms are observed. According to research by Kelliher Rabon et al. (2018),

there is a negative relationship between self-compassion and depression. A study by Kıcalı (2015) determined that low self-compassion increases the likelihood of depression, while high self-compassion is a protective factor.

A statistically significant, negative correlation was found between the SPS and SCS and their subscales among the patients participating in the study. The study found that as self-compassion decreased, suicidal tendencies increased. Supporting this study, Cleare et al. (2019) found that those with a history of suicide had lower self-compassion, while those with high self-compassion were less likely to have a history of self-harm. Individuals with high self-compassion are more understanding of themselves, accept that they are not alone, and value their experiences. Therefore, self-compassion can directly reduce the risk of suicide (Kelliher Rabon et al,. 2018).

A statistically significant, positive, and strong correlation was determined between the BDI and the SPS. Research shows that as the severity of depression increases, the likelihood of suicide increases at the same rate (Ak et al., 2006). Numerous factors increase the likelihood of suicide in depression. According to the literature, cognitive aspects of depression, such as hopelessness and pessimism, are linked to suicide. Hopelessness, in particular, is the concept most closely associated with suicidal behavior (Pazvantoğlu et al., 2004). As the severity of depressive symptoms increases, so too do hopelessness and unhappiness. According to the literature, the fundamental problem in depression is hopelessness. The loss of positive thoughts about the future leads to suicidal thoughts (Dilbaz & Seber, 1993). Studies have shown that individuals with depressive symptoms are more likely to self-harm (Holat & Dilbaz 1994; Ak et al., 2008).

Limitations

The limitations of the study include the fact that the sample was taken from only one institution, the scales used in the study were self-report-based, the study was conducted within a specific time period and region, and the majority of participants were women.

CONCLUSION

This study found that patients with depression had low levels of self-compassion. Therefore, it is recommended.

- Accepting shortcomings and being less self-critical, being supportive and kind to oneself, and being understanding of aspects of one's personality that one dislikes.
- Developing an awareness that making mistakes is inherent to everyone.
- Instead of focusing on failures, practices aimed at accepting the situation and overcoming the pain of failure and increasing the ability to strive for change can be included.

A negative correlation was found between the self-compassion levels of the patients participating in the study and the likelihood of suicide and symptom severity. Therefore, it is recommended.

- Psychoeducational approaches, designed as individual or group sessions, are recommended for healthcare professionals to increase self-compassion in patients with depression.

ETHICAL DECLARATIONS

Ethics Committee Approval

The study was conducted with the approval of the Gaziantep University Clinical Researches Ethics Committee (Date: 23.10.2019, Decision No:2019/416)

Informed Consent

Written informed consent was obtained from all individual participants prior to their inclusion in the study. Participants were fully informed about the study's aims, procedures, potential risks and benefits, and their rights-including the right to withdraw at any time without consequence. All participants voluntarily signed a written informed consent form.

Peer Review Process

This manuscript was subject to external peer review.

Conflict of Interest

The authors declare no conflicts of interest related to this study.

Financial Disclosure

The authors received no financial support for the conduct or publication of this research.

Author Contributions

Concept: DÇ, NK; Design: DÇ, NK; Control: DÇ; Data Collection and/or Processing: NK; Analysis and/or Interpretation: DÇ, NK; Literature Review: NK; Article Writing: DÇ, NK; Critical Review: All Authors.

REFERENCES

Ak, M., Özmenler, K. N., & Bozkurt, A. (2006). Depresyon hastalarında belirti şiddeti ve umutsuzluğun intihar davranışı üzerindeki etkisi. *Kriz Dergisi, 14*(3), 1-7.

Ak, M., Özmenler, K. N., & Özşahin, A. (2008). İntihar girişimi ile mizaç ve karakter özellikleri arasındaki ilişkinin major depresif bozukluk örnekleminde irdelenmesi. *Klinik Psikiyatri Dergisi, 11*(1), 33-41.

Akın, Ü., Akın, A., & Abacı, R. (2007). Öz-duyarlık ölçeği: geçerlik ve güvenirlik çalışması. *Hacettepe University Journal of Education, 33*, 1-10.

Arsel, C. O. (2010). İntihar olasılığı ve cinsiyet: İletişim becerileri, cinsiyet rolleri, sosyal destek ve umutsuzluk açısından bir değerlendirme (Master's thesis, Ankara University).

Ateşçi, F. Ç., Kuloğlu, M., Tezcan, E., & Yıldız, M. (2002). İntihar girişimi olan bireylerde birinci ve ikinci eksen tanıları. *Klinik Psikiyatri Dergisi, 5*, 22-27.

Aydın, M., Hacımusalar, Y., & Hocaoğlu, Ç. (2019). İntihar davranışının nörobiyolojisi. *Psikiyatride Güncel Yaklaşımlar, 11*(1), 1-23. https://doi.org/10.18863/pgy.382119

Başoğul, C., & Buldukoğlu, K. (2015). Depresif bozukluklarda psikososyal girişimler. *Psikiyatride Güncel Yaklaşımlar, 7*(1), 1-15. https://doi.org/10.5455/cap.20140426072955

Batıgün, A. D., & Şahin, N. H. (2018). İntihar olasılığı ölçeği: gözden geçirme, geçerlik ve güvenirlik çalışması. *Journal of Clinical Psychology Research, 2*(2), 52-64. https://izlik.org/JA53CD84TY

Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry, 4*(6), 561-571. https://doi.org/10.1001/archpsyc.1961.01710120031004

Buturak, S. V., Basterzi, A. D., Yazici, A., Yazici, K., & Acar, S. T. (2011). Comorbid disorders in outpatients with major depressive disorder and their sociodemographical aspects. *Psychiatry and Behavioral Sciences, 1*(1), 7.

Çelik, F. H., & Hocaoğlu, Ç. (2016). Major depresif bozukluk'tanımı, etyolojisi ve epidemiyolojisi: bir gözden geçirme. *Çağdaş Tıp Dergisi, 6*(1), 51-66. https://doi.org/10.16899/ctd.03180

Cleare, S., Gumley, A., & O'Connor, R. C. (2019). Self-compassion, self-forgiveness, suicidal ideation, and self-harm: a systematic review. *Clinical Psychology & Psychotherapy*, *26*(5), 511-530. https://doi.org/10.1002/cpp.2372

Cull, J. G., & Gill, W. S. (1982). Suicide probability scale. *Western Psychological Services*. https://doi.org/10.1037/t01198-000

Dilbaz, N., & Seber, G. (1993). Umutsuzluk kavramı: depresyon ve intiharda önemi. *Kriz Dergisi*, *1*(3), 134-138.

Güleç, G. (2016). Psikiyatrik bozukluklar ve intihar. *Türkiye Klinikleri Psychiatry-Special Topics*, *9*(3), 21-25.

Hisli-Sahin, N. (1988). Beck Depresyon Envanteri'nin gecerligi uzerine bir calisma. *Türk Psikoloji Dergisi*, *6*(22), 118-126.

Hlabangana, V., & Hearn, J. H. (2020). Depression in partner caregivers of people with neurological conditions; associations with self-compassion and quality of life. *Journal of Mental Health, 29*(2), 176-181. https://doi.org/10.1080/09638237.2019.1630724

Holat, H., Bitlis, V., Dilbaz, N., Tüzer, T., & Bayam, G. (1994). İntihar girişimlerinde ümitsizlik ve depresyon. *Kriz Dergisi*, *2*(2), 320-322.

Iyer, K., & Khan, Z. A. (2012). Depression: a review, *Research Journal of Recent Sciences. 1*(4), 79-87

Kelliher Rabon, J., Sirois, F. M., & Hirsch, J. K. (2018). Self-compassion and suicidal behavior in college students: serial indirect effects via depression and wellness behaviors. *Journal of American College Health*, *66*(2), 114-122. https://doi.org/10.1080/07448481.2017.1382498

Kıcalı, Ü. (2015). Öz-şefkat ve tekrarlayıcı düşünmenin olumsuz duygulanım ve depresyon ile ilişkilerinin incelenmesi (Master's thesis, Maltepe University (Turkey).

Korkmaz, B. (2018). Öz-duyarlık: psikolojik belirtiler ile ilişkisi ve psikoterapide kullanımı. *Psikiyatride Güncel Yaklaşımlar*, *10*(1), 40-58.

Mackintosh, K., Power, K., Schwannauer, M., & Chan, S. W. (2018). The relationships between self-compassion, attachment and interpersonal problems in clinical patients with mixed anxiety and depression and emotional distress. *Mindfulness*, *9*(3), 961-971. https://doi.org/10.1007/s12671-017-0835-6

Neff, K., & Germer, C. (2017). Self-compassion and psychological 27 well-being. *The Oxford Handbook of Compassion Science, 27,* 478-497

Neff, K. (2003). Self-compassion: an alternative conceptualization of a healthy attitude toward oneself. *Self and Identity*, *2*(2), 85-101. https://doi.org/10.1080/15298860309032

Neff, K. D. (2003b). The development and validation of a scale to measure self-compassion. *Self and Identity*, *2*(3), 223-250. https://doi.org/10.1080/15298860309027

Önder, F. C., & Bölükbaşı, A. (2019). Ergenlerde intihar olasılığı: benlik saygısı ve öfke açısından incelenmesi. *OPUS International Journal of Society Researches*, *10*(17), 1522-1543. https://doi.org/10.26466/opus.528723

Özpulat, F., & Günaydın, N. (2018). Hemşirelik öğrencilerinin öz-duyarlıkları ve hemşirelik mesleğine ilişkin düşünceleri. *Hacettepe University Faculty of Health Sciences Journal*, *3*(1), 86-86.

Pazvantoğlu, O., Okay, T., Dilbaz, N., Şengül, C., & Bayam, G. (2004). Major depresyon tanısı alan hastalarda somatik belirtilerin yoğunluğunun intihar düşüncesi, davranışı ve niyetine etkisi. *Klinik Psikiyatri*, *7*(3), 153-160.

Pınar, Ş. E., & Tel, H. (2012). Depresyon tanılı birey ve hemşirelik yaklaşımı. *Journal of Psychiatric Nursing/Hemşireleri Derneği*, *3*(2), 86-91. https://doi.org/10.5505/phd.2012.14633

Raes, F. (2010). Rumination and worry as mediators of the relationship between self-compassion and depression and anxiety. *Personality and Individual Differences*, *48*(6), 757-761. https://doi.org/10.1016/j.paid.2010.01.023

Sun, R., Ren, Y., Li, X., Jiang, Y., Liu, S., & You, J. (2020). Self-compassion and family cohesion moderate the association between suicide ideation and suicide attempts in Chinese adolescents. *Journal of Adolescence*, *79*, 103-111. https://doi.org/10.1016/j.adolescence.2019.12.010

Tamam, L., Namlı, Z., & Karaytuğ, M. O. (2012). Depresyon kliniği. *Turkiye Klinikleri Psychiatry-Special Topics*, *5*(2), 34-38.

Tözün, M. (2010). Benlik saygısı. *Actual Medicine*, *18*(7), 52-57.

Ürün, Ö. Z. E. R., Yıldırım, E. A., & Erkoç, Ş. N. (2015). Major depresyon olgularında intihar düşünce ve davranışının bağlanma biçimi ile ilişkisi. *Arch Neuropsychiatr*, *52*, 283-288. https://doi.org/10.5152/npa.2015.7459

Yıldırım, M., & Sarı, T. (2018). Öz-şefkat ölçeği kisa formu'nun Türkçe uyarlamasi: geçerlik ve güvenirlik çalişmasi. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi*, *18*(4), 2502-2517. https://doi.org/10.17240/aibuefd.2018.18.41844-452171

MHA MEDIHEALTH ACADEMY
Journal of Nursing Care Research
Original Article
doi: 10.51271/JNCR-0049

Healthcare professional's coating with uncertainty and humor during pandemic

Emine Cansu Çevik[1], Nur Elçin Badırgalı[2]*
[1]Department of Nurse, Antalya City Hospital, Antalya, Turkiye
[2]Department of Gerontology, Faculty of Health Sciences, İstanbul University-Cerrahpaşa, İstanbul, Turkiye

Cite this article as: Çevik EC, & Badırgalı NE. (2026). Healthcare professional's coating with uncertainty and humor during pandemic. *J Nurs Care Res, 3*(2), 56-62. doi:10.51271/JNCR-0049

Received: 24.01.2026 ◆ **Accepted**: 03.04.2026 ◆ **Published**: 13.04.2026

ABSTRACT

Aims: The aim of the current research is to determine the situations of health workers and to reveal that humor can be used as an effective coping method.
Methods: The study is in the descriptive-correlational design type and includes 415 individuals who filled out the online questionnaires between March and April 2021. Data were collected from the participants, through the Personal Data Form, the Intolerance of Uncertainty Scale and the Scale of Coping with Humor in the Workplace.
Results: The mean age of the participants was 31.84±7.82 years, 76.6% were women, and 64.1% were working in units with patients diagnosed with pandemic. Healthcare professionals' total scores of intolerance to ambiguity and coping with humor in the workplace were 36.73±10.11 (moderate) and 57.85±18.62 (low to moderate), respectively.
Conclusion: Many factors were analyzed with intolerance to uncertainty, but no significant relationship was found. However, when uncertainty prevails, it is seen that healthcare professionals use more humor to cope with; situations that may be more traumatic for them (when they are diagnosed with pandemic and have a relative who died due to the pandemic); It was determined that they could not use humor as a coping method. A low level of statistically significant correlation was found between the total score of the participants' intolerance to uncertainty scale and their scores for coping with humor at work.
Keywords: Adaptation, delivery of health care, pandemics, uncertainty, workplace

INTRODUCTION

Pandemic spread across many countries with Asian countries being the initial ones and turned into an international health issue that affected the whole world. Pandemic disrupted the global daily life, resulting in profound changes in individuals" lives. This has brought along mental health problems as well (Lai et al., 2020).

The pandemic is literally a mass of uncertainty due to many reasons like its high rate of spread, high death rates, uncertainty as to its causes, lack of a known treatment method and asymptomatic course of the disease during the infection process (Pan et al., 2020). This has made the healthcare professionals, who combat the pandemic at the front lines, the most vulnerable occupational group in the pandemic (Di Tella et al., 2020). Studies in literature show that levels of anxiety and fear (Pan et al., 2020), depression, sleeplessness, post-trauma stress (Lai et al., 2020) for healthcare professionals have reached alarming levels during the pandemic. One of the topics researched related to the pandemic in recent years has been 'tolerance of uncertainty'. Tolerance of uncertainty is defined as tendency to demonstrate negative emotional, cognitive and behavioral reactions in the face of events and situations containing uncertainty (Duman, 2020). The notion of tolerance of uncertainty was initially discussed as part of the common anxiety disorder. During the pandemic; the notions of anxiety, fear and uncertainty have been related with each other in many different ways. During the pandemic, triggering of one of these has been enough to result in mental health problems (Pan et al., 2020-Duman, 2020).

Studies in literature have shown that the pandemic was mentally challenging for healthcare professionals (Pan et al., 2020-Canestrari et al., 2021). Humor, which an area of research for positive psychology plays an important role in overcoming these challenges. Simply, humor is an element of comedy like wit, entertainment and irony. It is about having a fun attitude towards life and its defects. Thanks to humor, it is possible for one to have a more objective attitude towards experiences and others' behavior (Almeida & Nunes, 2020-Savitsky et al., 2020). Humor facilitates interpersonal communication and reconciliation between individuals in cases of conflict. Humor affects work relations in a positive way, helps employees cope with stress and solve problems (Kim & Plester,2019).

Studies conducted during the pandemic period often focus on the anxiety and depression experienced by individuals (Tükel, 2020-Çubuk, 2020). There are a limited number of studies that address intolerance to uncertainty. In these studies, the sample

***Corresponding Author:** Nur Elçin Badırgalı, nurelcin.boyacioglu@iuc.edu.tr

This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

group usually consists of students (Duman, 2020, Sarkisian & Grestel., 2016), healthy individuals from the community (Bakioğlu et al., 2021, Güöüşoğlu & Aşçı.,2020, Şar et al., 2012), and individuals with a diagnosis of any disease (Gümüş & Sezgin, 2016, Cengiz, 2019, Şen & Yıldızhan, 2020). There are also a limited number of studies that address workplace coping methods through humor. The sample group consists of teachers (Recepoğlu, 2008), managers (Büyükyılmaz,2018-Çetinkaya & Şener, 2016), and students (Alan & Oran, 2019). In line with these data, the aim of this study is to examine the levels of intolerance to uncertainty, psychological distress, and workplace coping methods through humor among healthcare professionals who continued to work despite all the negative conditions, and to fill the gap in the literature.

METHODS

Ethics

This study was conducted with the approval of the Ethics Committee of Istanbul Okan University (Date: 10.032021, Decision No: 134). All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki. (Participants were informed that they could leave the study at any time and that all information will remain confidential and will be used only for the purposes of this study). Since the data were collected online, participants were asked to confirm their voluntary participation before completing the survey.

Study Type: Study design is descriptive-correlational.

Sample: Data was collected between 30 March-30 April 2021. Inclusion criteria: being a healthcare professional between the ages of 18-60 with internet access. Study population comprised all healthcare professionals in Turkiye. However due to unfavorable research conditions due to the pandemic, study population is limited to participants who could be reached via online means.

Population size was calculated using the unknown sample method and determined as 384 participants (n=(10.5)*0,5*(1 .96/0.05)^2/1+0.5 n=384). Also taking into account possible data loss, a total of 482 participants were contacted. Security personnel, director assistants and janitors were excluded and the study was completed with 415 participants. Convenience sampling was chosen as the sample selection method for the study.

Data collection tools: Data were collected using the Personal Information Form, Tolerance of Uncertainty Scale and Coping Humor Scale.

Personal information form: This form comprises 12 questions about demographic information (such as age, gender, marital status, occupation etc.) as well as about pandemic impact levels (such as pandemic infection history, having a family member lost due to pandemic, having a patient lost due to pandemic).

Tolerance of Uncertainty Scale (TUS-12): The Tolerance of Uncertainty Scale-12 short form developed by Carleton, Norton and Asmundson in 2007 was adapted to Turkish language by Sarıçam, Erguvan, Akın and Akça in 2014 and have passed validity and reliability tests. The scale comprises 12 items. The form is a 5-Likert type scale and items can be rated between 1-5 (1-Totally Disagree…5-Totally Agree). The scale also has two sub-scales. The first seven questions make up the "future anxiety" dimension while other questions make up the "preventive anxiety" dimension. Only the first item is reverse coded. A score between 12 and 60 can be obtained from the score. Higher scores obtained from the scale indicate higher intolerance for uncertainty. Cronbach alpha internal consistency reliability coefficient of the scale is 0,88 for the whole scale and 0,84 for the future anxiety sub-scale and 0,77 for the preventive anxiety sub-scale. The above-mentioned Cronbach alpha coefficients for the current study was calculated to be 0,93, 0,88 and 0,90.

Coping Humor Scale (CHS): To measure level of coping via humor at the workplace, the CHS scale developed by Doosje et. al. was used. This 23-item scale has four sub-scales namely; primary-focused coping (9 items), reaction-focused coping (4 items), instrumental aggressive/manipulative coping (7 items) and instrumental socializing coping (3 items). The items in the scale are rated using a 5-step scale that range from 1 (Never) and 5 (Very Often). A high score obtained from the scale indicates a high level of coping via humor at the work place. In the literature studies that research methods for coping via humor at the workplace are evaluated based on total score. Thus, in the current study as well, the data was evaluated based on total score. According to findings by Doosje et. al., Cronbach alpha internal consistency coefficient varies between 0,73 and 0,82 and was found to be 0,96 in the current study.

Procedure: After obtaining the approval of the ethics board, the questionnaire was transferred to electronic environment and shared with the participants via their social media accounts (Facebook, twitter and Instagram etc.). At the start of the survey, the purpose of the study was explained to the participants and participants that consented were included in the study.

The questionnaire link were shared with the participants via their social media accounts (Facebook, twitter and Instagram etc.) and participants were invited to participate. Individuals conducting the study were healthcare professionals and questionnaire link was shared via authors' friends to reach the participants as well.

Statistical Analysis

Data collected were analyzed using SPSS for Windows 21 (Statistical Package for Social science for Windows, Version 21.0) software. Demographic and descriptive data were indicated using average standard deviation, median IQR, numbers (n) and percentages (%). For normally distributed data differences between average scores were evaluated using Student t test and One-Way ANOVA test. For advanced statistical analysis, Tukey test was used. For correlation analysis, Pearson Correlation Analysis was utilized. For data not distributed normally, Kruskal-Wallis test was used. All findings were evaluated using a confidence interval of 95% and $p<0.05$ significance level.

RESULTS

An analysis of the demographics of the participants showed that average age was 31.84±7.82 years, 76.6% were women, 51.6% were single, 58.8% were university graduates and 68.7%

were nurses and midwives. 64.1% of the participants worked in units with patients who were confirmed pandemic cases and 68% had patients who passed away due to pandemic, 30.4% indicated they had pandemic infection and 32.3% indicated they had a family member who passed away due to pandemic (Table 1).

Table 1. Participants' socio-demographic and the pandemic-related qualities

Qualities		n	%
Age	31.84±7.82 (18-60)		
Employment duration/month	112.05±97.86 (5-444)		
Gender	Female	318	76.6
	Male	97	23.4
Marital status	Single	214	51.6
	Married	201	48.4
Education	High school	17	4.1
	Associate degree	55	13.3
	Undergraduate degree	244	58.8
	Graduate degree	99	23.8
Occupation	Nurse and midwife	285	68.7
	Physician	54	13
	Technician (anesthesiologist, radiology or laboratory technician)	33	8
	Other (physiotherapist, pharmacist, dentist, dietician, biologist	43	10.4
Institution	Public hospital	284	68.4
	University hospital	92	22.2
	Private hospital	39	9.4
Unit	Services	138	33.3
	Special unit (intensive care, surgery room, emergency, dialysis)	199	48
	Other (polyclinic, family health center, laboratory, screening centers)	78	18.8
Employment at a pandemic unit	Yes	266	64.1
	No	149	35.9
Have lost a patient due to the pandemic	Yes	282	68
	No	133	32
Have had pandemic infection	Yes	126	30.4
	No	289	69.6
Have lost a relative due to the pandemic	Yes	134	32.3
	No	281	67.7

In the current study, no correlation was found between participants' demographics and their qualities related to pandemic and the TUS-12 Scale (Table 2 and Table 3). A statistically significant correlation favoring singles was found between the marital status of the participants and their CHS scores (p=0.05). A statistically significant correlation was found between the occupations of the participants and their average CHS scores (p=0.044). CHS score averages of the technician occupational group were found to be lower than those of the physician and nurse/midwife occupational group. A statistically significant correlation was found between the institutions where the participants worked and their CHS scores (p=0.02). As a result of the advanced analyses, it was found that this correlation was between participants from university hospitals and those from private hospitals (p=0.017). CHS score averages of those participants working at university hospitals were higher than averages of those working at private hospitals (Table 2).

A statistically significant correlation that favored participants working at pandemic units was found between employment at pandemic units and CHS scores (p=0.01). CHS scores of healthcare professionals who had patients that passed away due to pandemic had higher scores (Table 3). A low statistically significant correlation was found between the tolerance of uncertainty total scores and level of coping via humor at the work place scores (p=0.005; r=0.136). (Table 4).

DISCUSSION

The pandemic was challenging for many healthcare professionals. Thus, psycho-social problems experienced by healthcare professionals in relation to the pandemic should be unveiled necessary measures should be taken to cope with the associated problems (Cenestrari et al., 2021).

Tolerance of Uncertainty and Related Factors

Total TUS-12 scores of the healthcare participants in this study were 36.73±10.11 (min=14±10.11, max=60±10.11) and was found to be moderate. In the literature there are numerous studies that employed TUS-12 scale and TUS-12 total scores vary between 28 and 55 (Sarıçam et al., 2014, Geçgin & Sahranç, 2017). Some of these studies were conducted with university students and TUS-12 total score was found to be 38.79±8.81 (Duman, 2020), 29.7±9.5 in adults in USA (Şar et al., 2012), 28.44±10.03 in adults in Canada and USA (Cengiz, 2019) and 64.06±30.61 in patients (Gümüş & Sezgin, 2016). Thus, it is possible to argue that the TUS-12 score obtained in this study parallels those found in other studies in literature.

In the current study, a negative correlation with statistical significance was found between the ages of the participants and their TUS-12 scores. Accordingly, higher the participant's age lower his/her TUS-12 score would be. In literature, there are studies that failed to detect a correlation between age and tolerance of uncertainty as well as studies that detected a correlation between age and tolerance of uncertainty in healthcare professionals (Bongelli et al., 2021) and public servants (Angehrn et al., 2020) including healthcare professionals (Güdük et al., 2021). In one study conducted with nurses, over one fourth of the nurses indicated that their own lack of experience increased their work stress (Mert, 2018). Both the current study and the study mentioned above made the authors conclude that increased level of experience as a result of increasing age also resulted in lower levels of work stress, thus resulting in lower intolerance of uncertainty.

In the current study, no statistically significant correlation was found between gender, number of years worked, marital status, education, occupation type, institution, medical unit, the pandemic experience and TUS-12 average scores. This finding made authors believe that participants' character traits could be related to TUS-12 rather than demographic factors and pandemic's qualities.

Coping via Humor at the Workplace and Related Factors

Total scores obtained by the healthcare professionals in this study, from the coping via humor at the workplace

Table 2. Comparison of participants' socio-demographic qualities and Coping via Humor at Workplace Scale scores

Qualities		TUS-FA X±SD	TUS-PA X±SD	TUS-total X±SD	CHS total X±SD
Gender	Female	22.62±5.91	14.38±4.94	37±10.11	57.22±18.87
	Male	22.38±6.11	13.45±4.76	35.8±10.12	59.86±17.79
Statistical analysis	t	0.35	1.65	1.01	-1.23
	p	0.727	0.101	0.318	0.222
Marital status	Single	22.28±6.08	13.92±5.1	36.21±10.38	59.57±18.21
	Married	22.87±5.81	14.42±4.69	37.29±9.82	55.99±18.94
Statistical analysis	t	-1.01	-1.03	-1.10	1.97
	p	0.314	0.307	0.276	0.050
Education	High school	23(19-26)	18(12-22)	39(31-46)	55(45-67)
	Associate degree	16(19-25)	13(11.5-16)	33(28-40.5)	48(41-61.5)
	Undergraduate	19(23-27)	14.5(11-18)	37(29-45)	56(46-70)
	Graduate	23(18-27)	14(10-18)	38(27.5-44.5)	60(42-76)
Statistical analysis	K-W	7.549	4.520	4.638	5.202
	p	0.056	0.211	0.200	0.158
Occupation	Nurse/midwife	22.64±5.95	14.11±4.87	36.76±10.09	58.16±17.92
	Physician	22.12±5.36	13.33±4.72	35.46±9.12	60.38±19.28
	Technician	22.15±6.51	15.06±4.7	37.21±10.55	49.39±17.79
	Other	22.88±6.38	14.86±5.47	37.74±11.29	59.06±21.61
Statistical analysis	F*	0.208	1.179	0.451	2.726
	p	0.891	0.317	0.717	0.044
Institution	Public hospital	22.63±6.15	14.33±4.78	36.97±10.19	57.5±18.64
	University hospital	22.68±5.51	13.56±5.04	36.25±9.95	61.47±19.27
	Private hospital	21.76±5.56	14.38±4.57	36.15±10.15	51.71±15.3
Statistical analysis	F*	0.386	0.894	0.247	3.959
	p	0.680	0.410	0.781	0.020
Unit	Services	23.26±5.89	14.91±5.08	38.17±10.34	59.28±18.64
	Special unit	22.17±6.09	13.77±4.7	35.94±9.91	58.09±17.89
	Other	22.56±5.95	14.16±4.91	39.73±10.11	57.84±18.63
Statistical analysis	F*	1.433	2.397	2.118	1.599
	p	0.240	0.092	0.122	0.203

t: Student t test, F* One Way ANOVA test (Post Hoc: Tukey Test) K-W: Kruskal-Wallis Test. **Data is shown using median (IQR). TUS-FA: Tolerance of Uncertainty Scale-Future Anxiety, TUS-PA: Tolerance of Uncertainty Scale-Preventive Anxiety, TUS-Total: Tolerance of Uncertainty Scale Total Score, SD: Standard deviation

Table 3. Comparison of participants' experiences during the pandemic and their tolerance of uncertainty and coping via humor at workplace scores

Qualities		TUS-FA X±SD	TUS-PA X±SD	TUS-total X±SD	CHS total X±SD
Employment at a pandemic unit	Yes	22.52±6.19	13.88±4.9	36.4±10.3	60.18±19.75
	No	22.64±5.53	14.67±4.9	37.31±9.79	53.65±15.66
Statistical analysis	t	-0.12	-1.57	-0.88	3.48
	p	0.842	0.119	0.382	0.001
Have had pandemic infection	Yes	22.71±6.22	14.69±5.16	37.41±10.81	59.48±18.15
	No	22.5±5.84	13.93±4.78	36.43±9.8	57.12±18.82
Statistical analysis	t	0.35	1.46	0.91	1.19
	p	0.709	0.147	0.368	0.236
Have lost a patient due to the pandemic	Yes	22.64±5.92	14.2±4.83	36.84±9.88	59.8±19.29
	No	22.4±6.03	14.09±5.08	36.5±10.62	53.66±16.45
Statistical Analysis	t	0.38	0.21	0.32	3.17
	p	0.707	0.840	0.750	0.002
Have lost a relative due to the pandemic	Yes	22.43±5.67	13.87±4.67	36.3±9.45	58.29±18.4
	No	22.62±6.09	14.3±5.02	36.93±10.43	57.62±18.77
Statistical analysis	t	-0.32	-0.85	-0.60	0.35
	p	0.753	0.398	0.552	0.730

t: Student t test, X±SD: Average±Standard Deviation TUS-FA: Tolerance of Uncertainty Scale-Future Anxiety, TUS-PA: Tolerance of Uncertainty Scale-Preventive Anxiety, TUS- Total: Tolerance of Uncertainty Scale Total Score, CHS Total: Coping via Humor at the Workplace Scale Total Score

Table 4. Relationship between Certain Socio-demographic Qualities of Participants and their tolerance of uncertainty and coping via humor at workplace scores

Qualities	*	TUS-FA	TUS-PA	TUS-total	CHS total
CHS total	r	0.166	0.08	0.136	-
	p	0.001	0.1	0.005	-

*Pearson Correlation Analysis, TUS-FA: Tolerance of Uncertainty Scale-Future Anxiety, TUS-PA: Tolerance of Uncertainty Scale-Preventive Anxiety, TUS-Total: Tolerance of Uncertainty Scale Total, CHS: Coping Humor Scale

scale was 57.85±18.62 (min=24±18.62, max=115±18.62) and this value is lower than median level. In one study on healthcare professionals, average scores of the participants from the coping via humor scale were found to be higher than median level (Aslanoğlu et al., 2019). There are limited number of studies that focus on humor in literature. Studies that researched humor styles and coping via humor were conducted using different scales. In one study on healthcare professionals, it was found that higher exposure to trauma due to traumatic stressors was positively correlated with more frequent use of humor for coping (Demirci, 2016). In one study on Portuguese physicians and nurses, it was stressed that therapeutic humor had a positive effect on the patient and the healthcare professionals however that, in order for humor to be used, the patient should be a previously known individual (Almeida & Nunes, 2020). In one study on healthcare professionals in Spain, a training with main topics of utilizing humor, humor as a coping mechanism and humor in uncertainty, was integrated to practical trainings for 6 weeks. At the end of the training period, it was found that healthcare professionals had higher tendency to utilize humor and that this training could be beneficial for healthcare professionals who were exposed to high levels of work stress and negative impact of the pandemic in managing work stress (León-Pérez et al., 2021).

In the current study, no statistically significant correlation was found between the participants' ages, education, gender and whether or not they used humor in coping with stress at the workplace. Similarly, in another study that researched healthcare professionals' coping via humor at work place in the same manner, no statistically significant correlation was found between the participants' ages, education, gender and whether or not they used humor in coping with stress at the workplace (Aslanoğlu et al., 2019). In the literature, among studies where different humor styles were evaluated using different scales, there are ones that found a correlation with gender and ones that couldn't. In the current study, lack of a significant correlation between gender and use of humor for coping, and similarity of the work environments made authors conclude that all healthcare professionals used humor as a defense mechanism.

A statistically significant correlation was found between participants' marital status and their coping via humor scores. It was found that single participants had higher average scores for coping via humor at work place (59.57±18.21) than married participants (55.99±18.94). In one study by Türkoğlu and Tüfekçi on 114 nurses working at a children's clinic, single nurses were found to have higher scores for participant humor sub-scale than married nurses (Türkoğlu & Tüfekçi., 2021). In a study by Arslanoğlu et al. A significant correlation was found between marital status and coping via humor scores (Aslanoğlu et al., 2019). On the contrary, in one study by Aydın on 59 adults as well as in a study by Güven on 254 surgery clinic nurses, no statistically significant relation was found between marital status and humor styles (Aydın, 2020). In their study on 10.000 adults in USA, Sarkisian and Gerstel found that single individuals were more social than married adults and they had stronger social relations (Sarkisian & Gerstel, 2016). Accordingly, the fact that singles had stronger social relations makes one conclude that their level of utilization of humor is higher. Findings of the current study as well support this finding.

In the current study, no statistically significant correlation was found between the work unit and coping via humor at workplace. As it was the case in the current study, regardless of the work unit, it was observed that positive humor ensured stronger communication, made it easier to deal with work stress and made it easier to solve problems faced.

It is argued that internet usage increased during the pandemic all over the world (Bischetti et al., 2021). There are studies that evaluated social media posts during the pandemic. Some of these studies were conducted in Jordan (Hussein & Aljamili, 2020), Poland (Chloppicki & Brzozowska., 2021), Italy (Bischetti et al., 2021), USA (Budhwani & Sun, 2020), UK (Liu et al., 2021), Spain (Cancelas-Ouviña, 2021), Slovakia (Torres et al., 2022), Indonesia (Lestari & Pradnyanita, 2020) and Turkiye (Subölen, 2020). Common finding of these studies was that social media posts born out of humor based on daily practices entertained people while at the same time reflecting realities in social life. In his theory of laughter, Bergson (2019) argued that circumstances arising from incompatibilities resulted in laughter. The internet environment where individuals could freely express their ideas on issues which they couldn't otherwise express directly, has turned into a social language and humor was used to spread the idea that people need to assume social responsibility and change their attitudes during the pandemic (Kutlu, 2021).

In one study in Italy, it was found that healthcare professionals' perceived risk during the pandemic increased parallel to increased infection risk and that those who used humor as a coping method showed less stress signs due to the pandemic (Canestrari et al., 2021). In one study on nursery students in Israel conducted during the pandemic, humor was found to be closely correlated with severe anxiety among the students. It was found that increase use of humor was negatively correlated with anxiety levels (Savistsky et al., 2020). Even though healthcare professionals used humor as a communication strategy before the pandemic, it was found that those who used humor worked in riskier units during the pandemic. Other studies supported the findings that increased use of positive humor by workers correlated with improved work performance and job satisfaction at the institution worked. Use of positive humor is also believed to result in a healthier work environment by lowering feelings of exhaustion and stress.

Correlation Between Tolerance of Uncertainty and Coping via Humor at Workplace

A low and statistically significant positive correlation was found between scores of future anxiety and scores of coping via humor at workplace among the participants. To the best of our knowledge, no study has directly examined the

relationship between intolerance of uncertainty and coping via humor in the workplace. However, a limited number of studies have investigated these constructs separately or in related contexts, suggesting a potential association between them.

Healthcare professionals are frequently exposed to uncertain and emotionally demanding situations such as death and bereavement. In such contexts, humor has been suggested as a potential protective factor against burnout (Bag, 2021). Building on these findings, humor may serve as a functional coping resource by facilitating communication and supporting individuals in managing uncertainty more effectively. Although individuals may differ in their humor styles, existing evidence indicates that humor occupies an important place in coping processes. However, given the limited number of studies directly examining the relationship between intolerance of uncertainty and humor-based coping in workplace settings, further research is needed to clarify the nature and direction of this relationship.

Limitations

Because the study design was descriptive-correlational, data collected was based on self-reporting, study sample included only voluntary online participants with internet access, and lack of use of a sampling method were the limitations of this study.

CONCLUSION

In the current study, it was observed that in cases where uncertainty dominates (working at pandemic units, having lost a patient due to the pandemic), healthcare professionals tended more to use humor for coping with uncertainty and that they refrained from using humor as a coping mechanism in situations more traumatic for themselves (such as being infected with pandemic or having lost a relative due to the pandemic). Because the pandemic can result in challenging life events for healthcare professionals, it is recommended to use methods like psychological consultancy at the individual and group levels and group guidance in order to help employees manage the negative impacts of the pandemic. Skill trainings that include effective coping strategies as well should be provided. Trainings about using humor as a coping mechanism can be added to on-the-job trainings provided to healthcare professionals.

Effective coping methods needs to be developed, psychological support units for preventing employees' mental health should be easily accessible and employees should be supported via positive feedback when necessary. Further studies focusing on tolerance of uncertainty and use of humor as a coping mechanism in healthcare professionals need to be carried out.

ETHICAL DECLARATIONS

Ethics Committee Approval

This study was conducted with the approval of the Ethics Committee of Istanbul Okan University (Date: 10.032021, Decision No: 134).

Informed Consent

Written informed consent was obtained from all individual participants prior to their inclusion in the study. Participants were fully informed about the study's aims, procedures, potential risks and benefits, and their rights-including the right to withdraw at any time without consequence. All participants voluntarily signed a written informed consent form.

Peer Review Process

This manuscript was subject to external peer review.

Conflict of Interest

The authors declare no conflicts of interest related to this study.

Financial Disclosure

The authors received no financial support for the conduct or publication of this research.

Author Contributions

Design: NEB, ECÇ; Data Collection and Analysis: NEB, ECÇ; Writing: NEB, ECÇ.

Acknowledgments

This study is a product of the Master's thesis conducted at Okan University Health Sciences Institute Nursing Program.

This study was presented as an oral presentation at IV. International Health Sciences Congress, 2021, Kırklareli-Turkiye. (11-12 November 2021).

REFERENCES

Alan, N., & Oran, NT (2019). Investıgatıon of humor styles and burnout levels of nursıng faculty classroom students. *Medical Sciences , 14*(2), 82-92. https://doi.org/10.12739/NWSA.2019.14.2.1B0068

Almeida, C.V. & Nunes, C. (2020). Humor is important in healthcare relationship? *Open Access Library Journal, 7*(5), e6372. http://dx.doi.org/10.4236/oalib.1106372

Angehrn, A., Krakauer, R.L. & Carleton, R.N. (2020). The impact of intolerance of uncertainty and anxiety sensitivity on mental health among public safety personnel: when the uncertain is unavoidable. *Cognitive Therapy Research. 44*(5), 919-930. https://doi.org/10.1007/s10608-020-10107-2

Arslanoğlu, A., Gemlik, N., & Bektemur, G. (2019). Coping with problems with humor in the workplace: a private hospital example. 10th International Health and Hospital Management Congress. Scientific Abstract Book. ISSN: 2148-7472 / ISSN (Online): 2636-7572

Aydın, S.K. (2020). The effect of humor in women on family and social life. *Aksaray Journal of Communication, 2*(1), 13-24.

Bag, B. (2021). The use of humor in palliative care services. *Journal of Psychiatric Nursing, 12*(2), 173-179. https://doi.org/10.14744/phd.2021.54036

Bakioğlu, F., Korkmaz, O., & Ercan, H. (2021). Fear of COVID-19 and positivity: Mediating role of intolerance of uncertainty, depression, anxiety, and stress. *International Journal of Mental Health and Addiction, 19*(6), 2369-2382. https://doi.org/10.1007/s11469-020-00331-y

Barut, Y., & Onay, M. (2017). Investigation of the humor style used by managers and the negative and positive effects of humor use on the organization: a case study in Turkey. *International Journal of Scientific Research, 416*, 425. https://doi.org/10.21733/ibad.370217

Bischetti, L., Canal, P., & Bambini, V. (2021). Funny but aversive: a large-scale survey of the emotional response to COVID-19 humor in the Italian population during the lockdown. *Lingua, 249*, 102963. https://doi.org/10.1016/j.lingua.2020.102963

Bongelli, R., Canestrari, C., Fermani, A., Muzi, M., Riccioni, I., Bertolazzi, A., & Burro, R. (2021). Associations between personality traits, intolerance of uncertainty, coping strategies, and stress in Italian frontline and non-frontline HCWs during the COVID-19 pandemic: a multi-group path-analysis. *In Healthcare, (9)*8, 1086. https://doi.org/10.3390/healthcare9081086

Budhwani, H., & Sun, R. (2020). Creating COVID-19 stigma by referencing the novel coronavirus as the "Chinese virus" on Twitter: quantitative analysis of social media data. *Journal of Medical Internet Research, 22*(5). e19301. https://doi.org/10.2196/19301

Büyükyılmaz, O. (2018). The relationship between the use of positive and negative humor by managers and employee attitudes. *Anadolu University Journal of Social Sciences , 19*(2), 125-150.

Cancelas-Ouviña, L.P. (2021). Humor in times of COVID-19 in Spain: viewing coronavirus through memes disseminated via WhatsApp. *Frontiers in Psychology, 12*, 1075. https://doi.org/10.3389/fpsyg.2021.611788

Canestrari, C., Bongelli, R., Fermani, A., Riccioni, I., Bertolazzi, A., Muzi, M., & Burro, R. (2021). Coronavirus disease stress among italian healthcare workers: the role of coping humor. *Frontiers in Psychology, 11*, 601574. https://doi.org/10.3389/fpsyg.2020.601574

Cengiz, F. (2019). The relationship between cognitive emotion regulation and intolerance to uncertainty and fatigue severity in patients with rheumatoid arthritis (Master's thesis, Institute of Health Sciences).

Çetinkaya, FF, & Şener, E. (2016). The effect of managers' humor styles on employees' perception of organizational cynicism. *Journal of Business Research, 8*(3), 207-221. https://doi.org/10.20491/isarder.2016.197

Chłopicki, W., & Brzozowska, D. (2021). Sophisticated humor against COVID-19: the polish case. *Humor, 34*(2), 201-227. https://doi.org/10.1515/humor-2021-0015

Çubuk, B. (2020). Lost object, grief and depression arising from COVID-19. *Yalova Journal of Social Sciences, 10*(21), 90-99.

Demirci, HO (2016). The use of humor as a way of coping with psychological symptoms related to occupational fatigue and trauma reactions in Kocaeli University Research and Application Hospital health workers (Master's thesis, Kocaeli University, Institute of Health Sciences).

Di Tella, M., Romeo, A., Benfante, A., & Castelli, L. (2020). Mental health of healthcare workers during the COVID-19 pandemic in Italy. Journal of Evaluation in *Clinical Practice, 26*(6), 1583-1587. https://doi.org/10.1111/jep.13444

Duman, N. (2020). COVID-19 fear and intolerance to uncertainty in university students. *The Journal of Social Science, 4*(8), 426-437. https://doi.org/10.30520/tjsosci.748404

Geçgin, F. M., & Sahranç, Ü. (2017). Belirsizliğe Tahammülsüzlük ile Psikolojik İyi Oluş Arasındaki İlişki. *Sakarya University Journal of Education, 7*(4), 739. https://doi.org/10.19126/suje.383737

Güdük, Ö., Güdük, Ö., & Vural, A. (2021). Evaluation of healthcare professionals tolerance for uncertainty in the global epidemic of COVID-19. *Hacettepe Journal of Health Administration, 24*(1), 139-150.

Gümüş, K., & Sezgin, S. (2016). The effect of intolerance of uncertainty on suicide attention in patients with multiple sclerosis. *Journal of International Social Research, 9*(47). 475-475. http://dx.doi.org/10.17719/jisr.2016.1394

Gümüşoğlu, Ö., & Aşçı, H. (2020). The role of perfectıonısm and mental resılıence ın predıctıng ıntolerance of uncertaınty ın adult athletes. *Spormetre Physical Education and Sports Sciences Journal , 18*(1), 96-110. https://doi.org/10.33689/spormetre.551536

Hussein, A.T., & Aljamili, L.N. (2020). COVID-19 humor in jordanian social media: a socio-semiotic approach. *Heliyon, 6*(12). e05696. https://doi.org/10.1016/j.heliyon.2020.e05696

Kim, H.S & Plester BA (2019). Harmony and distress: humor, culture, and psychological well-being in south Korean organizations. F*rontiers in Psychology, 9*, 2643. https://doi.org/10.3389/fpsyg.2018.02643

Kutlu, M. (2021). Semiotic Analysis of COVID-19 Memes with Henri Bergson's Theory of the Humor. *Turkiye Iletisim Arastirmalari Dergisi-Turkish Review of Communication Studies, 37*, 125-146. https://doi.org/10.17829/turcom.858584

Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., ... & Hu, S. (2020). Factors associated with mental health outcomes among health care workers exposed to coronavirus disease. *JAMA Network Open, 3*(3), e203976. https://doi.org/10.1001/jamanetworkopen.2020.3976

León-Pérez, J.M., Cantero-Sánchez, F.J., Fernández-Canseco, Á, León-Rubio J.M. (2021). Effectiveness of a humor-based training for reducing employees' distress. *International Journal of Environmental Research and Public Health, 18*(21), 11177. https://doi.org/10.3390/ijerph182111177

Lestari, N.P.E.B., & Pradnyanita, A.S.I. (2020). Against COVID-19 with creativity in social media. International Proceeding Conference on Multimedia, Architecture & Design, 1, 295-300. e-ISSN: 2747-1756

Liu, K. Y., Howard, R., Banerjee, S., Comas-Herrera, A., Goddard, J., Knapp, M., ... & Burns, A. (2021). Dementia wellbeing and COVID-19: review and expert consensus on current research and knowledge gaps. *International Journal of Geriatric Psychiatry, 36*(11), 1597-1639. https://doi.org/10.1002/gps.5567.

Mert, I. S. (2018). Investıgation of the highest stressıng events by qualitative research method. *Electronic Journal of Social Sciences, 17* (67), 1043-1059. https://doi.org/10.17755/esosder.343043

Paluszek, M.M., Asmundson, A.J., Landry, C.A., McKay, D., Taylor, S., & Asmundson, G. J. (2021). Effects of anxiety sensitivity, disgust, and intolerance of uncertainty on the COVID stress syndrome: a longitudinal assessment of transdiagnostic constructs and the behavioural immune system. *Cognitive Behaviour Therapy, 50*(3), 191-203. https://doi.org/10.1080/ 16506073.2021.1877339.

Pan, R., Zhang, L., & Pan, J. (2020). The anxiety status of chinese medical workers during the epidemic of COVID-19: a meta-analysis. *Psychiatry Investigation, 17*(5), 475. https://doi.org/10.30773/pi.2020.0127

Recepoğlu, E. (2008). The effect of school principals' sense of humor on teachers' job satisfaction. *Education and Science , 33*(150), 74-86.

Şar, A., Işıklar, A., & Aydoğan, İ. (2012). Examination of predictive variables of life satisfaction of prospective teachers awaiting appointment. *Mehmet Akif Ersoy University Journal of Education Faculty, 1*(23), 257-271.

Sarıçam, H., Erguvan, F. M., Akın, A. & Akça, M. Ş. (2014). Belirsizliğe Tahammülsüzlük Ölçeği (BTÖ-12) Türkçe formu: geçerlik ve güvenirlik çalışması. *Route Educational and Social Science Journal, 1*(3), 148-157. https://doi.org/10.17121/ressjournal.109

Sarkisian, N., & Gerstel, N. (2016). Does singlehood isolate or integrate? Examining the link between marital status and ties to kin, friends, and neighbors. *Journal of Social and Personal Relationships, 33*(3), 361-384. https://doi.org/10.1177%2F0265407515597564

Savitsky, B., Findling, Y., Ereli, A., and Hendel, T. (2020). Anxiety and coping strategies among nursing students during the COVID-19 pandemic. *Nurse Education in Practice, 46*, 102809. https://doi.org/10.1016/j.nepr.2020.102809

Şen, Ö., & Yildizhan, E. (2020). Relationship of ıntolerance of uncertainty and attachment styles with the clinical features of bipolar disorder in remission. *Turk Psikiyatri Dergisi, 31*(3), 174-184. https://doi.org/10.5080/u25107

Smith, B.M., Twohy, A.J., & Smith, G.S. (2020). Psychological inflexibility and intolerance of uncertainty moderate the relationship between social isolation and mental health outcomes during COVID-19. *Journal of Contextual Behavioral Science, 18*, 162-174. https://doi.org/10.1016/j.jcbs.2020.09.005

Subölen, S. (2020). Humor phenomenon in social media as a method of coping with stress during the COVID 19 pandemic: analysis of instagram accounts named cezmikalorifer and saykodelipaylasimlarr. *AJIT-e: Online Journal of Information Technologies, 11*(42), 123-142. https://doi.org/10.5824/ajite.2020.03.005.x

Torres Martín, J. L., Castro-Martínez, A., & Díaz-Morilla, P. (2022). Humor e identidad como recursos expresivos para la construcción de marca en redes sociales. El caso de Malacara. *Revista De La Asociación Española De Investigación De La Comunicación, 9*(17), 103-132. https://doi.org/10.24137/raeic.9.17.5

Tükel, R. (2020). Mental health during the COVID-19 pandemic, Turkish Medical Association, COVID-19 Pandemic Sixth Month Evaluation Report. Ankara.

Türkoğlu, H., & Tüfekçi, FG (2021). The relatıonshıp between chıldren's love and humor styles in chıldren's nurses. *Journal of YOBÜ Faculty of Health Sciences, 2*(1), 1-13.

MHA MEDIHEALTH ACADEMY
Journal of Nursing Care Research
Review
doi: 10.51271/JNCR-0050

Use of motivational interviewing in patient care during the surgical process: review

Keziban Öztürk*, Hülya Bulut
Department of Nursing, Faculty of Health Sciences, Gazi University, Ankara, Turkiye

Cite this article as: Öztürk K, & Bulut H. (2026). Use of motivational interviewing in patient care during the surgical process: review. *J Nurs Care Res, 3*(2), 63-70. doi:10.51271/JNCR-0050

Received: 09.12.2025 ◆ **Accepted**: 15.01.2026 ◆ **Published**: 13.04.2026

ABSTRACT

Surgical interventions play a significant role as a fundamental component of clinical management in the treatment process of many diseases. It is known that health-related behavioral risk factors are high in the surgical population. The surgical process may represent a "teachable moment" when individuals may be more motivated to adopt risk-reducing health behaviors. Healthcare professionals working in this field can recognize these "teachable moments" and utilize evidence-based approaches, such as motivational interviewing, to support behavioral change in individuals. The purpose of this review is to evaluate the effect of motivational interviewing (MI) on the acquisition and maintenance of healthy behaviors in patients undergoing surgery. To this end, the literature on MI in relation to the acquisition of healthy behaviors in patients undergoing surgery and the improvement of this process for better patient outcomes was reviewed, and recommendations for clinical practice were provided.

Keywords: Motivational reviewing, perioperative care, nursing, surgery

INTRODUCTION

Today, technological innovations and advances in medical science have contributed to a significant increase in life expectancy; concurrently, the likelihood of individuals having two or more chronic diseases simultaneously has also increased. Noncommunicable diseases such as cardiovascular diseases, stroke, type 2 diabetes, and cancer are critical because they constitute the most prevalent disease groups globally and are the primary determinants of morbidity, disability, and impaired quality of life (Freisling et al., 2020). In this regard, the World Health Organization's (WHO) 2013-2020 Global Action Plan for the Prevention and Control of Noncommunicable Diseases sets out comprehensive strategies to reduce major risk factors such as obesity, tobacco use, physical inactivity, harmful alcohol consumption, and unhealthy diet, and to control the global burden of noncommunicable diseases (Organization, 2013). A study has shown that healthy lifestyle behaviors adopted before diagnosis reduce the risk of cancer and cardiometabolic diseases and are inversely proportional to the likelihood of developing multiple morbidities (Freisling et al., 2020).

Surgical interventions also play a crucial role in the treatment of these diseases, and it is well established that behavioral risk factors related to health are prevalent in the surgical population. The literature provides strong evidence that behavioral risk factors such as malnutrition, tobacco use, and alcohol consumption can negatively affect outcomes during the surgical process-for example, delayed wound healing and increased complication rates (Katayama et al., 2024; Vickery, Fowler, Prowle, & Pearse, 2025). These behaviors, which are embedded in an individual's lifestyle, lead to surgical weakness and an increased risk in the preoperative period, significantly negatively affecting the postoperative recovery process (Kamarajah & Yeung, 2025).

The surgical treatment method is considered a traumatic process in itself. When individuals are faced with surgery as a treatment option after receiving a diagnosis, this situation can lead to emotional responses such as anxiety, sadness, worry, and fear (Dobson, 2020; J. Lin et al., 2024). However, surgery also has the potential to increase an individual's awareness and insight into their own health. Individuals with increased health awareness have a greater need for the knowledge and guidance of health professionals and become more receptive to their guidance. In this context, the surgical process can serve as a "teachable moment" that may motivate individuals to adopt risk-reducing health behaviors. Healthcare professionals working in this field can recognize these "teachable moments" and utilize evidence-based approaches, such as motivational interviewing (MI), to support behavioral change in individuals (Fong et al., 2023). The literature emphasizes that MI is effective when applied by nurses in patient care (İşleyen, Özdemir İ, & Yoldemır Ş, 2025; Steffen, Mendonça, Meyer, & Faustino-Silva, 2021; Taheri, Nasiri, Namdari, & Salmani, 2023; Wu, Yu, & Xu, 2021). Nurses have a natural advantage in applying MI techniques due to their continuous and direct interaction with patients, their ability to establish trust-based therapeutic relationships, and their proximity to

***Corresponding Author:** Keziban Öztürk, kzbnerturunc@gmail.com

This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

patients' daily care processes (Vujanić, Mikšić, Barać, Včev, & Lovrić, 2022; Kızılırmak & Demir, 2018). This leads to positive outcomes, including increased patients' self-efficacy, strengthened treatment adherence, improved rehabilitation participation, and the development of risk-reducing health behaviors (Steffen et al., 2021; Taheri et al., 2023; Wu et al., 2021). Furthermore, nurses who integrate MI into routine care processes increase cost-effectiveness (Wu et al., 2021) and contribute to patients sustaining behavioral changes during the pre- and postoperative periods (Dobbels et al., 2017).

MOTIVATIONAL INTERVIEWING

The conceptual framework of MI was first defined in 1983 by William Miller to support the treatment process of individuals with alcohol use disorders. Miller and Rollnick subsequently developed the original theoretical foundations of MI and expanded its scope by adapting the method to a broader range of applications (Miller, 2023). MI is defined as a collaborative, goal-oriented form of communication that places special emphasis on the language of change. It aims to strengthen personal motivation and commitment to goals by facilitating the individual's discovery and exploration of their own reasons for change in an atmosphere of acceptance and compassion. (Beckwith & Beckwith, 2020). In other words, MI is a method that encourages the client to discuss behavior change in line with their own values and interests. In the MI process, change is carried out in collaboration with the client; the focus is on discovering the individual's strengths rather than their weaknesses, and the client's experiences and perspective serve as the basis (İşleyen et al., 2025).

MI is a contemporary technique that combines relationship-building principles with therapeutic approaches to address various health issues and is increasingly utilized in the health sciences. This method incorporates cognitive-behavioral strategies that target different stages of change in the patient, adopting a distinctly patient-centered approach. The counselor aims to strengthen the individual's internal drive for change by helping them discover their internal motivation and resolve their indecision about change (Bhat, Rajesh, Mohanty, & Shenoy, 2020). The core spirit of MI is based on supporting and strengthening the trust-based therapeutic relationship, which is critical to treatment success. The following components can define this spirit:

Partnership

Establishing a non-hierarchical, peer-to-peer communication and collaboration relationship with the patient. In this approach, the counselor does not adopt the role of an "expert" positioned above the patient.

Acceptance

Embracing a fundamental acceptance and empathy towards the patient's needs, experiences, and perspectives. This includes showing unconditional respect for the patient and preserving their autonomy in their choices and decisions regarding behavioral change (patient autonomy).

Compassion

The counselor prioritizes the patient's needs over their own interests and demonstrates a sincere, compassionate approach toward the patient's life and experiences.

Uncovering Motivation for Change

Supporting the patient in discovering and strengthening their own reasons for change. This also involves developing an understanding of the mismatch between the current problem behavior and the patient's goals and values (e.g., "You mentioned that exercising more is important to you. What do you think about how this relates to your smoking behavior?") (Bischof, Bischof, & Rumpf, 2021; Mifsud, Galea, Garside, Stephenson, & Astin, 2020). The key features of MI can be summarized as shown in Table 1 (Frey et al., 2021; Miller & Rollnick, 2013).

Table 1. Key features of motivational interviewing

Feature	Description
Client-centeredness	Priority is given to the client's own problems and needs; the counselor's needs are secondary.
Journey of change	The client determines their own journey of change; the counselor does not make suggestions unless the client wants to take steps toward change.
Expertise and guidance	The counselor is the expert in the process and guides the client, who takes an active role in the process.
Unconditional acceptance and accompaniment	The counselor unconditionally accepts the client and supports them in bringing their desire for change to the surface.
Autonomy and responsibility	The client's autonomy over their behaviors and outcomes is respected.
Readiness for change	Readiness for change is a product of the interpersonal relationship; denial and resistance are associated with the counselor's attitudes, not the client's.
Resolving ambivalence	The client is responsible for resolving ambivalence regarding their behavior; the counselor provides opportunities for them to generate their own solutions.
Collaborative process	The counselor does not attempt to persuade the client or make suggestions.
Internal motivation	The counselor guides the client in discovering their own internal motivation; they do not attempt to create motivation for them.

Core Skills in Motivational Interviewing

MI supports the establishment of a therapeutic alliance between the clinician and the patient, involving micro-counseling skills known by the acronym OARS. OARS skills include: Open-ended questions, Acknowledgment, Reflection, Summarizing, and Information exchange. These are used to elicit the client's internal motivation and increase their participation in the change process (Table 2) (Gettings & Lefkowitz, 2024; Hah et al., 2020).

Table 2. Core skills in motivational interviewing

Skill	Definition and function
Asking open-ended questions	Encourages the client to think and explain the topic in more detail.
Affirmation	Emphasizes the client's strengths and reinforces their sense of self-efficacy.
Reflective listening	Expresses empathy by carefully listening to what the client says and then repeating, rephrasing, or deeply interpreting its meaning.
Summarizing	Ensures mutual understanding of shared information and reinforces the important points emphasized by the client.
Paying attention to the language of change	Encourages recognizing the client's statements that support the status quo (sustain talk) and those that favor change (change talk), and converting sustain talk into change talk.
Information exchange	It acknowledges the expertise of both the counselor and the client; information sharing is a two-way process that requires sensitivity to the client's words.

Key Processes of Motivational Interviewing

The key processes in MI describe the "flow" of the interview; if necessary, it is possible to move back and forth between processes:

Engaging: This is the first stage of the motivational interview and forms its foundation. The aim is to carefully listen to the person's experience and perspective and reflect it accurately; to acknowledge their strengths and support their autonomy in order to establish a productive working relationship. "Engaging," which is part of this process, is similar to communication principles widely accepted in healthcare. These principles emphasize the fundamental importance of empathic communication in promoting harmony and trust in the relationship (Bhat et al., 2020; Cole, Sannidhi, Jadotte, & Rozanski, 2023).

Focusing: In this process, a common goal is established by leveraging the expertise of both the client and the practitioner. This gives the practitioner permission to conduct a directive conversation about change. Similar to setting an "agenda" in medical practice, the "focusing" process involves negotiating an agreement on an area for exploration and discussion with patients (Bischof et al., 2021; Cole et al., 2023).

Evoking: In this process, the practitioner helps the client find their own "reasons" for change; they work to bring out the person's own ideas and motivations. Ambivalence is considered normal, explored without judgment, and thus resolved. This process requires skillful attention to the person's conversations about change and aims to uncover and strengthen patients' internal (not external) motivations for change (Cole et al., 2023).

Planning. This process focuses on discovering "how" the change will occur. The practitioner supports the individual in solidifying their commitment to change and developing a plan based on their own understanding and expertise. The planning process is not always necessary; however, when it is, the client's timing and readiness are crucial (Bhat et al., 2020; Cole et al., 2023).

The Use of Motivational Interviewing in Patient Care During the Surgical Process

MI is a practical approach to supporting behavioral change in clinical studies (Mifsud et al., 2020; Zhang & Yang, 2025). Reviewing the literature, it is seen that MI is used in the care of patients in various surgical fields such as plastic surgery, organ transplantation, orthopedics, and cardiovascular surgery (CVS) (Dobbels et al., 2017; Medina-Garzon, 2019; Olaiya et al., 2023; Palacio et al., 2014). These studies demonstrate that MI is effective in increasing patients' self-efficacy, enhancing treatment compliance, improving quality of life, and promoting risk-reducing health behaviors during both the pre-and postoperative periods. Below are examples of how MI is used with patients during the surgical process and these studies are summarized in **Table 3**.

Lung Surgery

A randomized study examined the effects of MI to increase self-efficacy in patients with non-small cell lung cancer after surgery. The findings showed that, compared to standard care, MI was more effective in cancer patients in terms of regulating emotions, increasing self-efficacy, improving quality of life, developing coping skills, strengthening social support, and enhancing functional capacity (Huang et al., 2018). Similarly, studies on developing self-care management in the postoperative period for patients who underwent thoracolumbar spine surgery have shown that MI increases patients' confidence in managing their own care (Scheffel, Amidei, & Fitzgerald, 2019).

Organ transplantation: The effect of interventions involving MI administered by master 's-level nurses on postoperative treatment adherence in adult heart, liver, and lung transplant recipients was examined in a randomized controlled trial. Findings showed that MI increased treatment adherence (Dobbels et al., 2017). Similarly, a review highlighted that MI strengthened adherence to immunosuppressive therapy after transplantation, supported participation in healthy lifestyle behaviors such as fluid intake and regular exercise, and facilitated the management of barriers, including anxiety and depression, in adolescents returning to school (Gettings & Lefkowitz, 2024).

Gastrointestinal surgery: A randomized controlled trial examining the effect of MI on improving postoperative nutritional goals within the ERAS (Enhanced Recovery After Surgery) protocol in elective bowel surgery showed that MI increased adherence to the nutritional goals set by the ERAS protocol. Similarly, another study investigated the effect of MI on the mobilization process after elective colorectal surgery, according to the ERAS, and found that MI was effective in supporting mobilization. Furthermore, preliminary findings from a pilot study evaluating the effect of MI on the readiness for change, self-efficacy, and adherence to dietary guidelines in bariatric surgery patients revealed that MI is an acceptable and feasible intervention with the potential to increase confidence in change and improve eating behaviors in bariatric patients.

Orthopedic surgery: In a prospective, evaluator-blinded, randomized controlled pilot study evaluating the effectiveness of MI and guided opioid reduction support in patients undergoing total joint arthroplasty, MI was found to promote opioid discontinuation without prolonging postoperative pain resolution or recovery time, thereby reducing total postoperative opioid use duration (Hah et al., 2020).

Neurosurgery: A study examining whether the application of short-term MI-based health behavior change counseling improves health outcomes after degenerative lumbar spinal stenosis surgery found that the application may improve outcomes after spinal surgery by increasing rehabilitation participation. (Similarly, another study evaluating the effectiveness of MI-based health behavior change counseling compared to routine care in improving health outcomes after lumbar spine surgery found that the intervention improved health outcomes during the first 12 months after surgery (Skolasky, Maggard, Wegener, & Riley, 2018).

Cardiovascular surgery: In a study evaluating the long-term effects of a multi-component intervention (psychoeducation, motivational interviewing, and text messaging) on medication adherence, quality of life, and mortality in elderly patients undergoing coronary artery bypass graft (CABG) surgery, the intervention was found to increase medication adherence, with this improvement lasting for 18 months. Furthermore,

Table 3. Studies using motivational interviewing in the perioperative period

Author (Year)	Type of Surgery	Methodology	Sample size (n)	Intervention	Key findings
Fei-Fei Huang; Qing Yang; Juan Zhang; Xuan Ye Han; Jing-Ping Zhang; Man Ye (2018)	VATS and thoracotomy procedure (distribution reported in both groups)	Randomized controlled trial, 2-phase study: I) Intervention development/modeling (health professional interviews + theoretical framework) II) 2-arm exploratory randomized controlled pilot trial	Initially, 30 patients were planned; 2 patients who did not undergo surgery were withdrawn; the study was completed with a total of 23 patients.		MI -based self-efficacy enhancement intervention (3 months/6 sessions: 2 face-to-face+4 telephone) was superior to routine care in reducing anxiety/depression and increasing self-efficacy, quality of life, social support, confrontational coping, and functional capacity; however, there were generally no significant differences between groups in subjective well-being, posttraumatic growth, body mass index, and spirometric pulmonary function measurements.
Kimberly Scheffel; Christina Amidei; Kathleen A. Fitzgerald (2019)	Postoperative thoracolumbar spine surgery (combined procedures; most commonly decompression laminectomy and spinal fusion)	Quasi-experimental, single group, pretest–posttest (no control group)	n=15 adult	2 sessions: 1) Face-to-face motivational interview (2nd week post-op clinic visit;) 2) Telephone follow-up motivational interview (4th week post-op); final measurements at the 6th week clinic visit	Self-care/symptom management confidence increased significantly: pretest mean 6.73 to posttest 8.73 (p=.002). Disability level decreased significantly: 29.33 to 20.13 (p=.027). The authors noted that the clinical significance cut-off point was exceeded in all items from a clinical perspective.
Fabienne Dobbels; Leentje De Bleser; Lut Berben; Paulus Kristanto; Lieven Dupont; Frederik Nevens; Johan Vanhaecke; Sabina De Geest (2017)	Solid organ transplantation: Heart, lung, and liver transplantation (≥1 year post-transplant)	Randomised controlled trial, parallel groups, 1:1 randomisation; intention-to-treat analysis; 3-month run-in+6-month intervention+6-month follow-up (total 15 months of electronic monitoring); additionally, 5-year clinical incident-free survival analysis.	Number of patients obtained from the screening results: 247; randomised: 205	-6 months / 3 sessions; multi-component, person-tailored behavioural intervention based on MI, administered during face-to-face clinical visits; -Electronic medication adherence feedback status assessed.	-Medication adherence (correct dosage): At the end of the intervention, greater adherence was observed in the experimental group, with a significant difference between groups (p<0.001) -Timing compliance: Greater compliance was observed in the experimental group (p<0.0001) -The effect was sustained at the 6-month follow-up -The 5-year clinical event-free survival rate was 82.5% in the experimental group and 72.5% in the control group; the difference was not statistically significant (p=0.18).
Julie M. Gettings; Debra S. Lefkowitz (2024)	Adolescent solid organ transplantation (general framework: including heart/liver/kidney/lung; pre-, peri-and post-operative stages of the transplant journey)	Mini review: The principles and skills of MI are explained; the literature on its applicability in adolescent transplant care (adult transplant and similar paediatric chronic disease studies) is reviewed; clinical scenario examples are presented.	There is no sample.	A standard 'intervention dose' is not defined. MI is positioned as a communication style integrated into clinical interviews by multidisciplinary team members; its use may extend to the pre-transplant, perioperative/post-operative, and long-term post-transplant periods.	-The high conceptual suitability of MI in adolescent transplantation is emphasised; -Examples are provided of how the core skills of MI can be used to improve medication adherence and other health behaviours, particularly by supporting adolescent autonomy. -System-level factors (inequalities, resources) and the clinician's bias can disrupt MI interactions; therefore, self-awareness/cultural humility is critical.
Julian Müller; Rico Wiesenberger; Mario Kaufmann; Christel Weiß; David Ghezel-Ahmadi; Julia Hardt; Christoph Reißfelder; Florian Herrle (2024)	Elective bowel/colorectal surgery (under the ERAS® colorectal protocol; colon/rectum/stoma procedures, etc.)	-Single-centre, two-arm, blinded parallel pilot randomised controlled trial; block randomisation (block=4); -Follow-up: preoperative+PODs 0-3; -Primary outcomes: number of protein shakes, protein calories, total calorie intake.	n=60 (MI=30, control=30). Due to 2 deaths in the control group during the post-operative days, the final analysis reported control=29.	5 sessions / perioperative period: -Preoperative (during premedication) +2) (POD 0+3) (day 1+4) (day 2+5) day 3; post-operative consultations within the ward between 17:30-20:00, face-to-face; motivational consultation, conducted according to the standard protocol adapted to ERAS® nutritional goals.	The motivational interview group had higher protein shake intake on PODs 0-3 (excluding day 3); more total shakes (median 5.5 vs 2.0; p=0.004) and consequently higher protein/calorie intake (1650 vs 600 kcal; p=0.004; 110 vs 40 g protein; p=0.005). Total daily calorie intake (shake + meals) was significantly higher only on day 2 (1772.3 vs 1358.9 kcal; p=0.03). No significant differences were found between groups in complications and LOS.

VATS: Video-assisted thoracoscopic surgery, MI: Motivastional interviewing, TKA: Total knee arthroplasty, THA: Total hip arthroplasty, ERAS: Enhanced recovery after surgery, POD: Postoperative day, LOS: Length of stay, VAS: Visual analog scale, QoL: Quality of life, HR: Hazard ratio, CI: Confidence Interval, DVD: Digital versatile disc, CABG: Coronary artery bypass graft, USA: United states of America, ITT: Intention-to-treat. The intervention content is presented in the table solely in terms of session number, duration and mode of delivery for standardisation purposes. "Usual care" refers to the centre's routine perioperative care and may vary between studies (The table continues)

Table 3. Studies using motivational interviewing in the perioperative period (The table continues)

Author (Year)	Type of Surgery	Methodology	Sample size (n)	Intervention	Key findings
Rico Wiesenberger; Julian Müller; Mario Kaufmann; Christel Weiß; David Ghezel-Ahmadi; Julia Hardt; Christoph Reissfelder; Florian Herrle (2024)	Elective colorectal surgery /elective bowel resections (ERAS; including minimally invasive and open approaches; cases involving stoma creation are also included)	-Single-centre, two-arm, patient-blinded pilot randomised controlled trial; 1:1 block randomisation (block=4); -MI techniques in the experimental group, same frequency of interviews without MI in the control group (primarily closed-ended questions); mobilisation measured at POD1 (360 minutes post-operatively out of bed)-POD3 (objective sensor+self-report.	The number of patients identified was 97; 60 were randomised (experimental group=30, control group=30).	6 sessions: -Preoperative 1 face-to-face (a few days before surgery, outpatient clinic) +POD0-POD3 daily 1 face-to-face (in the ward between 18:00-20:30 in the evening)+POD28-32 telephone consultation; Approximate durations are shown in the table: preop ~20 min, POD0 ~15 min, POD1-3 ~10 min; the total process extends from before surgery to the 4th week.	-Primary mobilisation outcome (self-reported 'out-of-bed time') was cumulatively higher in the experimental group from POD1 to POD3: 685 min vs 420 min (p=0.022). The experimental group more frequently met the ERAS® target of ≥360 min/day during POD1-3 (360 min out of bed 1-3 days post-surgery) (p=0.013). -Although the experimental group had higher objective measurements (time on feet and number of steps), there was no statistical significance. -Hospital stay and complications were similar.
Lauren A. David; Sanjeev Sockalingam; Susan Wnuk; Stephanie E. Cassin (2016)	Postoperative bariatric surgery (most of the sample being Roux-en-Y gastric bypass)	Pilot randomise controlled trial, wait-list controlled; randomisation: matching based on time spent in surgery + web-based random number generation; Measurements: baseline, immediately post-session, 4/8/12-week follow-up.	66 expressed interest; randomised n=51: experimental group=23, Control group=28; completed n=44.	-Single session experimental group; mean 107.9 min; face-to-face (in a university-based research laboratory). -Control arm: standard bariatric care during a 12-week waiting period, followed by MI.	-Immediately after the motivational interview: increase in readiness, confidence and self-efficacy; at the 12-week follow-up, the motivational interview group showed more pronounced improvement in confidence for change, VAS diet compliance and binge eating scores compared to the control group (Group×Time interaction was significant). However, improvements in some compliance measures (adherence checklist) were inconsistent; the groups did not differ significantly from each other in most outcomes at week 12 (consistent with the pilot/low-power design).
Jennifer M. Hah; Jodie A. Trafton; Balasubramanian Narasimhan; Partha Krishnamurthy; Heather Hilmoe; Yasamin Sharifzadeh; James I. Huddleston; Derek Amanatullah; William J. Maloney; Stuart Goodman; Ian Carroll; Sean C. Mackey 2020	Orthopaedic surgery: total joint arthroplasty-TKA and THA	Prospective, assessor-blind, randomised controlled pilot study; 1:1 randomisation (block=5), stratified by type of operation (TKA/THA);	Screening: 209; randomised n=104 (MI-Opioid Taper=49, usual care=55); Single academic centre (Stanford); randomisation performed in patients still using prescribed opioids 14 days after surgery (high-risk).	Telephone-based MI+guided opioid reduction support: weekly calls (from the 2nd to the 7th week post-op) followed by monthly calls (up to 1 year) until the patient stops taking opioids; average number of sessions implemented in practice was 2.6 (range 1-6 calls).	Time-dependent primary outcome: 'return to baseline (preoperative) opioid dose' was faster in the MI group: HR 1.62 (95% CI 1.06-2.46; p=0.03). Secondary: also faster for 'complete opioid withdrawal': HR 1.57 (95% CI 1.01–2.44; p=0.05). No significant difference in pain resolution and patient-reported full recovery times. No trial-related adverse events reported.
Richard L. Skolasky; Anica M. Maggard; David Li; Lee H. Riley III; Stephen T. Wegener (2015)	Degenerative lumbar spinal stenosis surgery: lumbar decompression; fusion surgery added if spondylolisthesis is present.	Prospective clinical trial, lagged-control (time-dependent sequential assignment; no randomisation): the first 60 patients were assigned to the control group, the next 65 patients to the experimental group; outcome reviewers were blinded to group assignment.	Meeting the criteria: 139, rejected: 14; final n=122 (control=59, experimental=63).	Telephone-based MI group: 1 session x 60 min (pre-op)+2 booster sessions x 30 min (approximately 3 months and 6 months post-op) Control: standard education +2 telephone calls x 30 min at the same times (without MI content).	-The experimental group, compared to the control group: had higher rehabilitation participation (therapist assessment: 23.57±2.71 vs 21.20±4.56; p<.001) and a higher physical therapy participation rate (.82±.16 vs. 67±.21; p<.001) and higher home exercise participation (.75±.22 vs .65±.23; p=.019). -Functional outcomes: lower disability (better) and higher physical health quality of life scale; effects were significant at 3 months and 6 months. Mediation analysis indicated that approximately half of the effect on functional improvement at 3 months and one-third at 6 months was mediated by rehabilitation participation.

VATS: Video-assisted thoracoscopic surgery, MI: Motivastional interviewing, TKA: Total knee arthroplasty, THA: Total hip arthroplasty, ERAS: Enhanced recovery after surgery, POD: Postoperative day, LOS: Length of stay, VAS: Visual analog scale, QoL: Quality of life, HR: Hazard ratio, CI: Confidence Interval, DVD: Digital versatile disc, CABG: Coronary artery bypass graft, USA: United states of America, ITT: Intention-to-treat. The intervention content is presented in the table solely in terms of session number, duration and mode of delivery for standardisation purposes. "Usual care" refers to the centre's routine perioperative care and may vary between studies (The table continues)

Table 3. Studies using motivational interviewing in the perioperative period (The table continues)

Author (Year)	Type of Surgery	Methodology	Sample size (n)	Intervention	Key findings
Richard L. Skolasky; Anica M. Maggard; Stephen T. Wegener; Lee H. Riley III (2018).	Lumbar spinal stenosis surgery: lumbar decompression; including arthrodesis (fusion) if accompanied by spondylolisthesis/ scoliosis.	Prospective lagged controlled study (non-randomised): two-stage allocation based on registration date; stage 1: routine care; stage 2: healthy behaviour change counselling. 3-year follow-up; intention-to-treat analysis, multiple imputation for missing data; longitudinal mixed-effects models for time-series comparisons; additionally, structural equation modelling for the mediating role of rehabilitation participation.	Evaluated 185; suitable 139; approved 125; analysis: n=122 (routine maintenance=59, experimental group=63).	3 telephone calls: 1 preoperative + 2 postoperative 'booster' (in the text, the preoperative call uses MI strategies; the booster timing is placed in the postoperative rehabilitation period). The mode of delivery is telephone; duration information is not reported in detail on a call-by-call basis in this article (the intervention is defined as 'brief/ telephone-based').	-In the first 12 months, the counselling group performed better than routine care: greater reduction in pain intensity (p=0.008), greater reduction in disability (p=0.028) and greater improvement in physical health (p=0.025). At 24-36 months, the early differences between groups weakened/ attenuated. -In the mediation analysis, part of the early improvements was explained by increased rehabilitation participation and attendance at physiotherapy sessions as assessed by the physiotherapist; home exercise participation was identified as a weaker mediator.
Chung-Ying Lin; Mehdi Yaseri; Amir H. Pakpour; Dan Malm; Anders Broström; Bengt Fridlund; Andrea Burri; Thomas L. Webb (2017)	CABG surgery (elective; excluding emergency CABG).	Multicentre, cluster-randomised (at centre level), two-arm randomised controlled trial; investigators/ outcome assessors and statisticians blinded; ITT; measurements: baseline and at 6/12/18 months; survival at 18 months.	12 centres (Iran); 24 patients per centre; total n=288 (experimental group=144; control=144). Control: ~30 min standard briefing prior to discharge.	Multi-component programme starting in the first week after discharge: (1) Psychoeducation: 3 weeks, each session 60 minutes, face-to-face group sessions in hospital, with at least 1 family member. (2) MI : 5 weeks, each session ~50 minutes, face-to-face individual sessions in hospital (by psychologists). (3) SMS: 4 messages per month (reminder content), sent on a monthly basis.	The experimental group showed a significant improvement in medication adherence (MARS, pharmacy refill rate and lipid profile indicators) at 6 months compared to the control group, and the effect persisted until 18 months (p<0.01). The difference in quality of life (was particularly significant in favour of the experimental group at month 18 (p=0.02). Mortality risk was lower in the trial group: HR ≈0.38 (p≈0.04). Furthermore, it has been reported that compliance is mediated by social-cognitive processes such as intention, planning, self-monitoring, perceived control, and automaticity.
Ana M. Palacio; Claudia Uribe; Leslie Hazel-Fernandez; Hua Li; Leonardo J. Tamariz; Sylvia D. Garay; Olveen Carrasquillo (2015)	Coronary stent placement- Compliance with post-stent antiplatelet therapy is targeted.	Parallel-arm randomised controlled trial; stent patients identified through a health insurance database in 22 US states; block randomisation (block=6), stratified by race/ ethnicity; Measurements: baseline and 12 months (claims+questionnaire).	n=452 minority (Hispanic 44%, Black 56%); randomisation: Telephone-based MI=227, DVD group=225; pharmacy claims data available in primary analysis: MI group=213, DVD group=209.	Telephone-based MI: 4 sessions, once every 3 months (over 12 months); delivered via telephone call. Comparison: one-off educational DVD (role-modelling video) sent by post. (Duration/minute information per session not explicitly reported in the article).	-Primary (claims-based medication adherence rate): 0.77 in the telephone-based MI group, 0.70 in the DVD group (p=0.01). -Appropriate adherence (medication adherence rate ≥0.80): 64% in the MI group, 50% in the DVD group (p<0.01). -Self-report: Higher in the MI group at 12 months (e.g., ~3.81 vs ~3.52; p<0.01). • 'Forgetfulness' and the rate of not completing 12 months of treatment were lower in the MI group.

VATS: Video-assisted thoracoscopic surgery, MI: Motivastional interviewing, TKA: Total knee arthroplasty, THA: Total hip arthroplasty, ERAS: Enhanced recovery after surgery, POD: Postoperative day, LOS: Length of stay, VAS: Visual analog scale, QoL: Quality of life, HR: Hazard ratio, CI: Confidence Interval, DVD: Digital versatile disc, CABG: Coronary artery bypass graft, USA: United states of America, ITT: Intention-to-treat. The intervention content is presented in the table solely in terms of session number, duration and mode of delivery for standardisation purposes. "Usual care" refers to the centre's routine perioperative care and may vary between studies

improvements in quality of life and survival rates were also observed due to increased medication adherence (C.-Y. Lin et al., 2016). Similarly, in a randomized controlled trial evaluating the effectiveness of a phone-based MI application in assessing adherence to antiplatelet medications after coronary stenting, it was reported that MI increased medication adherence in patients and is a promising and cost-effective method for modifying risk behaviors in individuals with high cardiovascular risk (Palacio et al., 2014).

In recent years, the use of MI in surgical populations has increased. Increased life expectancy, complex surgical procedures, and multiple disease burdens have heightened the need to support patients' adaptation to postoperative care and lifestyle changes. Developing risk-reducing health behaviors, such as maintaining a healthy diet and engaging in regular physical activity (van Erck et al., 2023), and reducing behaviors that increase surgical risk, including smoking, excessive alcohol consumption, or substance abuse, are critically important (Kamarajah & Yeung, 2025; Katayama et al., 2024). In this context, MI is frequently used to increase patients' self-efficacy, strengthen treatment compliance, improve quality of life, and promote risk-reducing health behaviors before and after surgery (Gettings & Lefkowitz, 2024; Huang et al., 2018; İşleyen et al., 2025). MI techniques are increasingly beneficial in helping patients initiate or develop common lifestyle goals, such as exercise, resistance training, nutrition, weight management, sleep hygiene,

smoking cessation, reducing alcohol consumption, and adherence to medication prescriptions (Cole et al., 2023). The literature shows that the application of MI is becoming increasingly common in different surgical fields such as lung, spine, bariatric, and cardiac surgery, and that the active role of nurses in this process positively affects patient outcomes (David et al., 2016; Medina-Garzon, 2019; Skolasky et al., 2015). This increase highlights the potential for MI to become an integral part of surgical care.

CONCLUSION

Studies have shown that health-related behavioral risk factors are highly prevalent in surgical populations and that this increases the risk of postoperative complications. MI-based approaches enhance patients' self-efficacy, treatment compliance, quality of life, and functional capacity, while supporting lifestyle goals such as nutrition, exercise, weight management, and reducing tobacco and alcohol use. MI, especially when administered by surgical nurses before and after surgery, enhances patients' confidence in managing their own care, increases participation in the rehabilitation process, and improves medication adherence. By establishing trust-based therapeutic relationships with patients and integrating MI techniques into routine care processes, nurses increase cost-effectiveness and significantly contribute to patients' development of risk-reducing health behaviors.

In this context, the role of surgical nurses should be expanded beyond merely providing postoperative care to include reducing patients' behavioral health risks and supporting lifestyle changes. Nurses are encouraged to receive training in MI and incorporate these approaches into clinical practice. Furthermore, developing structured MI programs for the pre- and postoperative periods and systematically evaluating their effectiveness in different surgical patients will contribute to improving patient outcomes and the sustainability of healthcare systems.

ETHICAL DECLARATIONS

Peer Review Process

This review was externally peer-reviewed.

Conflict of Interest

The authors declare no conflicts of interest.

Financial Disclosure

No financial support was received for the preparation or publication of this article.

Author Contributions

Literature Review: KÖ, HB; Writing The Article: KÖ, HB; Critical Review: KÖ, HB.

REFERENCES

Beckwith, V. Z., & Beckwith, J. (2020). Motivational interviewing: a communication tool to promote positive behavior change and optimal health outcomes. *NASN School Nurse*, *35*(6), 344-351. https://doi.org/10.1177/1942602X20915715

Bhat, A., Rajesh, G., Mohanty, V. R., & Shenoy, R. (2020). Motivational interviewing as a tool for behavior change: implications for public health dentistry. *World Journal of Dentistry, 11*(3), 241. https://doi.org/10.5005/jp-journals-10015-1726

Bischof, G., Bischof, A., & Rumpf, H. J. (2021). Motivational interviewing: an evidence-based approach for use in medical practice. *Deutsches Ärzteblatt International*, *118*(7), 109. https://doi.org/10.3238/arztebl.m2021.0014

Cole, S. A., Sannidhi, D., Jadotte, Y. T., & Rozanski, A. (2023). Using motivational interviewing and brief action planning for adopting and maintaining positive health behaviors. *Progress in Cardiovascular Diseases*, *77*, 86-94. https://doi.org/10.1016/j.pcad.2023.02.003

David, L. A., Sockalingam, S., Wnuk, S., & Cassin, S. E. (2016). A pilot randomized controlled trial examining the feasibility, acceptability, and efficacy of Adapted Motivational Interviewing for post-operative bariatric surgery patients. *Eating behaviors*, *22*, 87-92. https://doi.org/10.1016/j.eatbeh.2016.03.030

Dobbels, F., De Bleser, L., Berben, L., Kristanto, P., Dupont, L., Nevens, F., ... & De Geest, S. (2017). Efficacy of a medication adherence enhancing intervention in transplantation: the MAESTRO-Tx trial. *The Journal of Heart and Lung Transplantation*, *36*(5), 499-508. https://doi.org/10.1016/j.healun.2017.01.007

Dobson, G. P. (2020). Trauma of major surgery: a global problem that is not going away. *International Journal of Surgery, 81*, 47-54. https://doi.org/10.1016/j.ijsu.2020.07.017

Fong, M., Kaner, E., Rowland, M., Graham, H. E., McEvoy, L., Hallsworth, K., ... & Madigan, C. D. (2023). The effect of preoperative behavior change interventions on pre-and post-surgery health behaviors, health outcomes, and health inequalities in adults: a systematic review and meta-analyses. *PLoS One, 18*(7), e0286757. https://doi.org/10.1371/journal.pone.0286757

Freisling, H., Viallon, V., Lennon, H., Bagnardi, V., Ricci, C., Butterworth, A. S., ... & Ferrari, P. (2020). Lifestyle factors and risk of multimorbidity of cancer and cardiometabolic diseases: a multinational cohort study. *BMC Medicine*, *18*(1), 5. https://doi.org/10.1186/s12916-019-1474-7

Frey, A. J., Lee, J., Small, J. W., Sibley, M., Owens, J. S., Skidmore, B., ... & Moyers, T. B. (2021). Mechanisms of motivational interviewing: a conceptual framework to guide practice and research. *Prevention Science, 22*(6), 689-700. https://doi.org/10.1007/s11121-020-01139-x

Gettings, J. M., & Lefkowitz, D. S. (2024). Applications of motivational interviewing in adolescent solid organ transplant. *Pediatr Transplant, 28*(2), e14721. https://doi.org/10.1111/petr.. 14721

Hah, J. M., Trafton, J. A., Narasimhan, B., Krishnamurthy, P., Hilmoe, H., Sharifzadeh, Y., ... & Mackey, S. C. (2020). Efficacy of motivational-interviewing and guided opioid tapering support for patients undergoing orthopedic surgery (MI-Opioid Taper): a prospective, assessor-blind, randomized controlled pilot trial. *E Clinical Medicine*, *28*, 100596. https://doi.org/10.1016/j.eclinm.2020.100596

Huang, F. F., Yang, Q., Zhang, J., Han, X. Y., Zhang, J. P., & Ye, M. (2018). A self-efficacy enhancing intervention for pulmonary rehabilitation based on motivational interviewing for postoperative lung cancers patients: modeling and randomized exploratory trial. *Psychology, Health & Medicine*, *23*(7), 804-822. https://doi.org/10.1080/13548506.2018.1434216

İşleyen, E. K., Özdemir İ, N., & Yoldemır Ş, A. (2025). The effect of tele-nursing based motivational interviewing on self-efficacy, self-management and metabolic control parameters in individuals with type 2 diabetes: randomized controlled study. *Irish Journal of Medical Science, 194*(2), 563-573. https://doi.org/10.1007/s11845-025-03916-5

Kamarajah, S. K., & Yeung, J. (2025). Growing challenge of multimorbidity in patients undergoing surgery. *British Journal of Anaesthesia*, *134*(1), 26-29. https://doi.org/10.1016/j.bja.2024.10.017

Katayama, E. S., Woldesenbet, S., Munir, M. M., Endo, Y., Rawicz-Pruszyński, K., Khan, M. M. M., ... & Pawlik, T. M. (2024). Effect of behavioral health disorders on surgical outcomes in cancer patients. *Journal of the American College of Surgeons, 238*(4), 625-633. https://doi.org/10.1097/xcs.0000000000000954

Kızılırmak, M., & Demir, S. (2018). Motivational interviewing and its use in nursing. *Gümüşhane University Journal of Health Sciences, 7*(4), 103-109.

Lin, C.-Y., Yaseri, M., Pakpour, A. H., Malm, D., Broström, A., Fridlund, B., ... & Webb, T. L. (2016). Can a multifaceted intervention including motivational interviewing improve medication adherence, quality of life, and mortality rates in older patients undergoing coronary artery bypass surgery? a multicenter, randomized controlled trial with 18-month follow-up. *Drugs & Aging, 34*(2), 143-156. https://doi.org/10.1007/s40266-016-0429-3

Lin, J., Chen, Y., Xu, M., Chen, J., Huang, Y., Chen, X., ... & Zheng, X. (2024). Association and predictive ability between significant perioperative cardiovascular adverse events and stress glucose rise in patients undergoing non-cardiac surgery. *Cardiovasc Diabetol, 23*(1), 445. https://doi.org/10.1186/s12933-024-02542-2

Medina-Garzón, M. (2019). Efetividade de uma intervenção de enfermagem para a diminuição da ansiedade pré-operatória em pacientes programados para cirurgia de prótese de joelho: Ensaio clínico preventivo controlado e aleatorizado. *Investigación y Educación en Enfermería*, *37*(2). https://doi.org/10.17533/udea.iee.v37n2e07

Mifsud, J. L., Galea, J., Garside, J., Stephenson, J., & Astin, F. (2020). Motivational interviewing to support modifiable risk factor change in individuals at increased risk of cardiovascular disease: a systematic review and meta-analysis. *PLoS One*, *15*(11), e0241193. https://doi.org/10.1371/journal.pone.0241193

Miller, W. R. (2023). The evolution of motivational interviewing. *Behavioural and Cognitive Psychotherapy*, *51*(6), 616-632. https://doi.org/10.1017/S1352465822000431

Miller, W. R., & Rollnick, S. (2012). Motivational interviewing: helping people change. Guilford press.

Müller, J., Wiesenberger, R., Kaufmann, M., Weiß, C., Ghezel-Ahmadi, D., Hardt, J., ... & Herrle, F. (2024). Motivational Interviewing improves postoperative nutrition goals within the Enhanced Recovery after Surgery (ERAS®) pathway in elective bowel surgery-a randomized clinical pilot trial. *Clinical Nutrition ESPEN, 61*, 181-188. https://doi.org/10.1016/j.clnesp.2024.03.023

Olaiya, O., Alagabi, A., Igboanugo, S., Glass, M. L., McRae, M., & Amaladoss, A. (2023). Facilitating behavior change in plastic surgery patients who ınject drugs through motivational ınterviewing. *Plastic Surgery*, *31*(2), 126-131. https://doi.org/10.1177/22925503211042870

World Health Organization. (2013). Global action plan for the prevention and control of noncommunicable diseases 2013-2020. World Health Organization.

Palacio, A. M., Uribe, C., Hazel-Fernandez, L., Li, H., Tamariz, L. J., Garay, S. D., & Carrasquillo, O. (2014). Can phone-based motivational interviewing improve medication adherence to antiplatelet medications after a coronary stent among racial minorities? a randomized trial. *Journal of General Internal Medicine, 30*(4), 469-475. https://doi.org/10.1007/s11606-014-3139-8

Scheffel, K., Amidei, C., & Fitzgerald, K. A. (2019). Motivational interviewing: improving confidence with self-care management in postoperative thoracolumbar spine patients. *Journal of Neuroscience Nursing*, *51*(3), 113-118. https://doi.org/10.1097/jnn.0000000000000431

Skolasky, R. L., Maggard, A. M., Li, D., Riley III, L. H., & Wegener, S. T. (2015). Health behavior change counseling in surgery for degenerative lumbar spinal stenosis. Part I: improvement in rehabilitation engagement and functional outcomes. *Archives of Physical Medicine and Rehabilitation*, *96*(7), 1200-1207. https://doi.org/10.1016/j.apmr.2015.03.009

Skolasky, R. L., Maggard, A. M., Wegener, S. T., & Riley, L. H. (2018). Telephone-based intervention to improve rehabilitation engagement after spinal stenosis surgery. *Journal of Bone and Joint Surgery, 100*(1), 21-30. https://doi.org/10.2106/jbjs.17.00418

Steffen, P. L., Mendonça, C. S., Meyer, E., & Faustino-Silva, D. D. (2021). Motivational interviewing in the management of type 2 diabetes mellitus and arterial hypertension in primary health care: an RCT. *American Journal of Preventive Medicine*, *60*(5), e203-e212. https://doi.org/10.1016/j.amepre.2020.12.015

Taheri, F., Nasiri, A., Namdari, S., & Salmani, F. (2023). Effect of motivational interviewing on treatment adherence and self-efficacy of adolescents with asthma: a randomized controlled trial. *Nurs Open, 10*(7), 4373-4383. https://doi.org/10.1002/nop2.1679

van Erck, D., Dolman, C. D., Henriques, J. P., Schoufour, J. D., Delewi, R., Scholte op Reimer, W. J., & Snaterse, M. (2023). Exploring barriers and facilitators of behavioural changes in dietary intake and physical activity: a qualitative study in older adults undergoing transcatheter aortic valve implantation. *European Geriatric Medicine, 14*(3), 503-510. https://doi.org/10.1007/s41999-023-00774-1

Vickery, N. J., Fowler, A. J., Prowle, J., & Pearse, R. (2025). Association between multimorbidity and quality of life after hip replacement surgery: analysis of routinely collected patient-reported outcomes. *British Journal of Anaesthesia, 134*(1), 203-211. https://doi.org/10.1016/j.bja.2024.08.037

Vujanić, J., Mikšić, Š., Barać, I., Včev, A., & Lovrić, R. (2022). Patients' and nurses' perceptions of importance of caring nurse-patient interactions: do they differ? *Healthcare (Basel), 10*(3). https://doi.org/10.3390/healthcare10030554

Wiesenberger, R., Müller, J., Kaufmann, M., Weiß, C., Ghezel-Ahmadi, D., Hardt, J., et al. (2024). Influence of motivational interviewing on postoperative mobilization in the enhanced recovery after surgery (ERAS®) pathway in elective colorectal surgery-a randomized patient-blinded pilot study. *Langenbeck's Archives of Surgery, 409*(1). https://doi.org/10.1007/s00423-024-03321-z

Wu, J., Yu, Y., & Xu, H. (2021). Influence of targeted motivational interviewing on self-care level and prognosis during nursing care of chronic heart failure. *American Journal of Translational Research*, *13*(6), 6576.

Zhang, B. R., & Yang, X. (2025). Motivational interviewing in postoperative rehabilitation and chronic disease management: current findings and future research directions. *World Journal of Psychiatry*, *15*(1), 102737. https://doi.org/10.5498/wjp.v15.i1.102737

MHA MEDIHEALTH ACADEMY
Journal of Nursing Care Research
Case Report
doi: 10.51271/JNCR-0051

The effect of postpartum sleep disorder and anxsiety on the sleep pattern of newborns: improvements through behavioral intervention led by nurses, case report

Fatma Nur Göker
Department of Nursing, Health Sciences Institute, Kırşehir Ahi Evran University, Kırşehir, Turkiye

Cite this article as: Göker FN. (2026). The effect of postpartum sleep disorder and anxsiety on the sleep pattern of newborns: improvements through behavioral intervention led by nurses, case report. *J Nurs Care Res, 3*(2), 71-74. doi:10.51271/JNCR-0051

Received: 14.10.2025 ◆ **Accepted**: 01.02.2026 ◆ **Published**: 13.04.2026

ABSTRACT

Postpartum sleep disorder and anxiety are among the frequently encountered clinical problems. The newborn's adaptation process to the outside world and the mother's adaptation to her maternal role directly affect the newborn's sleep pattern. It has been reported that postpartum sleep disorders and anxiety in mothers may negatively affect the newborn's sleep patterns and pose a risk to newborn health. Although various interventions for sleep disorders and anxiety in the postpartum period have been described in the literature, studies addressing the effect of behavioral interventions led by nurses on the newborn's sleep pattern are limited. This article evaluates the effect of postpartum sleep disturbance and anxiety on newborn sleep disturbance; the beneficial effect of a nursing-led behavioral intervention on maternal and newborn sleep patterns is demonstrated through a case presentation.

Keywords: Postpartum sleep disorder, postpartum anxiety, newborn sleep patterns, breastfeeding, nursing care plan

INTRODUCTION

Sleep disorders frequently occur due to hormonal, physiological, and environmental changes during pregnancy and the postpartum period (Mindell, Cook, & Nikolovski, 2015). Sleep disorders in the postpartum period are often accompanied by symptoms of depression and anxiety, which negatively affect the mother's mental and physical well-being (Emamian et al., 2019). The increased responsibilities of mothers in the postpartum period and their efforts to adapt to a changing lifestyle make this a stressful time (Zivoder et al., 2019).

Epidemiological data show that one in five women develop depression and/or anxiety before, during, or after childbirth (Woody et al., 2017). Increased depression and anxiety symptoms have been reported to be associated with lower sleep quality in the sixth month postpartum (Okun et al., 2018). There is a bidirectional relationship between sleep disorders and mental disorders; sleep problems can lead to depression and anxiety, and these mental states can deepen sleep disorders (Sun et al., 2018; American Psychiatric Association, 2022).

The fact that the newborn's feeding process is largely the responsibility of the mother makes the relationship between maternal sleep problems and breastfeeding significant. Although there are studies examining the relationship between breastfeeding and maternal sleep problems, the results obtained are inconsistent (Rosenbaum et al., 2022; Herring et al., 2019; Ruan et al., 2022). However, it has been shown that mental health issues and sleep disorders in mothers are associated with newborn sleep problems, but the direction and mechanism of this relationship have not been clearly established (Halal et al., 2021; Toffol et al., 2019).

Postpartum sleep disorders, perinatal depression, and anxiety are critically important for maternal and newborn health. If left untreated, these conditions can lead to serious morbidity and mortality risks for both the mother and the baby (Gueron-Sela et al., 2021). In recent years, interventions involving lifestyle changes for women in the postpartum period have been reported to offer promising results in preventing postpartum complications (Xu & Long, 2020; Chen et al., 2023; Osman et al., 2025).

It is crucial that these interventions are delivered through reliable, accessible, and sustainable resources (Medeiros et al., 2023; Dol et al., 2021). Nurses play a key role in developing self- care practices that address physical and mental health needs in the postpartum period (Huang et al., 2022). The effectiveness of nurse-led interventions in reducing postpartum complications is supported by the literature (Liang et al., 2025). In this context, it is thought that preventing or reducing postpartum sleep disorders and anxiety will have positive effects on newborn sleep health.

This case presentation aims to demonstrate the effectiveness of a behavioral intervention implemented under nursing leadership by addressing the impact of postpartum sleep disorders and anxiety on newborn sleep disorders.

Corresponding Author: Fatma Nur Göker, gokerf025@gmail.com

This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

CASE

The case is H.D., a 30-year-old woman, 175 cm tall, weighing 78 kg, with a postgraduate degree, who is not actively working. She has no known chronic or metabolic diseases. H.D., who does not have a consanguineous marriage, has an obstetric history of G:2, P:1, A:1. She gained 28 kg during pregnancy.

H.D. consulted a lactation consultant and a private home-based infant nursing service during the prepartum period; she stated that she wanted to receive support regarding breastfeeding and infant care and to continue counseling services during the postpartum period. Her concerns regarding the breastfeeding process focused on sufficient milk production, her ability to feed her baby, and her unwillingness to use formula.

The delivery took place on 15.01.2025 via cesarean section at a private hospital in the center of Şanlıurfa, following the detection of meconium in the amniotic fluid at 40 weeks of gestation. Baby Y.D. was born as a healthy male infant weighing 4100 g, measuring 57 cm, with an APGAR score of 9/10. Skin-to-skin contact between mother and baby was established within the first hour after birth, and brief kangaroo care was provided.

During the first breastfeeding session, the baby's sucking reflex was observed to be weak, and he exhibited restlessness and crying behavior at the breast. Due to postoperative pain and stitches, the most suitable breastfeeding position was provided to the mother with the assistance of a consultant. Although colostrum flow was present, the mother wanted to stop breastfeeding because of the baby's crying. During kangaroo care, the baby was observed to calm down. Exercises were performed to support the sucking reflex, and after approximately two hours, the baby was breastfed for 10 minutes with support from the mother's breast. A total of 15 ml of formula support was given on the first day.

Post-discharge counseling services continued at home, and the baby began actively breastfeeding from both breasts. However, during a checkup on 17.01.2025, Y.D. was diagnosed with neonatal sepsis due to elevated CRP levels and was admitted to the neonatal intensive care unit. This situation caused a significant increase in the mother's anxiety level. The treatment process ended with a decrease in CRP, and the baby was returned to the mother.

During the home monitoring process, the nurse observed: impaired mother-infant bonding, the mother's anxiety due to inexperience in infant care, overprotective parenting behaviors, disruption in the mother's sleep pattern, and frequent awakenings of the infant due to decreased lactation. It was observed that the infant's restlessness increased the mother's anxiety.

Case-Focused Nursing Care

It was observed that H.D. experienced parenting anxiety due to lack of knowledge during the prepartum period, struggled to cope with unexpected clinical developments after delivery, and developed sleep disorders and anxiety symptoms during the postpartum period. This situation was assessed to have negatively affected the newborn's sleep pattern.

Behavioral interventions led by nursing were implemented to reduce the newborn's sleep problems and prevent the mother's postpartum complications. Nursing care was provided in accordance with NANDA nursing diagnoses as presented in **Table**, prioritized, planned, and sustained.

Table. Nursing interventions for the case

Nursing diagnosis	Objective	Nursing interventions	Outcome/evaluation
Sleep pattern disturbance (nighttime awakenings due to the infant's feeding needs)	To establish breastfeeding-sleep balance and create a regular sleep pattern	A daytime feeding and sleep routine was established. The mother was given rest during the day with family support. Sleep hygiene education was provided. Daytime milk pumping was planned, and the father was included in nighttime feedings.	The mother's nighttime sleep duration and sleep quality increased, and she reported feeling more rested upon waking.
Anxiety (related to lack of information and the newborn's intensive care admission)	Reducing anxiety levels	The mother was informed about the process in collaboration with the physician. Walking, yoga, and breathing exercises were implemented. Education was provided on breastfeeding, the stress-lactation relationship, and the mother-baby bond. Pain management was provided, and family support was organized.	The mother stated that her concerns about her baby had decreased and that she felt better mentally.
Fatigue (related to sleep disturbanceand anxiety)	To alleviate fatigue symptoms	Oxytocin massage was applied. Daily life activities were organized. Dietitiansupportwas provided for nutrition. Social support was strengthened.	Daily activity tolerance increased, and the motherreportedfeeling more energetic.
Infection risk (related to episiotomy and nipple cracks)	Preventing/detecting infection early	Episiotomy and nipple were monitored regularly. Temperature was monitored. Wound and nipple care training was provided. Treatments were administered according to the physician's orders .	No signs of infection were detected in the episiotomy area. Improvement was observed in nipple redness.
Changes in family dynamics (related to the newborn's arrival home)	Ensuring family harmony and preventing crises	The family was informed about the new lifestyle. Responsibilities were shared. The primary needs of the mother and baby were identified.	A harmonious division of labor was established within the family, and the care process became sustainable.
Risk of bonding disruption (related to the newborn's intensive care history)	Strengthening the mother-baby bond	Kangaroo care was supported. Practices that support sensory bonding were implemented. A safe environment was provided for the mother to express her feelings. Active participation in baby care was encouraged	Emotional closeness and interaction between mother and baby increased.
Disruption in the newborn's sleep pattern (related to the mother's postpartum psychosocial problems)	Establishing the newborn's sleep routine	The mother's sleep pattern was structured. Regular breastfeeding was supported. The father participated in night feedings. Kangaroo care, massage, and white noise were applied.	The mother's milk supply increased, the baby's sleep intervals lengthened, and the time to fall asleep shortened.

DISCUSSION

In this case, it was observed that the mother's postpartum sleep disorder and anxiety led to decreased milk production, which in turn negatively affected the newborn's sleep pattern. The findings support the reciprocal interaction between maternal mental health, breastfeeding, and the newborn's sleep pattern.

The literature reports that interventions focusing directly on infant sleep patterns in the first six months postpartum have limited success, whereas interventions targeting maternal mental health yield more effective results (Baattaiah et al., 2023; Felder et al., 2023). It has been shown that mothers experiencing depression and anxiety in the postpartum period are less likely to breastfeed; reduced breastfeeding negatively affects not only sleep patterns but also the newborn's physical and cognitive development (Dias & Figueiredo, 2021).

It has been reported that nighttime frequent awakenings and difficulty falling asleep are more common in infants of mothers with mental health issues, and these findings are consistent with the presented case (Davies et al., 2022; Orton & Bilgin, 2024). Furthermore, it is emphasized that insomnia experienced during the postpartum period can lead to serious psychiatric consequences in mothers, such as depression, anxiety, postpartum psychosis, and suicidal thoughts (Okun et al., 2018; Lewis et al., 2018).

In this context, early diagnosis and prevention of psychological complications in the postpartum period are critically important for maternal and newborn health. Comprehensive and behavioral interventions led by nurses have been shown to be effective in improving both the mother's mental well-being and the newborn's sleep and feeding patterns. The literature supports the nurse's active and decisive role in the prevention and management of postpartum complications (Liang et al., 2025).

CONCLUSION

This case demonstrates that sleep disturbance and anxiety developing in the mother during the postpartum period negatively affect the newborn's sleep pattern by reducing milk secretion. There is a strong and reciprocal relationship between maternal mental health, breastfeeding, and the newborn's sleep pattern.

Behavioral and holistic interventions implemented under nursing leadership have been shown to improve the mother's sleep and anxiety levels, increase milk secretion, and consequently lead to a significant improvement in the newborn's sleep pattern. Psychosocial support for the mother, increased family involvement, and the use of non-pharmacological methods have been key elements in enhancing the effectiveness of the intervention.

This case demonstrates that focusing solely on the newborn's sleep pattern during the postpartum period is insufficient; nursing care centered on the mother's mental well-being provides more effective and sustainable outcomes for both maternal and newborn health. Nurses taking a leading role in the postpartum care process is critically important for preventing complications that may develop early on and supporting maternal-infant health.

ETHICAL DECLARATIONS

Informed Consent

Written informed consent was obtained from the patient(s) included in this report. Signed consent forms are retained by the authors and are available upon request.

Peer Review Process

This report underwent external peer review.

Conflict of Interest

The author declare no conflicts of interest.

Financial Disclosure

This case report did not receive any financial support.

Author Contributions

The author is solely responsible for the conception, data collection, analysis, and writing of this manuscript.

REFERENCES

American Psychiatric Association. (2022). Diagnostic and statistical manual of mental disorders (5th ed., text rev.). https://doi.org/10.1176/appi.books.9780890425787

Baattaiah, B. A., Alharbi, M. D., Babteen, N. M., Alharthi, A. M., & Aljuaid, R. M. (2023). The relationship between fatigue, sleep quality, resilience, and the risk of postpartum depression: an emphasis on maternal mental health. *BMC Psychology, 11*(1), 10. https://doi.org/10.1186/s40359-023-01043-3

Chen, L., Zhang, D., Li, T., Liu, S., Hua, J., & Cai, W. (2023). Effect of a mobile app-based urinary incontinence self-management intervention among pregnant women in China: pragmatic randomized controlled trial. *Journal of Medical Internet Research*, *25*, e43528. https://doi.org/10.2196/43528

Dias, C. C., & Figueiredo, B. (2021). Unidirectional and bidirectional links between maternal depression symptoms and infant sleep problems. *Journal of Sleep Research*, *30*(5), e13363. https://doi.org/10.1111/jsr.13363

Dol, J., Aston, M., McMillan, D., Tomblin Murphy, G., & Campbell-Yeo, M. (2021). Effectiveness of a postpartum text message program (essential coaching for every mother) on maternal psychosocial outcomes: protocol for a randomized controlled trial. *JMIR Research Protocols*, *10*(3), e27138. https://doi.org/10.2196/27138

Emamian, F., Khazaie, H., Okun, M. L., Tahmasian, M., & Sepehry, A. A. (2019). Link between insomnia and perinatal depressive symptoms: a meta-analysis. *Journal of Sleep Research, 28*(6), e12858. https://doi.org/10.1111/jsr. 12858.

Felder, J. N., Roubinov, D., Zhang, L., Gray, M., & Beck, A. (2023). Endorsement of a single-item measure of sleep disturbance during pregnancy and risk for postpartum depression: a retrospective cohort study. *Archives of Women's Mental Health*, *26*(1), 67-74. https://doi.org/10.1007/s00737-022-01287-9

Gueron-Sela, N., Shahar, G., Volkovich, E., & Tikotzky, L. (2021). Prenatal maternal sleep and trajectories of postpartum depression and anxiety symptoms. *Journal of Sleep Research*, *30*(4), e13258. https://doi.org/10.1111/jsr.13258

Halal, C. S., Bassani, D. G., Santos, I. S., Tovo-Rodrigues, L., Del-Ponte, B., Silveira, M. F., Bertoldi, A. D., Barros, F. C., & Nunes, M. L. (2021). Maternal perinatal depression and infant sleep problems at 1 year of age: subjective and actigraphy data from a population-based birth cohort study. *Journal of Sleep Research*, *30*(2), e13047. https://doi.org/10.1111/jsr.13047

Herring, S. J., Yu, D., Spaeth, A., Pien, G., Darden, N., Riis, V., Bersani, V., Wallen, J., Davey, A., & Foster, G. D. (2019). Influence of sleep duration on postpartum weight change in black and hispanic women. *Obesity (Silver Spring, Md.)*, *27*(2), 295-303. https://doi.org/10.1002/oby.22364

Huang, Z., Liu, T., & Chair, S. Y. (2022). Effectiveness of nurse-led self-care interventions on self-care behaviors, self-efficacy, depression and illness perceptions in people with heart failure: a systematic review and meta-analysis. *International Journal of Nursing Studies*, *132*, 104255. https://doi.org/10.1016/j.ijnurstu.2022.104255

Lewis, B. A., Gjerdingen, D., Schuver, K., Avery, M., Marcus, B., & Sirard, J. (2018). The effect of changes in sleep patterns on postpartum depressive symptoms. *BMC Women's Health, 18*(1), 12. https://doi.org/10.1186/s12905-017-0496-6

Liang, Y., Wang, S., Tao, J., Yao, Z., Yao, Y., & Zhai, J. (2025). Effects of lifestyle intervention by a nurse-led app on the prevention of symptoms in postpartum women: a randomized controlled trial. *BMC Nursing*, *24*(1), 829. https://doi.org/10.1186/s12912-025-03379-0

Mindell, J. A., Cook, R. A., & Nikolovski, J. (2015). Sleep patterns and sleep disturbances across pregnancy. *Sleep Medicine*, *16*(4), 483-488. https://doi.org/10.1016/j.sleep.2014.12.006

Okun, M. L., Mancuso, R. A., Hobel, C. J., Schetter, C. D., & Coussons-Read, M. (2018). Poor sleep quality increases symptoms of depression and anxiety in postpartum women. *Journal of Behavioral Medicine*, *41*(5), 703-710. https://doi.org/10.1007/s10865-018-9950-7

Orton, O., & Bilgin, A. (2024). Maternal depression and sleep problems in early childhood: a meta-analysis. *Child Psychiatry & Human Development, 56*(5), 1012-1031. https://doi.org/10.1007/s10578-024-01717-y

Osman, Y. M., Toda, M., Ogasawara, A., Hirose, N., Chen, S., Kawasaki, H., & Shimpuku, Y. (2025). Effectiveness of Smart Mama application on postpartum depression, anxiety, and maternal-infant bonding among women during the postnatal period: a randomized controlled trial. *BMC Nursing*, *24*(1), 452. https://doi.org/10.1186/s12912-025-03072-2

Rosenbaum, D. L., Gillen, M. M., & Markey, C. H. (2022). The importance of sleep and parity in understanding changes in weight and breastfeeding behavior among postpartum women. *Appetite*, *170*, 105889. https://doi.org/10.1016/j.appet.2021.105889

Ruan, H., Zhang, Y., Tang, Q., Zhao, X., Zhao, X., Xiang, Y., Geng, W., Feng, Y., & Cai, W. (2022). Sleep duration of lactating mothers and its relationship with feeding pattern, milk macronutrients and related serum factors: a combined longitudinal cohort and cross-sectional study. *Frontiers in Nutrition*, *9*, 973291. https://doi.org/10.3389/fnut.2022.973291

Silva de Medeiros, M. C., de Oliveira, M. C., Gurgel, L. V. B., Ribeiro Rodrigues, A. G. C. D., Micussi, M. T. A. B. C., & Magalhães, A. G. (2023). A health app for evidence-based postpartum information: development and validation study. *JMIR Human Factors*, *10*, e38706. https://doi.org/10.2196/38706

Sun, Y., Shi, L., Bao, Y., Sun, Y., Shi, J., & Lu, L. (2018). The bidirectional relationship between sleep duration and depression in community-dwelling middle-aged and elderly individuals: evidence from a longitudinal study. *Sleep Medicine*, *52*, 221-229. https://doi.org/10.1016/j.sleep.2018.03.011

Toffol, E., Lahti-Pulkkinen, M., Lahti, J., Lipsanen, J., Heinonen, K., Pesonen, A. K., Hämäläinen, E., Kajantie, E., Laivuori, H., Villa, P. M., & Räikkönen, K. (2019). Maternal depressive symptoms during and after pregnancy are associated with poorer sleep quantity and quality and sleep disorders in 3.5-year-old offspring. *Sleep Medicine*, *56*, 201-210. https://doi.org/10.1016/j.sleep.2018.10.042

Woody, C. A., Ferrari, A. J., Siskind, D. J., Whiteford, H. A., & Harris, M. G. (2017). A systematic review and meta-regression of the prevalence and incidence of perinatal depression. *Journal of Affective Disorders, 219*, 86-92. https://doi.org/10.1016/j.jad.2017.05.003

Xu, H., & Long, H. (2020). The effect of smartphone app-based interventions for patients with hypertension: systematic review and meta-analysis. *JMIR mHealth and uHealth*, *8*(10), e21759. https://doi.org/10.2196/21759

Zivoder, I., Martic-Biocina, S., Veronek, J., Ursulin-Trstenjak, N., Sajko, M., & Paukovic, M. (2019). Mental disorders/difficulties in the postpartum period. *Psychiatria Danubina*, *31*(Suppl 3), 338-344.