e-ISSN: 3023-7270

JNCR

Journal of Nursing Care Research

Volume: 2 Issue: 2 Year: 2025

MHA
MEDIHEALTH ACADEMY

www.mediheathacademy.com

EDITOR-IN-CHIEF

ASSOCIATE EDITORS-IN-CHIEF

EDITORIAL BOARD

Journal of Nursing Care Research

Contents

Volume: 2 Issue: 2 Year: 2025

ORIGINAL ARTICLES

REVIEW

MHA MEDIHEALTH ACADEMY
Journal of Nursing Care Research
Original Article
doi: 10.51271/JNCR-0026

The effect of nurses' working environment on job satisfaction during the COVID-19 pandemic*

Yasemin Yolay, Yasemin Eda Tekin
Department of Nursing, Faculty of Health Sciences, Mudanya University, Bursa, Turkiye

Cite this article as: Yolay, Y., & Tekin, Y. E. (2025). The effect of nurses' working environment on job satisfaction during the COVID-19 pandemic. *J Nurs Care Res*, 2(2), 30-36.

Received: 12.04.2025 ◆ **Accepted**: 24.05.2025 ◆ **Published**: 25.06.2025

ABSTRACT

Aims: This study aimed to investigate the impact of nurses' work environment on their job satisfaction during the COVID-19 pandemic.

Methods: This descriptive and correlational study was conducted on 152 hospital nurses between January and October 2021. Data were collected using the "Descriptive Information Form," "Nurse Job Satisfaction Scale (NJSS)," and "Nursing Work Index (NWI)."

Results: It was found that 66.4% of the nurses were under 30 years of age, 59.9% were single, 58.6% had a bachelor's degree, 29.6% had children and 12.5% had chronic diseases. It was determined that 61.2% of the participants had a tenure of 1-5 years, 52.1% worked in a public hospital, and 50.0% worked for more than 48 hours. The total score on the NJSS was 3.07±0.50, and the total score on the NWI was 2.28±0.40. A statistically significant positive relationship was found between job satisfaction and working environment ($p<0.001$). It was determined that factors such as working in pandemic services, night shifts, and high patient numbers significantly affected job satisfaction.

Conclusion: Improving the working environment is important for nurses to increase job satisfaction, especially during challenging periods like the COVID-19 pandemic.

Keywords: COVID-19, pandemic, job satisfaction, work environment, Nursing Work Index

*Presented as an oral presentation at the 8th International Innovation Congress, 19-20 October 2024.

INTRODUCTION

The World Health Organization (WHO) declared a pandemic on March 11, 2020 (WHO, 2025). The COVID-19 pandemic has drastically changed the working environments and lifestyles of all healthcare professionals, especially nurses. Due to the pandemic, nurses' long shifts, insufficient break hours, and staying away from their homes due to the fear of infecting their families caused nurses to be negatively affected (Hernendez et al., 2024).

Nurses are health professionals responsible for maintaining health and eliminating diseases. Nurses, who have an important place in society, take responsibility for raising the level of health by providing quality and planned nursing care (WHO, 2020). For nurses to fulfill the requirements of their profession, for which they take great responsibility, they need to work in appropriate conditions. Good working conditions are critical for nurses to provide better quality patient care and be satisfied with their work (Lee et al., 2022). Studies have shown that a positive working environment positively affects the perception of quality of care and patient safety, positively affects patients' perceptions of quality of care (Mihdawi et al., 2020; Guirardello, 2017), and reduces burnout and turnover intentions (Al Sabei et al., 2020; Poku et al., 2022), decreases medication error rates (Nasiri et al., 2022) and patient mortality rates (Olds et al., 2017), and increases nurses' job satisfaction (Lu et al., 2019; Akinwale et al., 2020).

Job satisfaction is an expression of employees' physical, mental, and individual health and an indicator of their mood. Job satisfaction is being satisfied with the individuals worked with and the work created during the working period. It is stated that a positive work environment increases nurses' job satisfaction, reduces burnout and turnover intentions, and higher quality of care and patient safety (Lu et al., 2019; Akinwale et al., 2020; Aloisio et al., 2021; Al Sabei et al., 2020; Poku et al., 2022). Job satisfaction is a result of a healthy working life. Studies show that the negative situations nurses face in working conditions reduce the quality of nursing care applied to the patient and the interest of the nurses who apply the care and reduce job satisfaction (Maghsoud et al., 2022; Lavoie-Tremblay et al., 2022). Especially natural disasters, wars, and migrations have proved to society that nurses, who are at the forefront of the fight against infectious diseases, have an indispensable place among health professionals. In

Corresponding Author: Yasemin Eda Tekin, yedatkn@gmail.com

the COVID-19 pandemic process experienced by the world in recent years, nurses have once again demonstrated that they are a profession that plays an important role in patient care and management (Çelik et al., 2020). However, many reasons, such as intensive working conditions of nurses, long shifts, and disruptions in practice even though their professional duties have been determined, affect the job satisfaction of nurses (Lu et al., 2019). This research will contribute to taking measures to improve physical working conditions and administrative support, increase communication and cooperation within the team, and improve the sense of psychological security by revealing how nurses' working environment affects job satisfaction in the fight against epidemics. This study aims to investigate the effect of nurses' working conditions on their job satisfaction during the pandemic.

METHODS

Ethical Approval

Permission was obtained from the İstinye University Social and Human Sciences Researches Ethics Committee (Date: 21.01.2021, Decision No: 11). Permission was obtained by notifying the Republic of Turkiye Ministry of Health Scientific Research Platform. Permission was obtained from the authors for the use of the scales. Online informed consent was obtained from nurses who volunteered to participate in the study. The Declaration of Helsinki conducted each stage of the study.

Study Design

This study was planned as descriptive and correlational research to investigate the effect of nurses' working environments on their job satisfaction during the COVID-19 pandemic.

Sample

The study was conducted on nurses working in hospitals on the European side of İstanbul between January and October 2021. The sample size was calculated using G-power 3.1.9.7 software. Taking the effect size as 0.3, alpha 0.05, and power 0.85, the sample size was determined as 102 nurses. It was envisaged to reach at least 107 nurses who met the inclusion criteria. Within the scope of the study, data collection forms were sent to 500 nurses for considering the low return rate due to the pandemic, and 152 nurses responded to the questionnaire. The sample was determined by snowball sampling method, and nurses who actively worked in hospitals during the pandemic and worked for at least 6 months were included in the study.

Data Collection Tools

Data were collected using the Descriptive Characteristics Information Form, Nurse Job Satisfaction Scale (NJSS), and Nursing Work Index (NWI).

Descriptive Characteristics Information Form: It consists of 24 questions compiled by the researchers from the literature and includes demographic characteristics of the participants such as age, gender, educational status, marital status, professional background, and working experiences during the pandemic (Seren Intepeler et al., 2019; Topçu et al., 2016).

Nurse Job Satisfaction Scale (NJSS): This scale, which was developed by Muya et al. (2014) and validated and reliably validated by Türe Yılmaz and Yıldırım (2016), consists of 27 items and is evaluated with a 5-point Likert-Type Scale. It evaluates job satisfaction in four dimensions: positive feelings about work, perceived support from superiors, perceived importance at work, and pleasant working environment. Items 7 and 21 of the scale are scored in the opposite direction. Higher scores indicate higher job satisfaction. While Cronbach's alpha value on the scale is 0.903, Cronbach's alpha value on the scale in our study is 0.84.

Nursing Work Index (NWI): This scale, developed by Lake (2002) and adapted for Turkish validity and reliability by Türkmen et al. (2011), consists of 31 items and five sub-dimensions. These sub-dimensions are participation of nurses in management, necessary nursing resources for quality care, leadership characteristics of nurse managers, adequacy of workforce and other resources, and physician-nurse communication. Scale items are measured with a 4-point Likert scale. As the score of the individuals increases, their attitudes towards the work environment increase positively. While the Cronbach's alpha value on the scale was 0.87, the Cronbach's alpha value on the scale in our study was 0.90.

Research Implementation

Due to pandemic conditions and restrictions, data were collected online via Google Forms. The survey took an average of 20-25 minutes to complete.

Statistical Analysis

Data were analyzed using the SPSS 25.0 package program. Descriptive statistics were presented as frequency and percentage distributions. Kolmogorov-Smirnov test was used to examine the normal distribution, and the Spearman correlation test was used to determine the relationship between variables; Mann-Whitney U and Kruskal-Wallis H tests were applied for group comparisons. The statistical significance level was accepted as $p<0.05$.

RESULTS

It was found that 66.4% of the nurses were under 30 years of age, 59.9% were single, 58.6% had a bachelor's degree, 29.6% had children and 12.5% had chronic diseases. It was found that 61.2% of the participants had a tenure of 1-5 years, 52.1% worked in a public hospital, and 50.0% worked for more than 48 hours (**Table 1**).

When the differences between the sociodemographic characteristics of the nurses and the total scores of the scales were questioned, a significant difference was found between the NJSS and the department of employment (KW=18.960; p=0.001) and between the NWI and educational status (KW=9.917; p=0.019) and the department of employment (KW=10.632; p=0.031) (**Table 1**).

Although not specified in the table, it was found that 66.4% of the nurses provided care to patients diagnosed with COVID-19, 63.2% received training on the pandemic, 28.9% occasionally had problems accessing personal protective equipment, 65.1% had difficulty in caring for family members, 26.3% suffered financial loss due to the pandemic, and 27.6% considered receiving psychological support due to the pandemic.

It was determined that the total score of NWI was at a moderate level with 2.28±0.40. The sub-dimension of "participation of nurses in management and representative power" was 2.23±0.48, the sub-dimension of "nursing resources required

Table 1. Distribution of sociodemographic characteristics and NJSS and NWIS scores of nurses (n:152)

Features		n	%	NJSS total	NWIS total
				Mean±SD	Mean±SD
Age	Under 30 years old	101	66.4	3.06±0.50	2.26±0.40
	30 years and older	51	33.6	3.08±0.51	2.31±0.41
Z				-0.045	-1.024
p				0.965	0.306
Marital status	Single	91	59.9	3.04±0.51	2.25±0.41
	Married	61	40.1	3.12±0.49	2.31±0.39
Z				-0.637	-1.101
p				0.526	0.271
Education satus	High school	10	6.6	3.11±0.58	2.48±0.23
	Associate degree	22	14.5	3.03±0.60	2.13±0.57
	License	89	58.6	3.03±0.49	2.25±0.37
	Undergraduate	31	20.4	3.20±0.43	2.38±0.36
KW				3.430	9.917
p				0.330	0,019
Having a child	Yes	45	29.6	3.11±0.48	2.34±0.38
	No	107	70.4	3.05±0.51	2.25±0.41
Z				-0.432	-1.382
p				0.668	0.167
Length of service in the profession	1-5 years	93	61.2	3.12±0.49	2.48±0.23
	6-11 years	40	26.3	2.93±0.54	2.13±0.57
	12 years ve above	19	12.5	3.14±0.49	2.25±0.37
KW				2.870	-1.101
p				0.238	0.271
Hospital	Private	57	37.5	3.08±0.57	2.30±0.42
	State	64	42.1	3.04±0.47	2.26±0.39
	University	21	13.8	3.14±0.39	2.27±0.47
	Research	10	6.6	3.03±0.59	2.26±0.28
KW				0.778	0.276
p				0.855	0.964
Department	Intensive care	27	17.8	3.14±0.55	2.33±0.39
	Emergency service	28	18.4	2.91±0.46	2.14±0.45
	Pandemic service	10	6.6	2.40±0.51	2.01±0.36
	Operating room	24	15.8	3.22±0.42	2.41±0.31
	Other	63	41.4	3.16±0.43	2.31±0.39
KW				18.960	10.632
p				0.001	0.031

NJSS: Nurse Job Satisfaction Scale, NWIS: Nursing Work Index Scale, Z: Mann-Whitney U test, KW: Kruskall-Wallis H test, p<0.05, SD: Standard deviation

for quality care" was 2.23±0.48, the sub-dimension of "attitude and leadership characteristics of executive nurses" was 2.14±0.60, the sub-dimension of "sufficiency of manpower and other resources" was 1.90±0.57 and the sub-dimension of "physician nurse colleague communication" was 2.56±0.61 (Table 2).

Table 2. Total and subscale scores of the NJSS and NWI (n=152)

Scale	Min	Max	x	SD
NJSS total	1.53	4.30	3.07	0.50
NJSS-positive feelings about work	1.25	4.38	3.31	0.57
NJSS-appropriate support from superiors	1.00	5.00	2.88	1.03
NJSS-perceived importance at work	1.63	4.50	3.64	0.46
NJSS-pleasant working environment	1.00	4.60	2.42	0.72
NWI total	1.26	3.50	2.28	0.40
NWI-participation of nurses in management and power of representation	1.00	3.22	2.23	0.48
NWI-nursing resources required for quality care	1.00	3.70	2.55	0.48
NWI-attitude and leadership characteristics of nurse managers	1.00	3.80	2.14	0.60
NWI-adequacy of manpower and other resources	1.00	3.75	1.90	0.57
NWI-physician nurse colleague communication	1.00	3.67	2.56	0.61

NJSS: Nurse Job Satisfaction Scale, NWI: Nursing Work Index, x: Mean, SD: Standart deviation, Min: Minimum, Max: Maximum

The participants' total scores were 3.07±0.50, the sub-dimension of "positive feelings about work" was 3.31±0.57, the sub-dimension of "appropriate support from superiors" was 2.88±1.03, the sub-dimension of "perceived importance at work" was 3.64±0.46, and the sub-dimension of "pleasant working environment" was 2.42±0.72 (Table 2).

There was a moderate positive correlation between the total scores of the NJSS and the NWI (r: 0.758; p: <0.001). There was a positive and moderate correlation between all sub-dimensions of the NJSS and the sub-dimensions of "participation of nurses in management and representative power," "nursing resources required for quality care," "attitude and leadership characteristics of executive nurses characteristics," and "physician nurse colleague communication" (Table 3).

DISCUSSION

The pandemic period has caused healthcare workers, especially nurses, to face a series of challenges that they have not faced before. During this period, improving the working environment of nurses increased job satisfaction

Table 3. The relationship between NJSS and NWI

Sub-dimensions		NWI total	Participation of nurses in management and representative power	Nursing resources required for quality care	Attitude and leadership characteristics of executive nurses characteristics	Sufficiency of manpower and other resources	Physician nurse colleague communication
NJSS total	r	0.758	0.657	0.610	0.660	0.378	0.432
	p	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001.
Positive feelings about work	r	0.481	0.432	0.478	0.335	0.244	0.293
	p	<0.001	<0.001	<0.001	<0.001	0.002	<0.001.
Appropriate support from superiors	r	0.734	0.646	0.540	0.741	0.271	0.417
	p	<0.001	<0.001	<0.001	<0.001	0.001	<0.001.
Perceived importance at work	r	0.269	0.206	0.368	0.262	0.092	0.291
	p	0.001	0.011	<0.001	<0.001	0.262	<0.001.
Pleasant working environment	r	0.482	0.411	0.327	0.342	0.454	0.242
	p	<0.001	<0.001	<0.001	<0.001	<0.001	0.003.

NJSS: Nurse Job Satisfaction Scale, NWI: Nursing Work Index, r: Spearman correlation coefficient, p<0.01

and directly affected the effectiveness of health services and the quality of patient care. During the rapid spread of COVID-19, nurses struggled with inadequate resources, personal protective equipment, and staff support while coping with the increasing number of patients and intense workload. Nurses' work environments were a critical factor in coping with these challenges, as unfavorable working conditions can lead to burnout, stress, and demotivation, reducing nurses' productivity. Moreover, a safe and supportive working environment enables nurses to focus more on patient care and increases the resilience of the healthcare system (Galanis et al., 2023). Therefore, improving the working conditions of nurses during the pandemic period is of great importance not only for individual healthcare workers but also for the sustainability of the entire healthcare system (Backes et al., 2021).

Discussion of Findings Related to the Nursing Job Satisfaction Scale (NJSS)

The pandemic period has significantly affected nurses' job satisfaction. Our study shows that job satisfaction (3.07±0.50) is at a moderate level. Some studies revealed that nurses' job satisfaction scores were generally moderate during this period. In particular, the total job satisfaction score of nurses caring for COVID-19 patients was determined as 82.58±11.11 in a study using the Minnesota Job Satisfaction Scale (Yu et al., 2020). In another study, the mean score was found to be 3.83±0.56 in the evaluations made with the Job Satisfaction Scale, and it was emphasized that the job satisfaction of nurses similar in the pandemic (Türe & Akkoç, 2020). The study conducted by Türe Yılmaz and Yıldırım (2016) were similar to ours, and the level of job satisfaction was found to be 3.98±0.60, above the average. In the study conducted by Ersoy (2020), it is seen that the total score of job satisfaction is above the average 3.37±0.586. Accordingly, the job satisfaction of nurses in studies conducted both during the pandemic period and before the pandemic is similar with our findings. In the literature, it is seen that job satisfaction was at a moderate level during the pandemic period, as in our study. These findings suggest that increased workload, psychological stress, and physical burnout negatively affected nurses' job satisfaction during the pandemic.

In our study, the highest score was found in the sub-dimension "perceived importance at work" (3.64±0.46). Different results were obtained in studies conducted with similar nursing job satisfaction scales. In the study by Türe Yılmaz and Yıldırım (2016), the mean score of the "perceived importance at work" sub-dimension was 4.22±0.51. In a study conducted by Ersoy (2020), it was stated that nurses gave the highest job satisfaction score in the "appropriate support from superiors" and "perceived importance at work" sub-dimensions, indicating that positive relationships with managers have a determining effect on job satisfaction. In a study conducted by Türe and Akkoç (2020), it was reported that nurses received the highest job satisfaction score in the "perceived importance at work" and "appropriate support from superiors" sub-dimensions, which indicated that nurses' feeling valuable and being supported positively affected their job satisfaction. These findings reveal that nurses get the highest job satisfaction from social factors such as human relations and managerial support. These findings reveal that nurses' commitment to their profession and their feelings of serving society increasingly affect their job satisfaction. In addition, some studies have stated that the sub-dimension of "Satisfaction with the work itself" also received high scores and that nurses have a sense of professional satisfaction despite the intense workload (Hassoy & Özvurmaz, 2019). All these findings show that job satisfaction is closely related to material and feelings of meaningfulness, being valued, and being supported.

Our study found the lowest score in the 'pleasant working environment' sub-dimension (2.42±0.72). Previous studies show that sub-dimensions such as 'pleasant working environment', 'Appropriate support from superiors', and 'salary and promotion' are lower in nurses' job satisfaction. In the study of Türe Yılmaz and Yıldırım (2016), it was stated that nurses gave the lowest score to the 'Pleasant working environment' sub-dimension, which was related to the intensity of the workload. Similarly, Hassoy and Özvurmaz (2019) reported that healthcare workers experienced low levels of job satisfaction in areas such as 'salary' and 'promotion'. In the study of Türe and Akkoç (2020), the sub-dimension 'appropriate support from superiors' stood out as an essential factor that negatively affected job satisfaction. These findings show that when nurses are not supported in terms of physical and managerial resources, their job satisfaction decreases significantly. At the same time, this situation increases the risk of burnout and negatively affects the quality of health services. At the same time, these results are thought to be due to the increased workload, intensive working hours, and insufficient social opportunities offered to nurses during the pandemic.

Discussion of Findings Related to NWI

Nurses' working conditions directly impact their job satisfaction, professional commitment, and mental health. Recent studies reveal that unfavorable working environments increase the feeling of burnout and decrease job satisfaction in nurses (Galanis et al., 2023). A study conducted in Turkey found that nurses' exposure to challenging working conditions, especially during the pandemic, further deepened these adverse effects (Eminoğlu & Duruk, 2023). These findings suggest that improving working environments is critical to nurses' psychological and professional well-being.

A study conducted in South Korea found that work environment and professional autonomy positively affected nurses' patient safety practices (Kim & Park, 2023). Similarly, a study conducted in Thailand shows that inadequate nurse staffing negatively affects patient care quality and outcomes (Nantsupawat et al., 2022). These findings suggest that having an effective and supportive work environment for nurses directly affects not only their job satisfaction but also patient care outcomes

According to the results of our study, the mean score of nurses' NWI was 2.28±0.40. According to the scale results, nurses' perceptions of working conditions are moderate. In a study conducted in Turkey, the mean total score of the NWI of nurses was found to be 2.15±0.35, and this result showed that the perceptions towards the working environment were at a moderate level (Bitek & Akyol, 2017). Similar to our study, the study by Kökçü et al. (2018) showed that the mean score of the NWI was 2.43±0.38. In a study conducted in Slovenia, the mean score of nurses' work index was found to be 2.65,

which was reported to be lower than previous studies (Skela Savic et al., 2023). Similarly, a study conducted in Thailand found that nurses' perceptions of the working environment were moderate and that staff shortages negatively affected the quality of care (Nantsupawat et al., 2022). The results of these studies are similar to our findings. It is thought that this situation may be due to increased workload and stress, difficulties in providing personal protective equipment, psychological and physical wear and tear, difficult working conditions, and the difficulties brought by the recovery process after the pandemic.

Physician-nurse collegial communication is an important factor that directly affects nurses' job satisfaction and quality of patient care. A positive workplace atmosphere and effective teamwork increase the professional satisfaction of nurses. Studies have determined that nurses' communication with physicians is higher than other work environment sub-dimensions (Ulusoy et al., 2013; Kurnaz, 2019). It has been stated that when nurses establish open and respectful communication with physicians, their work environment becomes more supportive and motivating (Hatip & Seren, 2021). These findings reveal that strong collegial communication between nurses and physicians positively impacts the work environment and improves the quality of healthcare services. According to our findings, the sub-dimension "physician-nurse-colleague communication" was the sub-dimension with the highest score. This may be due to the mutual solidarity of healthcare professionals in the face of the difficulties experienced during the pandemic.

The sub-dimension "adequacy of manpower and other resources" was found to be the lowest. Nurses may have expressed that the workforce and resources were insufficient due to the lack of nurses working in the institutions, auxiliary personnel, and the increased workload during the pandemic. Similarly, the literature shows that the sub-dimension of "sufficiency of manpower and other resources" is the lowest (Kökçü et al., 2018; Karaarslan at al., 2023). An international meta-analysis determined that the subscale scores varied in different continents and unit types. However, the "adequacy of personnel and resources" subscale generally scored lower than other areas (Bitek & Akyol, 2017). As a result, the "lack of manpower and personnel" subscale often scores lower than other subscales in the studies conducted. One of the main reasons for this situation is the high number of patients per nurse in health institutions and the resulting increased workload (Aiken et al., 2018). Inadequate employment policies lead to cost-oriented management of health services and the expectation of maximum service with minimum staff. Staff shortages increase workload and lead to factors that increase the risk of burnout, such as overtime and inflexible working hours (Lake et al., 2024). Engaging nurses in tasks outside their job descriptions also weakens the quality of basic nursing services, decreasing job satisfaction and patient care quality. Due to all these factors, the perception of insufficient staff and resources is lower.

Discussion of the Relationship Between Total and Subscale Scores of the NJSS and NWI

This study found a moderate positive correlation between the NJSS and NWI of the nurses (r: 0.758; p<0.001). According to this result, the working environment is important in increasing job satisfaction. Similar to our study, Bitek and Akyol (2017) found that nurses who were satisfied with their working conditions had higher job satisfaction. Kurnaz (2019) stated that there was a positive and moderate relationship between job satisfaction and working environment and that the working environment is important in increasing job satisfaction. In the study conducted by Özcan (2021), it was stated that the emergence of the importance of the nursing profession during the pandemic period, the positive perception of support from superiors, the importance of nurses' ideas about nursing care in the workplace, the increase in the perceived importance in the workplace, the practices carried out by the institution to regulate the working environment and working conditions in this period increased job satisfaction, and it was stated that satisfaction with the working environment increased work motivation, job satisfaction, and service quality. The literature is similar to our findings. A healthy working environment for nurses means ensuring patient safety, increasing the quality of care, and improving the health and safety of health personnel. A healthy working environment is thought to increase job satisfaction by affecting the harmony, communication, and ownership of the work within the team. Therefore, it is important to improve nurses' working environment to increase their job satisfaction.

In our study, a positive and moderate relationship was found between all sub-dimensions of the NJSS and the sub-dimensions of "participation of nurses in management and representation power," "nursing resources required for quality care," "attitude and leadership characteristics of executive nurses characteristics" and "physician nurse colleague communication." As nurses' job satisfaction increases, their participation in management and their power to represent the profession, nursing resources necessary for quality care, attitude of nurse managers and leadership characteristics of nurses, adequacy of workforce and resources, and colleague communication also increase. Looking at the literature in the study conducted by Feather et al. (2015), similar to our study, it is seen that perceived importance in the workplace and nurse manager attitudes are significantly related to nurses' job satisfaction. The difficulties experienced during the pandemic have revealed nurses' importance. This situation is the reason for nurses' high perceived importance at work sub-dimension score. As the perceived importance at work increases, nurses' job satisfaction increases accordingly.

Limitations

The study is limited to 152 nurses working in hospitals on the European Side of İstanbul between January and October 2021.

CONCLUSION

According to our study results, while nurses evaluated their working environment at a moderate level, the most positive perception was of "physician-nurse communication," and the most negative perception was of "insufficient manpower and resources." Regarding job satisfaction, "perceived importance at work" was found to be the most positive, and "pleasant working environment" was the least positive. Therefore, it is important to improve nurses' working environment to increase their job satisfaction. Factors in the work environment play a critical role in reducing nurses' job stress and risk of burnout. Thus, increasing job satisfaction can lead to a more productive and motivated workforce. Moreover, improving the work environment directly affects the quality

of patient care, as satisfied nurses provide better quality care. Nurses' job satisfaction also provides an important data source for health institutions regarding policy development; more effective human resources strategies and workforce management can be created with this data. As a result, this research contributes to the sustainability of health services by increasing the quality of professional life of nurses and strengthening their commitment to their organizations. Comprehensive research should be conducted to identify the problems experienced by nurses during the COVID-19 pandemic, and working environments and resources should be improved to increase job satisfaction. To increase nurses' motivation, working hours should be organized according to international recommendations, psychological support programs should be offered, and career development opportunities should be increased. These measures will help nurses to protect their health and increase their professional satisfaction by balancing their workload.

ETHICAL DECLARATIONS

Ethics Committee Approval

The study was carried out with the permission of the İstinye University Social and Human Sciences Researches Ethics Committee (Date: 21.01.2021, Decision No: 11).

Informed Consent

Written informed consent was obtained from all nurses included in the study.

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Financial Disclosure

The authors declared that this study has received no financial support.

Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

Acknowledgement

It is derived from the master's thesis titled "The effect of nurses' working environments on their job satisfaction during the COVID-19 pandemic period".

REFERENCES

Aiken, L. H., Sloane, D. M., Ball, J., Bruyneel, L., Rafferty, A. M., Griffiths, P., ... & Sermeus, W. (2018). Patient satisfaction with hospital care and nurses in England: an observational study. *BMJ Open, 8*(1), e019189. doi:10.1136/bmjopen-2017-019189

Akinwale, O. E., & George, O. J. (2020). Work environment and job satisfaction among nurses in government tertiary hospitals in Nigeria. *Rajagiri Manag J, 14*(1), 71-92. doi:10.1108/RAMJ-01-2020-0002

Aloisio, L. D., Coughlin, M., & Squires, J. E. (2021). Individual and organizational factors of nurses' job satisfaction in long-term care: a systematic review. *Int J Nurs Stud, 123*, 104073. doi:10.1016/j.ijnurstu.2021.104073

Al Sabei, S. D., Labrague, L. J., Miner Ross, A., Karkada, S., Albashayreh, A., Al Masroori, F., & Al Hashmi, N. (2020). Nursing work environment, turnover intention, job burnout, and quality of care: the moderating role of job satisfaction. *J Nurs Scholarship, 52*(1), 95-104. doi:10.1111/jnu.12528

Backes, M. T. S., Higashi, G. D. C., Damiani, P. D. R., Mendes, J. S., Sampaio, L. D. S., & Soares, G. L. (2021). Working conditions of nursing professionals in coping with the COVID-19 pandemic. *Revista Gaúcha de Enfermagem, 42*(spe), e20200339. doi:10.1590/1983-1447.2021.20200339

Bitek, D. E., & Akyol, A. D. (2017). The evaluation of relationship between job satisfaction and perceptions relating to working environment of intensive care nurses. *J Critical Care Nurs, 21*(1), 1-6.

Celik, S. S., Ozbas, A. A., Celik, B., Karahan, A., Bulut, H., Koc, G., ... & Ozleyen, C. O. (2020). The COVID-19 pandemic: Turkish Nurses Association. *J Edu Res Nurs, 17*(3), 279-284. doi:10.5222/KUHEAD.2020.34603

Kökcü, Ö. D., & Terzi, B. (2018). Investigation of care nurses in the Intensive Work Index-working environment and burnout levels. *Yoğun Bak Hemşir Derg, 22*(2), 66-72.

Eminoğlu, A., & Duruk, N. (2023). Evaluation of the effect of the COVID-19 pandemic on nurses' burnout and job satisfaction. *J Health Profess Res, 5*(2), 113-123. doi:10.57224/jhpr.1223165

Ersoy, T. (2020). The relationship between workplace violence that nurses are exposed to and job satisfaction and motivation. (Master's thesis, Sivas Cumhuriyet University, Institute of Health Sciences).

Feather, R. A., Ebright, P., & Bakas, T. (2015). Nurse manager behaviors that RN s perceive to affect their job satisfaction. *Nursing Forum, 50*(2), 125-136. doi:10.1111/nuf.12086

Hernandez, I., Söderström, M., Rudman, A., & Dahlgren, A. (2024). Under pressure-nursing staff's perspectives on working hours and recovery during the COVID-19 pandemic: a qualitative study. International *J Nurs Stud Advanc, 7*, 100225. doi:10.1016/j.ijnsa.2024.100225

Galanis, P., Moisoglou, I., Katsiroumpa, A., Vraka, I., Siskou, O., Konstantakopoulou, O., … & Kaitelidou, D. (2023). Increased job burnout and reduced job satisfaction for nurses compared to other healthcare workers after the COVID-19 pandemic. *Nursing Reports, 13*(3), 1090-1100. doi:10.3390/nursrep13030095

Guirardello, E. D. B. (2017). Impact of critical care environment on burnout, perceived quality of care and safety attitude of the nursing team. *Revista Latino-Americana de Enfermagem, 25*, e2884. doi:10.1590/1518-8345.1472.2884

Hassoy, D., & Özvurmaz, S. (2019). Job satisfaction of health workers in a state hospital and affecting factors (Doctoral dissertation, Aydın Adnan Menderes University).

Hatip, Ö., & Harmancı Seren, A. (2021). Examining the effect of collaboration among nurses on job satisfaction levels of nurses in a university hospital. *Fenerbahçe Univ J Health Sci, 1*(3), 181-194.

Karaarslan, D., Sevinç, H. Y., Ergin, D., & Balcı, Ö. (2023). Investigation of the relationship between pediatric nurses' working environment and quality of work life. *Fenerbahçe Univ J Health Sci, 3*(2), 237-253. doi:10.56061/fbujohs.1207473

Kim, E. Y., & Park, S. Y. (2023). The effect of nurses' autonomy and practice environment on patient safety management activities in general hospitals. *Nursing Open, 10*(3), 1500-1509. doi:10.1155/2023/5587501

Kurnaz, H. (2019). The effect of work environment on nurses' job satisfaction and intention to leave. Master's Thesis, Antalya.

Lake, E. T. (2002). Development of the Practice Environment Scale of the Nursing Work Index. *Res Nurs Health, 25*(3), 176-188. doi:10.1002/nur.10032

Lake, E. T., Zhang, B., Tong, J., Mpundu, G., Gross, K. N., Correa, M. H., ... & Chen, Y. (2024). International benchmarks for the Practice Environment Scale of the Nursing Work Index: a meta-analysis. *Nurs Health Sci, 26*(4), e70013. doi:10.1111/nhs.70013

Lavoie-Tremblay, M., Gélinas, C., Aubé, T., Tchouaket, E., Tremblay, D., Gagnon, M. P., & Côté, J. (2022). Influence of caring for COVID-19 patients on nurse's turnover, work satisfaction and quality of care. *J Nurs Manag, 30*(1), 33-43. doi:10.1111/jonm.13462

Lee, S. H., Lee, H., & Yu, S. (2022). Factors associated with nursing needs and nursing hours in acute care hospital settings: a cross-sectional study. *J Nurs Manag, 30*(6), 2005-2014. doi:10.1111/jonm.13634

Lu, H., Zhao, Y., & While, A. (2019). Job satisfaction among hospital nurses: a literature review. *Int J Nurs Stud, 94*, 21-31. doi:10.1016/j.ijnurstu.2019.01.011

Maghsoud, F., Rezaei, M., Asgarian, F. S., & Rassouli, M. (2022). Workload and quality of nursing care: the mediating role of implicit rationing of nursing care, job satisfaction and emotional exhaustion by using structural equations modeling approach. *BMC Nursing, 21*(1), 273. doi:10.1186/s12912-022-01055-1

Mihdawi, M., Al-Amer, R., Darwish, R., Randall, S., & Afaneh, T. (2020). The influence of nursing work environment on patient safety. *Workplace Health Safety, 68*(8), 384-390. doi:10.1177/2165079920901533

Muya, M., Katsuyama, K., Ozaki, F., & Aoyama, H. (2014). Development of a scale measuring the job satisfaction of Japanese hospital nurses. *Japan J Nurs Sci, 11*(3), 160-170. doi:10.1111/jjns.12017

Nantsupawat, A., Poghosyan, L., Wichaikhum, O. A., Kunaviktikul, W., Fang, Y., Kueakomoldej, S., ... & Turale, S. (2022). Nurse staffing, missed care, quality of care and adverse events: a cross-sectional study. *J Nurs Manag, 30*(2), 447-454. doi:10.1111/jonm.13501

Nasiri, K., Najafi, E., Kazemi, H., & Saeidi, S. (2022). The relationship of work environment, patient safety culture, and the medication errors among nurses. *Health Manag Informat Sci, 9*(2), 87-94.

Olds, D. M., Aiken, L. H., Cimiotti, J. P., & Lake, E. T. (2017). Association of nurse work environment and safety climate on patient mortality: a cross-sectional study. *Int J Nurs Stud, 74*, 155-161. doi:10.1016/j.ijnurstu.2017.06.004

Özcan, G. (2021). The relationship between nurses' perception of job stress, job satisfaction and caring behaviors during the COVID-19 pandemic. Master's thesis, Selcuk University, Institute of Health Sciences.

Poku, C. A., Donkor, E., & Naab, F. (2022). Impacts of nursing work environment on turnover intentions: the mediating role of burnout in Ghana. *Nurs Res Pract, 1*, 1310508. doi:10.1155/2022/1310508

Seren Intepeler, S., Esrefgil, G., Yilmazmis, F., Bengu, N., Gunes Dinc, N., Ileri, S., ... & Dirik, H. F. (2019). Role of job satisfaction and work environment on the organizational commitment of nurses: a cross-sectional study. *Contemporary Nurs, 55*(4-5), 380-390. doi:10.1080/10376178.2019.1673668

Skela-Savič, B., Sermeus, W., Dello, S., Squires, A., Bahun, M., & Lobe, B. (2023). How nurses' job characteristics affect their self-assessed work environment in hospitals-Slovenian use of the practice environment scale of the Nursing Work Index. *BMC Nursing, 22*(1), 100. doi:10.1186/s12912-023-01261-5

Topçu, I., Türkmen, E., Badır, A., Göktepe, N., Miral, M., Albayrak, S., ... & Özcan, D. (2016). Relationship between nurses' practice environments and nursing outcomes in Turkey. *Int Nurs Rev, 63*(2), 242-249. doi:10.1111/inr.12247

Türe Yılmaz, A., & Yıldırım, A. (2016). The validity and reliability of Turkish version of job satisfaction scale for nurses. *J Health Nurs Manag, 3*(3), 158-168. doi:10.5222/SHYD.2016.158

Türe, A., & Akkoç, İ. (2020). The effect of perceived trust in the work environment on job satisfaction levels among nurses. *Turk J Soc Sci Res, 5*(2), 139-155.

Türkmen, E., Badir, A., Balci, S., & Akkuş-Topçu, S. (2011). The adaptation of the Practice Environment Scale of the Nursing Work Index into Turkish: reliability and validity study. *Turk J Res Develop Nurs, 13*, 3.

Ulusoy, E. Ç., Alpar, Ş. E., & Uslusoy, E. Ç. (2013). Collegiality among nurses and its relationship with job satisfaction. *Florence Nightingale J Nurs, 21*(3), 154-163.

Yılmaz, A. T., & Yıldırım, A. (2016). Validity and Reliability of the Nurse Job Satisfaction Scale in Turkish. *J Health Nurs Manag, 3*(3), 158-168. doi:10.5222/SHYD.2016.158

Yu, X., Zhao, Y., Li, Y., Hu, C., Xu, H., Zhao, X., & Huang, J. (2020). Factors associated with job satisfaction of frontline medical staff fighting against COVID-19: a cross-sectional study in China. *Front Public Health, 8*, 426. doi:10.3389/fpubh.2020.00426

WHO, Coronavirus disease (COVID-19) pandemic, https://www.who.int/europe/emergencies/situations/COVID-19 (Date: 15.02.2025)

WHO, (2020). State of the world's nursing 2020: investing in education, jobs and leadership, https://www.who.int/publications/i/item/9789240003279 (Date: 14.03.2025)

MHA MEDIHEALTH ACADEMY
Journal of Nursing Care Research
Original Article
doi: 10.51271/JNCR-0027

Validation and reliability of the modified NUTRIC score to Turkish: intensive care unit patients

Hülya Saray Kılıç[1], Nurten Özen[2], Esra Özden[3], Cansu Yeşilfidan[3], Volkan Özen[4], Levent Yamanel[5], Neyyir Tuncay Eren[6], Gülçin Türkmen Sarıyıldız[7], Füsun Terzioğlu[8]

[1]Department of Nursing, Faculty of Health Sciences, Bilecik Şeyh Edebali University, Bilecik, Turkiye
[2]Department of Internal Medicine Nursing, Faculty of Nursing, İstanbul University, İstanbul, Turkiye
[3]Department of Surgical Nursing, Gülhane Faculty of Nursing, University of Health Sciences, Ankara, Turkiye
[4]Department of Anesthesiology and Reanimation, Prof. Dr. Cemil Taşcıoğlu City Hospital, İstanbul, Turkiye
[5]Department of Internal Medicine Intensive Care, Gülhane Training and Research Hospital, University of Health Sciences, Ankara, Turkiye
[6]Department of Cardiovascular Surgery, Lösante Children's and Adult Hospital, Ankara, Turkiye
[7]Department of General Surgery, Medicana International Ankara Hospital, Ankara, Turkiye
[8]Department of Nursing, Freelance Researcher, Ankara, Turkiye

Cite this article as: Saray Kılıç, H., Özen, N., Özden, E., Yeşilfidan, C., Özen, V., Yamanel, L., ... & Terzioğlu, F. (2025). Validation and reliability of the modified NUTRIC score to Turkish: intensive care unit patients. *J Nurs Care Res, 2*(2), 37-42.

Received: 19.03.2025 ◆ **Accepted**: 29.05.2025 ◆ **Published**: 25.06.2025

ABSTRACT

Aims: This study aimed to evaluate the psychometric properties of the Turkish version of the modified NUTRIC (mNUTRIC) score among critically ill patients in intensive care units (ICUs).

Methods: Conducted as a methodological study between June 2018 and December 2021, data were collected from 106 patients in the ICUs of two hospitals. The study utilized a patient information form, the mNUTRIC score, and the nutritional risk screening tool (NRS-2002) for assessment.

Results: The Turkish mNUTRIC score demonstrated robust validity and reliability in patients receiving mechanical ventilation within the first 24 hours of ICU admission. A significant proportion (85.85%) of patients were identified as high risk according to the mNUTRIC score. A strong positive correlation was observed between the mNUTRIC and NRS-2002 scores ($p<0.05$), confirming the validity of the mNUTRIC score. Additionally, the score exhibited high sensitivity (85.84%) in identifying patients requiring nutritional support.

Conclusion: The Turkish adaptation of the mNUTRIC score has been successfully validated and shown to be a reliable tool for assessing nutritional risk in critically ill ICU patients. Its application can support the timely identification of patients at high nutritional risk and facilitate appropriate interventions.

Keywords: Malnutrition, intensive care, mNUTRIC score, validation, reliability

INTRODUCTION

Malnutrition is a major concern for patients in intensive care units (ICUs), with prevalence rates ranging from 22% to 85%, depending on the assessment method and patient population (Amelia et al., 2023; Ouaijan et al., 2023; Tuyishime et al., 2022). This condition significantly impacts morbidity, mortality, and healthcare costs by exacerbating inflammation, increasing infection rates, and prolonging hospital stays (Eldehily et al., 2023; Hoffmann et al., 2021; Nigatu et al., 2021). Early and accurate identification of nutritional risk in ICU patients is essential to mitigate these adverse outcomes and improve patient care. The assessment of malnutrition in ICU patients is a fundamental aspect of nursing care, particularly in surgical and medical ICU settings. In surgical ICUs, adequate nutritional support is crucial for postoperative recovery, while careful nutritional planning is often required to manage chronic and acute conditions in medical ICUs. This process is crucial for maintaining the general well-being of patients, preventing complications such as infections and delayed wound healing, and accelerating their recovery processes. Therefore, nurses play a vital role in detecting the risk of malnutrition early and providing effective interventions. The mNUTRIC score, in particular, serves as a valuable tool for surgical nurses by enabling early detection of malnutrition risks and guiding timely interventions.

Providing early enteral nutrition to appropriate ICU patients has a positive effect on outcomes (Mishra et al., 2023). Providing adequate nutrition can help mitigate the consequences of the catabolic response associated with the reasons for ICU

Corresponding Author: Hülya Saray Kılıç, h.saraykilic@gmail.com

admission (Pardo et al., 2023). A nutritional assessment within 48 hours of a patient's admission to the ICU is crucial for identifying malnutrition risk. Nurses are responsible for regularly assessing the nutritional status of ICU patients and planning and implementing appropriate nutrition protocols with a multidisciplinary team. Although many nutritional assessment tests have been used to evaluate nutrition, there is no specific assessment method for ICU patients (Cattani et al., 2020; Smith et al., 2023; Valter et al., 2024). Many tests used to assess nutritional status include anthropometric measurements, physical examinations, history of weight loss, dietary intake, and clinical diagnoses (Kondrup et al., 2003). Poor-quality anthropometric data affect the prevalence of malnutrition and can negatively impact nutritional planning (Santana dos Santos et al., 2024). Because ICU patients are mechanically ventilated and sedated, it is difficult to obtain a history of weight loss or food intake. It is difficult to monitor weight changes in patients for reasons such as edema and fluid overload due to the underlying disease. Hemodynamic instability with muscle and fat loss also makes it difficult to assess nutritional status in ICU patients, and most of the tests used do not address parameters related to the inflammatory process and hypermetabolic state in ICU patients (Preiser et al., 2015).

The Nutrition Risk in the Critically ill (NUTRIC score) was first developed by Heyland et al. (2011) to assess nutrition in intensive care patients (Heyland et al., 2011). This score includes markers for acute and chronic fasting status, acute and chronic inflammatory status, and the Acute Physiology and Chronic Health Evaluation II (APACHE II) and Sequential Organ Failure Assessment (SOFA) scores to assess the severity of illness (Knaus et al., 1985; Moreno et al., 1999). The NUTRIC score also assesses age, number of comorbidities, length of stay in the ICU, and interleukin-6 (IL-6) levels. The use of IL-6 levels in the ICU is not common. The modified NUTRIC (mNUTRIC) score, which is used without assessing the IL-6 level, has been validated in ICU patients and is used in studies (Kalaiselvan et al., 2017; Mukhopadhyay et al., 2017; Rahman et al., 2016). Nutritional assessment becomes more challenging, especially due to a lack of communication with patients regarding mechanical ventilation treatment and treatment-related complications. Around 15-60% of ICU patients assessed with the mNUTRIC score are at high risk for nutritional deficiency, which leads to an increase in 28-day mortality (Coltman et al., 2015; Heyland et al., 2015; Kalaiselvan et al., 2017; Lin et al., 2021; Machado dos Reis et al., 2020; Mukhopadhyay et al., 2017). It has also been reported to prolong the time on mechanical ventilation, the ICU stay, and the hospital stay (Heyland et al., 2011; Kalaiselvan et al., 2017; Mukhopadhyay et al., 2017; Rahman et al., 2016; Reis et al., 2019). The American Society of Parenteral and Enteral Nutrition (ASPEN) also recommends the use of the NUTRIC score to assess nutritional risk in ICU patients (Warren et al., 2016).

This study aims to adapt and validate the Turkish version of the mNUTRIC score, in order to provide healthcare professionals with a practical tool for assessing nutritional risk in critically ill patients. By addressing this gap, the study seeks to improve the accuracy of nutritional assessments and enhance clinical outcomes in Turkish ICU settings.

METHODS

Ethical and Research Approvals

Ethical approval was obtained from the University of Health Sciences Non-interventional Researches Ethics Committee (Date: 25.02.2020, Decision No: 2019/426) and the participating hospitals. All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki. The relatives of the patients were informed about the aims and methods of the research before they participated in the study, and all of them participated voluntarily. Written informed consent was secured from patient relatives before participation.

Setting and Sample

This methodological study was conducted in the intensive care units of two hospitals between June 2018 and December 2021. All patients who met the inclusion criteria within the specified timeframe were included in the study, with no sample selection. A total of 106 patients were included in the study. A post-hoc power analysis was conducted using G*power software for the correlation analysis in this study. With a total sample size of 106, a significance level (α) of 0.05, and a correlation coefficient (r) of 0.78, the achieved statistical power was calculated to be 1.00. This indicates that the study had sufficient power to detect a significant correlation between mNUTRIC and NRS-2002 scores.

The inclusion criteria were as follows; i) critically ill adult patients (aged ≥18 years); and ii) patients who required invasive mechanical ventilation within 24 hours of admission to the ICU.

Patients were excluded if the time between ICU admission and discharge was less than 24 hours or if the patient's relative did not agree to the patient's participation in the study.

Data Collection

The relatives of patients who met the inclusion criteria were informed about the study within the first 24 hours after admission to the ICU, and written informed consent was obtained. Because of the study design, nutritional support was not standardized. A patient information form was used to collect the descriptive characteristics of the participants, the mNUTRIC score, and the Nutritional Screening Tool-2002 (NRS-2002).

Patient Information Form: This form, developed based on a comprehensive review of relevant literature, included sociodemographic and clinical variables such as age, gender, comorbidities, and ICU admission details (Coltman et al., 2015; Heyland et al., 2015; Kalaiselvan et al., 2017; Mukhopadhyay et al., 2017; O'Meara et al., 2008; Ukleja, 2010; Warren et al., 2016).

The mNUTRIC score: The mNUTRIC score developed by Heyland et al. (2015) is calculated for each patient on the basis of the patient's age, APACHE II score at admission, SOFA score, number of comorbidities, and time elapsed between hospital admission and admission to the unit (Heyland et al., 2015; Knauset al., 1985; Moreno et al., 1999). The score is calculated using values obtained within the first 24 hours of the patient's admission to the ICU. The developers of the scale have stated that the mNUTRIC score can be calculated without including the IL-6 level in the score if it is not clinically relevant. The

mNUTRIC score is scored between 0 and 9. A total score of 5 or above indicates a high risk of malnutrition (Heyland et al., 2015).

NRS-2002: The NRS-2002, developed by Kondrup et al. (2003) and validated in Turkish by Bolayır et al. (2018), aims to detect malnutrition and the risk of malnutrition and to identify patients who may benefit from nutritional support (Bolayır et al., 2018; Kondrup et al, 2003). The NRS-2002 asks about body-mass index (<20.5), decreased food intake in the past week, weight loss in the past 3 months, and the presence of serious illness. If there is a positive response to any of these four questions, the assessment continues. Nutritional status was assessed with a score of 0-3, severity of illness was assessed with a score of 0-3, and +1 point was added if the patient was ≥70 years of age. If the resulting score is ≥3, it is concluded that there is nutritional risk, and a nutritional plan should be initiated (Bolayır et al., 2018).

Statistical Analysis

SPSS 21.0 was used for data analysis. The number, percentage, median and interquartile range were used for descriptive statistics. Since the mNUTRIC score is not a Likert scale and does not have subdimensions, construct validity could not be assessed. Language and face validity were assessed during the adaptation process. The guidelines by Center (2016) were followed for the translation and adaptation of the mNUTRIC score. The facial validity of the mNUTRIC score was assessed by the researchers. The Mann-Whitney U test was used to compare the data of patients with low and high mNUTRIC scores. The Kolmogorov-Smirnov test was used to evaluate the normality of the data. The NRS-2002 was used to assess criterion validity. Criterion validity was assessed via the Pearson correlation test. The sensitivity of the measurement tool was evaluated to determine its effectiveness in identifying patients who require nutritional support. Since all patients included in the study had severe disease according to the NRS-2002, it was concluded that all patients should be started on nutritional support. Therefore, the specificity of the new tool could not be evaluated. The data are reported with 95% confidence intervals.

RESULTS

The validity and reliability of the mNUTRIC score for the Turkish population were tested in patients over 18 years of age who received mechanical ventilation within the first 24 hours in the intensive care unit. A total of 106 patients participated in the study. Among them, 85.85% were classified as high nutritional risk based on the mNUTRIC score. The characteristics of patients admitted to the ICU are expressed as low and high mNUTRIC scores (Table 1). Among those with high mNUTRIC scores, 50.5% were male, while 80% of those with low mNUTRIC scores were male. The median age of the participants was 73 (63-81) years for patients with a high mNUTRIC score and 53 (42-69) years for patients with a low mNUTRIC score. The median APACHE II and SOFA scores for patients with high mNUTRIC scores were 30 (24-37) and 11 (9-12), respectively. The median number of comorbidities was 2 (1-3), and the median time from hospital admission to ICU admission was 1 (0-24) hour. The median body-mass index was 24.6 (23-27.6) kg/m². Patients with a low mNUTRIC score were more likely to be male (p<0.05). Patients with high mNUTRIC scores were older (median age 73 vs. 53 years, p<0.05), had higher APACHE II (30 vs. 15, p<0.05) and SOFA scores (11 vs. 5, p<0.05), and more comorbidities (2 vs. 0, p<0.05) compared to those with low scores (Table 1). The relationships between the mNUTRIC score and NRS-2002 score are shown in Table 2. The mNUTRIC and NRS-2002 scores showed a positive correlation (r=0.243, p=0.012), indicating that the mNUTRIC score is a valid and reliable tool for assessing nutritional risk in Turkish ICU patients. The ability of the NRS-2002 and mNUTRIC scores to identify patients requiring nutritional support is shown in Table 3. The mNUTRIC score demonstrated high sensitivity (85.84%) in identifying patients at nutritional risk. These findings support the mNUTRIC score as a valid and reliable tool for assessing nutritional risk in Turkish ICU patients.

Table 1. Characteristics of the patients admitted in the ICU (n=106)

		Low NUTRIC score	High NUTRIC score	
		15 (14.15)	91 (85.85)	
		n (%)	n (%)	p-value
Gender	Male	12 (80)	46 (50.5)	0.030*
	Female	3 (20)	45 (49.5)	
		Median (IQR)	Median (IQR)	
Age, in years		53 (42-69)	73 (63-81)	<0.001**
APACHE II		18 (16-26)	30 (24-37)	<0.001**
SOFA		9 (8-9)	11 (9-12)	0.005**
Number of comorbidities		1 (0-3)	2 (1-3)	0.029**
Days from hospital admission to ICU		1 (1-3)	1 (0-24)	0.372**
BMI (kg/m²)		26.4 (22-28)	24.6 (23-27.6)	0.562**

Values described as mean±standard deviation, median (interquartile range) or n (%). *Fisher's exact test applied depending on the cell frequencies, **Mann-Whitney U test, ICU: Intensive care unit, NUTRIC: Nutrition risk in the critically, IQR: Inter quantile range, APACHE II: Acute physiology and chronic health evaluation II, SOFA: Sequential organ failure assessment, BMI: Body-mass index

Table 2. Relationship between mNUTRIC score and NRS 2002 results

	Mean±SD	p	r*
mNUTRIC score averages	6.16±1.53	0.012	0.243
NRS 2002 score averages	5.08±0.95		

*Pearson correlation test, mNUTRIC: Modified nutrition risk in the critically, NRS: Nutritional risk screening tool, SD: Standard deviation

Table 3. Comparison of mNUTRIC score and NRS 2002 results

		Results of NRS-2002		
		Needs nutritional support	No need for nutritional support	Total
mNUTRIC score results	High mNUTRIC score	91	0	91
	Low mNUTRIC score	15	0	15
	Toplam	106	0	106

mNUTRIC: Modified nutrition risk in the critically

DISCUSSION

The NUTRIC score, designed specifically to evaluate nutritional risk in critically ill patients, highlights the necessity of creating tailored tools for individuals with distinct clinical needs (Rosa et al., 2016). The validity and reliability of the mNUTRIC score were assessed within the scope of our study. Measuring variability over time is one method used to

evaluate the reliability of a measurement tool. However, since the instrument was administered within the first 24 hours of the patients' admission to the ICU and the APACHE 2 and SOFA scores, which are among the information needed for the assessment, were assessed with the results within 24 hours, no assessment could be made with a retest.

In our study, the criterion validity of the measurement tool was assessed by comparing it with the NRS 2002 score. Correlation coefficients are used to evaluate the strength and direction of linear relationships between pairs of continuous variables (Gogtay & Thatte, 2017). According to the correlation results between the two measurements, there was a significant correlation, indicating that the use of the tool is valid in the Turkish population. Researchers should prioritize careful evaluation and interpretation of the sensitivity and specificity of screening tests (Trevethan, 2017). When the results of these two measurements are compared to determine the nutritional support needs of patients, the mNUTRIC score has high sensitivity, with a sensitivity of 85.84%. According to de Vries et al. (2018), the mNUTRIC score has a sensitivity of 88.4% (de Vries et al., 2018). Although a test with 100% sensitivity is ideal for detecting disease, it does not imply that the test is flawless (Wang et al., 2021). Nevertheless, achieving near-perfect specificity is considered an acceptable outcome.

Our study revealed that 85.85% of patients were at high risk of malnutrition. In studies assessing the risk of malnutrition via the mNUTRIC score, 46%, 48.6%, 31.67%, 42.5%, 43.41%, and 48.4% of patients were in the high-risk group (Kalaiselvan et al., 2017; Lin et al., 2021; Machado dos Reis et al., 2020; Mendes et al., 2017; Rattanachaiwong et al., 2020; Rosa et al., 2016). The higher rate of patients at high risk for malnutrition in our study may be due to the fact that the patients included were critically ill and required intubation within the first 24 hours. In other studies, the sample included all patients, including those not at high risk of malnutrition.

In our study, patients with high mNUTRIC scores were older, had higher APACHE II and SOFA scores, and had more comorbidities. Patients with high mNUTRIC scores were older in the other studies (Kalaiselvan et al., 2017; Rosa et al., 2016). Patients with higher mNUTRIC scores had higher APACHE II and SOFA scores in other studies (Kalaiselvan et al., 2017; Mahmoodpoor et al., 2023; Rosa et al., 2016). In the study by Rosa et al. (2016), patients with high mNUTRIC scores had more comorbidities, which is consistent with the findings of our study, where higher mNUTRIC scores were also associated with an increased number of comorbidities (Rosa et al., 2016). These results highlight the importance of integrating the mNUTRIC score into routine ICU protocols to enable early identification and intervention for patients at nutritional risk. The NUTRIC score is a fast, practical instrument for routine ICU care. It has the clear advantage of applying to patients unable to respond verbally, such as those on mechanical ventilation, as its variables are objectively obtained from routinely recorded medical data (Rosa et al., 2016). By emphasizing the importance of nutritional support and identifying those at high risk for malnutrition, daily use of this tool with critically ill patients appears to be beneficial (Mendes et al., 2017).

Implications to Clinical Practice

Integrating the mNUTRIC score into routine ICU workflows can enhance care by identifying malnutrition risks early and enabling timely interventions. Nurses play a crucial role by performing nutritional assessments within the first 24 hours of ICU admission, supported by structured protocols. Incorporating the mNUTRIC score into electronic medical records can automate calculations, making risk monitoring seamless. Multidisciplinary meetings involving nurses, dietitians, and physicians can focus on high-risk cases, ensuring collaborative care. Adopting the mNUTRIC score as a standard tool can improve patient outcomes through proactive and coordinated nutritional management.

Limitations

On the other hand, in our study, according to the results of the NRS 2002, all patients who met the inclusion criteria were interpreted as having nutritional needs. Therefore, the specificity of the tool could not be evaluated. However, the mNUTRIC score is considered more appropriate for use in ICUs, as it reflects whether nutritional support is provided on the basis of the reasons for ICU admission and the combined assessment of APACHE II and SOFA scores, which are commonly used in ICUs.

CONCLUSION

The translation of the mNUTRIC score into Turkish was successful, providing a practical and reliable tool for identifying critically ill patients in need of nutritional support in ICU settings. This study underscores the value of the mNUTRIC score in addressing malnutrition risk among Turkish ICU patients. Its adoption can be particularly impactful in both surgical and medical ICUs by enhancing care protocols and improving recovery outcomes through timely nutritional interventions. By incorporating the mNUTRIC score into routine practice, healthcare providers can better address the complex nutritional needs of critically ill patients in diverse ICU settings. Future research could examine the predictive value of the mNUTRIC score in relation to long-term patient outcomes such as mortality, recovery times and quality of life. Furthermore, studies focusing on diverse ICU populations, including paediatric and specialised surgical ICUs, could provide further insights into the tool's applicability and robustness in different clinical settings. Investigating the integration of the mNUTRIC score into automated healthcare systems could enhance its practical use and accessibility in real-world settings.

ETHICAL DECLARATIONS

Ethics Committee Approval

The study was initially approved by the University of Health Sciences Non-interventional Researches Ethics Committee (Date: 26.06.2018, Decision No: 2018/9). However, due to the expansion of the data collection area and the addition of new researchers, an updated ethics approval was obtained from the same committee (Date: 25.02.2020, Decision No: 2019/426).

Informed Consent

Written informed consent was secured from patient relatives before participation.

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Financial Disclosure

The authors declared that this study has received no financial support.

Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

Acknowledgments

The authors would like to thank all patients' relatives for their support during the study.

REFERENCES

Amelia, W. R., Leoni, A. P., Syauqy, A., Laksmi, P. W., Purba, M. B., Noer, E. R., ... & Arini, M. (2023). Malnutrition at hospital admission and its associated factors in internal medicine inpatients. *Indonesian J Nutrit, 11*(2), 128-139.

Bolayir, B., Arik, G., Yeşil, Y., Kuyumcu, M. E., Varan, H. D., Kara, Ö., ... & Halil, M. G. (2018). Validation of nutritional risk screening-2002 in a hospitalized adult population. *Nutr Clin Pract, 34(2), 297-303*. doi:10.1002/ncp.10082

Cattani, A., Eckert, I. C., Brito, J. E., Tartari, R. F., & Silva, F. M. (2020). Nutritional risk in critically ill patients: How it is assessed, its prevalence, and prognostic value: a systematic review. *Nutr Rev, 78*(12), 1052-1068. doi:10.1093/nutrit/nuaa031

Center, S. R. (2016). *Guidelines for best practice in cross-cultural surveys.* Survey Research Center, Institute for Social Research, University of Michigan.

Coltman, A., Peterson, S., Roehl, K., Roosevelt, H., & Sowa, D. (2015). Use of 3 tools to assess nutrition risk in the intensive care unit. *JPEN J Parenter Enteral Nutr, 39(1)*, 28-33. doi:10.1177/0148607114532135

Eldehily, K. I., Tawfik, M. F., Elkholy, M. B., & Sabry, S. M. (2023). Impact of malnutrition in critically ill patients on intensive care unit. *Egypt J Intensiv Care Emergen Med, 3*(1), 57-69. doi:10.21608/jicem.2023.244437.1024

Gogtay, N. J., & Thatte, U. M. (2017). Principles of correlation analysis. *J Assoc Physic India, 65*(3), 78-81.

Heyland, D. K., Dhaliwal, R., Jiang, X., & Day, A. G. (2011). Identifying critically ill patients who benefit the most from nutrition therapy: The development and initial validation of a novel risk assessment tool. *Crit Care, 15*, R268.

Heyland, D. K., Dhaliwal, R., Wang, M., & Day, A. G. (2015). The prevalence of iatrogenic underfeeding in the nutritionally "at-risk" critically ill patient: results of an international, multicenter, prospective study. *Clin Nutr, 34(4)*, 659-666. doi:10.1016/j.clnu.2014.07.008

Hoffmann, M., Schwarz, C. M., Fürst, S., Starchl, C., Lobmeyr, E., Sendlhofer, G., & Jeitziner, M. M. (2021). Risks in management of enteral nutrition in intensive care units: a literature review and narrative synthesis. *Nutrients, 13*(1), 82. doi:10.3390/nu13010082

Kalaiselvan, M. S., Renuka, M. K., & Arunkumar, A. S. (2017). Use of nutrition risk in critically ill (NUTRIC) score to assess nutritional risk in mechanically ventilated patients: a prospective observational study. *Indian J Crit Care, 21*, 253-256. doi:10.4103/ijccm.IJCCM_24_17

Knaus, W. A., Draper, E. A., Wagner, D. P., & Zimmerman, J. E. (1985). APACHE II: A severity of disease classification system. *Crit Care Med, 13*(10), 818–829.

Kondrup, J., Rasmussen, H. H., Hamberg, O., & Stanga, Z.; Ad Hoc ESPEN Working Group. (2003). Nutritional risk screening (NRS 2002): a new method based on an analysis of controlled clinical trials. *Clin Nutr, 22*(3), 321-336. doi:10.1016/S0261-5614(02)00214-5

Lin, P. Y., Yen, Y. T., Lam, C. T., Li, K. C., Lu, M. J., & Hsu, H. S. (2021). Use of modified-NUTRIC score to assess nutritional risk in surgical intensive care unit. *J Chin Med Assoc, 84*(9), 860-864. doi:10.1097/JCMA.0000000000000565

Machado dos Reis, A., Marchetti, J., Forte dos Santos, A., Franzosi, O. S., & Steemburgo, T. (2020). NUTRIC score: isolated and combined use with the NRS-2002 to predict hospital mortality in critically ill patients. *JPEN J Parenter Enteral Nutr, 44*(7), 1250-1256. doi:10.1002/jpen.1804

Mahmoodpoor, A., Sanaie, S., Sarfaraz, T., Shadvar, K., Fattahi, V., Hamishekar, H., ... & Rahimi-Bashar, F. (2023). Prognostic values of modified NUTRIC score to assess outcomes in critically ill patients admitted to the intensive care units: a prospective observational study. *BMC Anesthesiol, 23*, 131. doi:10.1186/s12871-023-02086-0

Mendes, R., Policarpo, S., Fortuna, P., Alves, M., Virella, D., Heyland, D. K., & Portuguese NUTRIC Study Group. (2017). Nutritional risk assessment and cultural validation of the modified NUTRIC score in critically ill patients-a multicenter prospective cohort study. *J Crit Care, 37*, 45-49. doi:10.1016/j.jcrc.2016.08.001

Moreno, R., Vincent, J. L., Matos, R., Mendonca, A., Cantraine, F., Thijs, L., ... & working group on sepsisrelated problems of. (1999). The use of maximum SOFA score to quantify organ dysfunction/failure in intensive care: the results of a prospective, multicenter study. *Intensive Care Med, 25*, 686-696.

Mishra, S. K., & Kumari, M. (2023). Effect of early enteral nutrition in critically ill patients and their outcomes. *Int J Novel Res Devel, 8*(6), 373-384.

Mukhopadhyay, A., Henry, J., Ong, V., Leong, C. S. F., Teh, A. L., van Dam, R. M., & Kowitlawakul, Y. (2017). Association of modified NUTRIC score with 28-day mortality in critically ill patients. *Clin Nutr, 36*, 1143-1148. doi:10.1016/j.clnu.2016.08.004

Nigatu, Y. D., Gebreyesus, S. H., Allard, J. P., & Endris, B. S. (2021). The effect of malnutrition at admission on length of hospital stay among adult patients in developing country: a prospective cohort study. *Clin Nutr ESPEN, 41*, 217-224. doi:10.1016/j.clnesp.2020.12.013

O'meara, D., Mireles-Cabodevila, E., Frame, F., Hummell, A. C., Hammel, J., Dweik, R. A., & Arroliga, A. C. (2008). Evaluation of delivery of enteral nutrition in critically ill patients receiving mechanical ventilation. *Am J Crit Care, 17(1)*, 53-61. doi:10.4037/ajcc2008.17.1.53

Ouaijan, K., Hwalla, N., Kandala, N. B., & Mpinga, E. K. (2023). Prevalence of malnutrition in hospitalized patients in Lebanon using nutrition risk screening (NRS-2002) and Global Leadership Initiative on Malnutrition (GLIM) criteria and its association with length of stay. *Healthcare, 11*(5), 730. doi:10.3390/healthcare11050730

Pardo, E., Lescot, T., Preiser, J. C., Massanet, P., Pons, A., Jaber, S., ... & Bonnet, M. P. (2023). Association between early nutrition support and 28-day mortality in critically ill patients: the FRANS prospective nutrition cohort study. *Crit Care, 27*(1), 7. doi:10.1186/s13054-022-04298-1

Preiser, J. C., van Zanten, A. R., Berger, M. M., Biolo, G., Casaer, M. P., Doig, G. S., ... & Vincent, J. L. (2015). Metabolic and nutritional support of critically ill patients: consensus and controversies. *Crit Care, 19*, 35. doi:10.1186/s13054-015-0737-8

Rahman, A., Hasan, R. M., Agarwala, R., Martin, C., Day, A. G., & Heyland, D. K. (2016). Identifying critically ill patients who will benefit most from nutritional therapy: further validation of the "modified NUTRIC" nutritional risk assessment tool. *Clin Nutr, 35*, 158-162. doi:10.1016/j.clnu.2015.01.015

Rattanachaiwong, S., Zribi, B., Kagan, I., Theilla, M., Heching, M., & Singer, P. (2020). Comparison of nutritional screening and diagnostic tools in diagnosis of severe malnutrition in critically ill patients. *Clin Nutr, 39*(11), 3419-3425. doi:10.1016/j.clnu.2020.02.035

Reis, A. M. D., Fructhenicht, A. V. G., & Moreira, L. F. (2019). NUTRIC score use around the world: a systematic review. *Rev Bras Ter Intensiva, 31*, 379-385. doi:10.5935/0103-507X.20190061

Rosa, M., Heyland, D. K., Fernandes, D., Rabito, E. I., Oliveira, M. L., & Marcadenti, A. (2016). Translation and adaptation of the NUTRIC score to identify critically ill patients who benefit the most from nutrition therapy. *Clin Nutr ESPEN, 14*, 31-36. doi:10.1016/j.clnesp.2016.04.030

Santana dos Santos, I. K., Borges dos Santos Pereira, D., Cumpian Silva, J., de Oliveira Gallo, C., de Oliveira, M. H., Pereira de Vasconcelos, L. C., & Conde, W. L. (2024). Frequency of anthropometric implausible values estimated from different methodologies: a systematic review and meta-analysis. *Nutr Rev, 82*(11), 1514-1523. doi:10.1093/nutrit/nuad142

Smith, L. O., Olieman, J. F., Berk, K. A., Ligthart-Melis, G. C., & Earthman, C. P. (2023). Clinical applications of body composition and functional status tools for nutrition assessment of hospitalized adults: a systematic review. *JPEN J Parenter Enteral Nutr, 47*(1), 11-29. doi:10.1002/jpen.2444

Trevethan, R. (2017). Sensitivity, specificity, and predictive values: Foundations, pliabilities, and pitfalls in research and practice. *Front Public Health, 5*, 307. doi:10.3389/fpubh.2017.00307

Tuyishime, E., Niyongombwa, I., Karenzi, I. D., Bisimwa, J. D. A., Uwineza, J. B., Ntirenganya, F., ... & Rickard, J. (2022). Prevalence of malnutrition and associated risk factors among patients admitted to the intensive care unit of a tertiary university teaching hospital in Kigali, Rwanda: a cross-sectional study. *East Cent Afr J Surg, 27*(1), 10-17. doi:10.4314/ecajs.v27i1.2

Ukleja, A. (2010). Altered GI motility in critically ill patients: current understanding of pathophysiology, clinical impact, and diagnostic approach. *Nutr Clin Pract, 25(1)*, 16-25. doi:10.1177/0884533609357568

Valter, R., Paillaud, E., Boudou-Rouquette, P., Oubaya, N., Arégui, A., Lorisson, E., ... & Martinez-Tapia, C. (2024). Comparison of the prognostic value of eight nutrition-related tools in older patients with cancer: a prospective study. *J Nutr Health Aging, 28*(4), 100188. doi:10.1016/j.jnha.2024.100188

de Vries, M. C., Koekkoek, W. A. C., Opdam, M. H., van Blokland, D., & van Zanten, A. R. (2018). Nutritional assessment of critically ill patients: validation of the modified NUTRIC score. *Eur J Clin Nutr, 72*(3), 428-435. doi:10.1038/s41430-017-0008-7

Wang, H., Wang, B., Zhang, X., & Feng, C. (2021). Relations among sensitivity, specificity, and predictive values of medical tests based on biomarkers. *Gen Psychiatry, 34*(2), e100453. doi:10.1136/gpsych-2020-100453

Warren, M., McCarthy, M. S., & Roberts, P. R. (2016). Practical application of the revised guidelines for the provision and assessment of nutrition support therapy in the adult critically ill patient: a case study approach. *Nutr Clin Pract, 31*, 334-341. doi:10.1177/0884533616640451

MHA MEDIHEALTH ACADEMY
Journal of Nursing Care Research
Original Article
doi: 10.51271/JNCR-0028

Nursing students' experiences of online teaching in nursing course

Arzu Yüksel[1], Emel Bahadır Yılmaz[2]
[1]Department of Psychiatric Nursing, Faculty of Health Sciences, Aksaray University, Aksaray, Turkiye
[2]Department of Nursing, Faculty of Health Sciences, Giresun University, Giresun, Turkiye

Cite this article as: Yüksel, A. & Bahadır Yılmaz, E. (2025). Nursing students' experiences of online teaching in nursing course. *J Nurs Care Res, 2*(2), 43-48.

Received: 20.03.2025 ◆ **Accepted**: 02.06.2025 ◆ **Published**: 25.06.2025

ABSTRACT

Aims: In this study, it was aimed to evaluate the experiences of nursing students regarding the teaching in the nursing course conducted online during the pandemic period.
Methods: The sample of the descriptive and cross-sectional study consisted of 138 nursing students. The data were collected with a Google form prepared by the researchers, and the form consisted of five open-ended questions. Descriptive statistics such as frequency and percentage were used to analyze the data. Quotations from the students' statements were made and presented.
Results: The students stated that the process made them happy and increased their motivation, that although they thought they would not succeed, they could succeed when they had sufficient equipment, and that they were excited and stressed. Students reported that they had difficulty in establishing seriousness with individuals, experienced excitement, stress, and tension while making presentations, and experienced technical problems. About half of the students stated that they had a positive and productive process. The most common suggestion of the students was to remove the requirement of video or material.
Conclusion: This study has shown that when students are properly mentored, the online teaching course provides many skills. Accordingly, it was suggested that online techniques could be integrated into the course, but the instructor should actively mentor the students.
Keywords: Teaching techniques, nursing, student, cross-sectional study

INTRODUCTION

The International Council of Nurses defines nursing as "the autonomous and collaborative care of individuals of all ages, families, groups, and communities, sick or healthy, and in all settings; it includes health promotion, disease prevention, and the care of the sick, disabled, and dying" (International Council of Nurses-ICN, 2002). The American Nurses Association, on the other hand, defines nursing as "integrating the art and science of care and focusing on the protection, promotion, and improvement of health and human functioning; prevention of illness and injury; facilitation of healing; and alleviation of suffering through a compassionate presence" (American Nurses Association, 2021). Within the scope of these definitions, nurses have modern roles such as caregiver, educator, researcher, manager, decision maker, advocate, communication and coordinator, and rehabilitator (Aydemir-Gedük, 2018).

The educational role of the nurse includes protecting and improving the health of the individual, family, or community; healing when ill; and providing health behaviors to a subject in need (Açıkgöz & Baykal, 2023). The education provided by nurses aims to increase satisfaction, improve quality of life, ensure continuity of care, reduce patient anxiety, reduce disease frequency and complications, encourage compliance with the treatment plan, and maximize independence in activities of daily living (Bastable & Gonzalez, 2019). In order for nurses to be equipped with sufficient knowledge and skills within the scope of their educational roles, teaching in nursing courses is given in undergraduate education. Among the National Competencies of the Nursing Undergraduate Education Program, it is also included that nurses use the learning-teaching and management process in nursing practices (Council of Higher Education, 2022). Therefore, teaching in nursing emerges as an important field.

It is reported that teaching practice is a motivating and challenging method that requires learning facts, principles, and procedures for the effective development of decision-making skills that help nursing students take responsibility (Mgbekem et al., 2016). At the same time, it is stated that different teaching techniques taught to nursing students increase their critical thinking tendencies and motivation levels, and techniques such as watching movies, technical visits, and doing research are effective in increasing their motivation (Durgun-Ozan et al., 2022).

Corresponding Author: Emel Bahadır Yılmaz, emel.bahadir.yilmaz@giresun.edu.tr

In this study, it was aimed to evaluate the experiences of nursing students regarding the teaching in the nursing course conducted online during the pandemic process.

METHODS

Ethical Aspects of the Research

Before starting the study, written permissions were obtained from the Dean's Office of the Faculty of Health Sciences and the Aksaray University Human Researches Ethics Committee (Date: 21.06.2021, Decision No: 2021/05-19). The students participating in the study were informed about the research, and data were collected in line with the principles of the Declaration of Helsinki by explaining that individual information would remain confidential.

Research Design

This study was planned as a descriptive and cross-sectional study.

Population and Sample of the Study

The population of the study consisted of 143 students who took the "teaching in nursing" course in the spring semester of the 2020-2021 academic year at Aksaray University, Faculty of Health Sciences, Department of Nursing. The sample consisted of 138 students who attended the course, submitted their homework assignments within the scope of the course application, and agreed to participate in the study.

Procedure

Teaching in nursing is a 5 ECTS course with 2 hours of theory and 2 hours of practice. The aim of this course is to gain knowledge, skills, and attitudes towards assessing the learning needs of individuals/families/groups and societies related to health/illness/professionalism, planning, implementing, monitoring, and evaluating the education and training process.

Course evaluation: 20% of the midterm exam, 20% of the application grade, and 60% of the final exam.

Course content: Nursing education, role of the nurse as an educator, basic concepts related to education and training, learning areas, learning theories, pedagogical and andragogical approach in education, adult education, using communication techniques in education, basic factors affecting learning, learning environment, educational technologies and effective presentation techniques, health education, in-service training, and ethics in education and training. These topics are given in a 14-week period.

Course implementation: A sample patient education presentation was shown to the students online. Within the scope of the implementation of this course, students were first asked to identify a person in need among family members and prepare training for health promotion, disease protection, or if they have an existing disease. They were asked to send these trainings to the researcher in charge of the course via email, and the instructor in charge of the course reviewed the trainings and gave individual feedback to each student.

Secondly, the prepared training was videotaped and given by the students to one of their family members. They emailed the videos of their trainings to the instructor in charge of the course. The course instructor watched these videos and gave feedback to the students again.

Thirdly, a school training scenario was created, and students were asked to plan trainings for kindergarten, primary school, or high school student groups. The students sent their training presentation contents to the instructor in charge of the course and were evaluated. In both trainings, students were asked to prepare materials appropriate to the subject content and to include the photographs of these materials in the presentation content.

Data Collection Form

The data were collected through a questionnaire developed by the students. The form consisted of five questions. The questions were;

- Explain the subject of the training you gave to the family member.
- Explain the characteristics of yourself that you were not previously aware of while providing this training but that you realized during or after the training.
- How many times did you shoot the training video you sent?
- Can you explain the problems you experienced during the training?
- Can you explain your suggestions for the online application assignment of the teaching in nursing course?

Statistical Analysis

The SPSS (Statistical Package for Social Science for Windows 24.0) package program was used to evaluate the data. Descriptive statistics such as frequency and percentage were used. $p<0.05$ was accepted as the significance level. Students' statements were quoted and presented in " ".

RESULTS

As seen in **Table 1**, the most common topics on which the students provided education were smoking and substance abuse (17.4%), diabetes mellitus (16.0%), and breast self-examination (12.3%).

Table 2 shows the number of takes of the training video sent by the students. Students reported the second (19.3%), ninth or more (17.4%), third (15.6%), and fourth (15.6%) takes, respectively.

Table 3 shows the students' thoughts on the preparation, implementation, and post-training process. The students stated that this process made them happy and increased their motivation (16.8%), that although they thought they could not succeed, they could succeed when they had sufficient equipment (15.3%), and that they were excited and stressed (13.5%).

"At the end of the training, touching the life of the individual in a positive way and being able to increase the level of health once again revealed the value of the nursing profession." (S11)

"Working with outstanding devotion to transfer the right information increased my self-confidence." (S19)

"I enjoyed the material preparation phase. I did not see it as just homework. Although I started with some prejudice, it was pleasant to continue. I did not think that education nursing was for me, but now I think I can do it." (S37)

"It was a good feeling to have attracted the attention of the person I educated with the information I provided during the training, and to achieve this, I felt quite equipped." (S46)

Table 1. Topics covered in the course

Subject topics	Number	Percentage
Smoking and substance abuse	24	17.4
Diabetes mellitus	22	16.0
Breast self-examination	17	12.3
Healthy living and nutrition	11	8.0
Hypertension	10	7.2
Heart, coronary, and cholesterol	6	4.3
Technology addiction	6	4.3
Obesity	5	3.7
Overcoming the stress	4	3.0
Constipation	3	2.2
Exam anxiety	3	2.2
Vitamin, iron deficiency	3	2.2
Puerperium and postpartum period, breastfeeding	3	2.2
Rational drug use	3	2.2
Menstrual, personal hygiene training	3	2.2
Gastritis training	3	2.2
Kidney health	2	1.4
Epilepsy	1	0.7
Incontinence	1	0.7
Stomach ulcer	1	0.7
Parkinson's disease	1	0.7
Ulcerative colitis	1	0.7
Traffic	1	0.7
Hepatitis B	1	0.7
Pain management in migraine	1	0.7
Lithium drug training in bipolar disorder	1	0.7
Coping with shopping frenzy	1	0.7
Total	138	100

Table 2. The number of shots of the sent training video

Number of video shots	Number	Percentage
First take	14	12.8
Second	21	19.3
Third	17	15.6
Fourth	17	15.6
Fifth	12	11.0
Sixth	3	2.8
Seventh	4	3.7
Eighth	2	1.8
9th and more	19	17.4
Total	109	100

Table 3. Students' thoughts on education

Thoughts	Number	Percentage
Attracting the attention of the other person and informing them made me pleased and increased my motivation.	20	16.8
I thought I could not succeed, but I saw that I could succeed when I had enough equipment.	18	15.3
I get excited and stressed.	16	13.5
I realized that I like to explain, that I have a talent in this field, and that I have high communication skills.	13	10.9
I realized that I had deficiencies in the subject I was giving training on, and I overcame these deficiencies while presenting.	9	7.5
I discovered my roles as an educator and researcher.	9	7.5
Being able to help someone increased my self-confidence.	8	6.8
I realized that I can work in a systematic or detailed way by taking the training I will give seriously.	7	5.8
I realized that I have problems in my diction and oratory.	6	5.0
I realized that I could not convey exactly what I wanted to tell and that I needed to improve myself.	5	4.3
I felt inadequate in preparing a presentation.	3	2.5
I realized that I use my gestures and mimics well and that my pronunciation is good.	3	2.5
I realized that I am a patient person.	1	0.8
I realized that I immersed myself in that role while making a presentation.	1	0.8
Total	119	100

Table 4. Problems experienced by students during education

Problems	Number	Percentage
I had difficulty in establishing seriousness with the individuals I trained.	26	21.4
I experienced excitement, stress, and tension while making a presentation.	23	19.0
I experienced technical problems (light, device memory, device freezing, power failure, etc.).	13	10.8
I experienced environmental problems (noise, ringing bells, etc.).	12	9.9
I had problems such as not having a third person for filming and not being able to stabilize the device.	11	9.2
I confused the content of the presentation; I had difficulty focusing.	10	8.2
I had problems with my diction (speaking fast, stuttering, stumbling over words).	9	7.4
I had no problems.	8	6.6
I had difficulties in preparing materials and finding materials.	5	4.2
I had problems with the person I trained (he did not want to take part in the video even though I gave him information beforehand).	4	3.3
Total	121	100

Table 4 shows the problems experienced by the students during the training. The students reported that they had the most difficulty in establishing seriousness with the individuals they trained (21.4%), experienced excitement, stress, and tension while making presentations (19.0%), and experienced technical problems (10.8%), respectively.

"Since it was a training given to family members, I had difficulty being in the role of a nurse. They had difficulty in perceiving my taking on this role realistically, mostly because they had never seen me as a nurse." (S20)

"While we were serious about the training, unfortunately, the distance we kept while giving training to our relatives caused a lot of laughter. This made the training fun, but it was difficult to catch the seriousness in the video." (S103)

In Table 5, students' suggestions for the online application assignment are presented. 50.5% of the students stated that they had no suggestions and that they had a nice and productive process. The most common suggestion of the students was to remove the requirement of video or material (18.2%).

"This kind of assignment is very effective for us to realize our educational aspect, yes, but unfortunately, since I have never been in a situation such as preparing such an assignment and making a presentation before, there were some challenging aspects. For this reason, more detailed information can be shared in the lesson, especially about video shooting." (S6)

"Although it seemed tiring at first, when we started to deal with it, it both improved our manual skills and allowed us to see the points we should pay attention to in communication." (S29)

"Although the slide preparation part was easy in adult education, it was difficult for me in child education. I think we did the best possible application." (S58)

"I think my teacher made a super application; I enjoyed it, and we will close the semester in a very effective way." (S97)

Table 5. Students' suggestions for the online practice assignment of the teaching in nursing course

Suggestions	Number	Percentage
I have no suggestions; it was a very good and productive process.	47	50.5
Since not everyone's conditions are equal, the video or material requirement can be removed.	17	18.2
Instead of two presentation assignments, a single assignment can be given.	6	6.3
Students can be given the opportunity to come together on Zoom and make presentations in the classroom environment.	5	5.4
More assignments can be given.	3	3.2
Students can be given the opportunity to prepare more presentations and materials to showcase their creativity.	2	2.2
It was the most difficult lesson; it could be made a little easier.	2	2.2
I had difficulty in determining a topic. A topic can be determined and shared among everyone.	2	2.2
Groups can be formed and given training.	2	2.2
The time given for doing homework can be kept a little longer.	2	2.2
Other (More information can be given about preparing presentations and making videos. A working nurse could be interviewed. Various trainings can be organized. All the videos shot can be discarded.)	5	5.4
Total	93	100

DISCUSSION

In this study, which evaluated the experiences of nursing students regarding the online teaching in the nursing course conducted online during the pandemic, students stated that this process made them happy and increased their motivation, that they could succeed when they had sufficient equipment despite thinking that they could not succeed, and that they were excited and stressed. Some students reported that they had excellent communication skills, increased self-confidence, and discovered their roles as educators and researchers, while others reported inadequate communication skills. In a study, teaching practice was reported to be a motivating and challenging method for nursing students (Mgbekem et al., 2016). In another study, it was found that different teaching techniques taught to nursing students increased their critical thinking tendencies and motivation levels (Durgun-Ozan et al., 2022). Another study found that blending traditional learning methods and e-learning methods, such as the application of interactive online resources, is important in developing students' clinical skills (Sheikhaboumasoudi et al., 2018).

Another finding obtained was that students reported that they had the most difficulty in establishing seriousness with the individuals they educated, experienced excitement, stress, and tension while making presentations, and experienced technical problems, respectively. Studies have shown that students experience stress during theoretical courses and clinical practice (Cho et al., 2023; Oducado & Estoque, 2021). It has been reported that nursing students are exposed to stress from different sources during their clinical education, such as the clinical environment, unfriendly clinical instructors, a sense of disconnection, multiple expectations from clinical staff and patients, and gaps between the theory courses and laboratory skills curriculum and students' clinical experiences (Dias et al., 2024). In the online education and training process, students may have had similar experiences and may not know how to overcome these problems alone. Because in a post-pandemic study, some of the important challenges of distance education were identified as economic inequalities, low family income, and further hindrance of interaction with online learning materials (Khatatbeh et al., 2024).

One of the important findings of this study is that about half of the students did not have any suggestions about online education and stated that they had a positive and productive education process. Undoubtedly, the methods used were also thought to have an effect on this result. In a study by Hampton et al. (2017), it was determined that online courses led to effective learning results, and the methods that students preferred most and found most effective were videos and narrated PowerPoint presentations. It has been reported that the use of technology in nursing education facilitates students' independence and provides flexibility (Gause et al., 2022). Online learning conducted during the pandemic period was found to provide a flexible learning environment, increase academic success, and facilitate student-centered learning (Bdair, 2021). Again, in a study using blended learning and teaching methods, it was determined that it had a positive effect on the self-management and self-control capacities of nursing students (Govindan et al., 2023). In this study, it was observed that approximately half of the students had positive perceptions. This perception is quite important. Because a study also showed that perceived learning satisfaction predicted learning engagement among nursing students in an online learning course (Chan et al., 2021). In other words, satisfaction increased engagement.

In this study, the most common suggestion made by the students was to remove the requirement of videos or materials in online teaching. Here, it was suggested that discussion boards should be used to increase motivation and learning, and that the instructor should have skills such as socialization and the use of narrative (Muirhead, 2007). It was also reported that students experienced problems in the transition from traditional methods to virtual teaching methods during the pandemic process and faced problems such as virtual differences with voice, interruption of sessions due to unexpected exit from the network, and continuous buffering; in addition, poor connection and technological ignorance also negatively affected this process (Gause et al., 2022). In

another study, it was reported that online courses conducted during the pandemic made students feel inadequate, disrupted academic honesty, distracted students from the online learning environment, and financially burdened the family (Bdair, 2021).

Recommendations for Educators

Adopt a mentorship approach: Instructors should act as active mentors, providing regular guidance, encouragement, and feedback throughout the course. This is crucial, especially in online settings where students may feel isolated or unmotivated.

Foster open communication: Encourage students to express their concerns and questions freely. Schedule regular virtual meetings, use discussion boards, and create a safe learning environment.

Use active learning methods: Incorporate interactive tools (e.g., breakout rooms, polls, case studies) and promote participation through small group work or collaborative projects.

Be flexible and empathetic: Acknowledge the challenges students face in online learning, such as technical issues or personal circumstances, and adapt accordingly (e.g., offering deadline flexibility or alternative assessments).

Recommendations for Faculty Managers

Provide technical support: Ensure that students and educators have access to stable internet, appropriate devices, and user-friendly platforms. Offer technical assistance when needed.

Support educator training: Invest in faculty development programs focused on online pedagogy, communication skills, and digital tools.

Encourage mentorship culture: Develop policies that recognize and reward mentorship efforts in online courses. Include mentorship as a criterion in performance evaluations.

Facilitate feedback channels: Establish mechanisms (e.g., surveys, focus groups) for students and educators to provide feedback on the online learning experience, enabling continuous improvement.

Recommendations for Educational Policies

Integrate blended learning: Encourage a hybrid model where online and face-to-face learning complement each other, leveraging the strengths of both approaches.

Mandate digital pedagogy training: Include online teaching competencies as part of the mandatory qualifications for educators in higher education.

Ensure equity in access: Develop policies to ensure equal access to technology, internet, and learning resources for all students, addressing digital divides.

Support well-being initiatives: Incorporate mental health support programs into educational policies, recognizing the stress students may experience in online learning environments.

Promote research on online education: Encourage studies that evaluate the effectiveness of online education in various fields, helping to refine strategies based on evidence.

CONCLUSION

This study, conducted during the COVID-19 pandemic period, showed that when students are mentored correctly, the teaching course, even online, provides many skills. Students reported that although they experienced stress and thought they could not do it, they were able to succeed when they took action, and this made them feel happy. However, they also reported communication problems, stress, and technical problems. They also stated that they had a successful and productive process despite all the problems they experienced. In this direction, it can be said that online techniques can be integrated into the course, but the instructor should actively mentor.

ETHICAL DECLARATIONS

Ethics Committee Approval

The study was carried out with the permission of the Aksaray University Human Researches Ethics Committee (Date: 21.06.2021, Decision No: 2021/05-19).

Informed Consent

Signed and informed consent forms were obtained from all students participating in the study.

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Financial Disclosure

The authors declared that this study has received no financial support.

Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

REFERENCES

American Nurses Association. (2021). Definition of nursing. Retrieved from: https://www.nursingworld.org/practice-policy/workforce/what-is-nursing/

Açıkgöz, G., & Baykal, Ü. (2023). Legal regulations supporting the professional roles and autonomy of nurses. *Istanbul Kent Univ J Health Sci*, *2*(1), 29-34.

Aydemir-Gedük, E. (2018). Developing roles of the nursing profession. *HSP*, *5*(2), 253-258. doi:10.17681/hsp.358458

Bastable, S. B., & Gonzalez, K. M. (2019). Overview of education in health care. Nurse as educator: Principles of teaching and learning for nursing practice. In: S.B. Bastable, eds. Fifth edition. Syracuse: New York.

Bdair, I. A. (2021). Nursing students' and faculty members' perspectives about online learning during COVID-19 pandemic: a qualitative study. *Teach Learn Nurs*, *16*(3), 220-226. doi:10.1016/j.teln.2021.02.008

Chan, S. L., Lin, C. C., Chau, P. H., Takemura, N., & Fung, J. T. C. (2021). Evaluating online learning engagement of nursing students. *Nurse Educ Today*, *104*, 104985. doi:10.1016/j.nedt.2021.104985

Cho, J., Cho, O. H., & Hwang, K. H. (2023). Untold and unexpected clinical practice stress, nursing students' experience of disgust: a phenomenological approach. *Nurse Educ Today*, *129*, 105899. doi:10.1016/j.nedt. 2023.105899

Dias, J. M., Subu, M. A., Al-Yateem, N., Ahmed, F. R., Rahman, S. A., Abraham, M. S., … & Javanbakh, F. (2024). Nursing students' stressors and coping strategies during their first clinical training: a qualitative study in the United Arab Emirates. *BMC Nurs*, *23*, 322.

Durgun-Ozan, Y., Duman, M., & Gökçe-Işbir, G. (2022). Effects of different teaching methods on nursing students' motivations and critical thinking disposition: a quasi-experimental study. *Int e-J Educat Stud*, *6*(12), 95-104. doi:10.31458/iejes.1059478

Gause, G., Mokgaola, I. O., & Rakhudu, M. A. (2022). Technology usage for teaching and learning in nursing education: an integrative review. *Curationis*, *45*(1), a2261.

Hampton, D., Pearce, P. F., & Moser, D. K. (2017). Preferred methods of learning for nursing students in an on-line degree program. *J Prof Nurs*, *33*(1), 27-37. doi:10.1016/j.profnurs.2016.08.004

Council of Higher Education. (2022). National Core Curriculum for Nursing. Retrieved from: https://www.yok.gov.tr/Documents/Kurumsal/egitim_ogretim_dairesi/Ulusal-cekirdek-egitimi-programlari/hemsirelik_cekirdek_egitim_programi.pdf

International Council of Nurses–ICN. (2002). Current nursing definitions. Retrieved from: https://www.icn.ch/resources/nursing-definitions/current-nursing-definitions

Khatatbeh, H., Amer, F., Ali, A. M., ALBastawy, M., Kurnianto, A., Abu-Abbas, M., … & Hammoud, S. (2024). Challenges of distance learning encountering nursing students after the COVID-19 pandemic: a study from the Middle East. *BMC Nurs*, *23*(1), 574.

Mgbekem, M. A., Duke, E., Oyıra, E., Ella, R., Ndıok, A., & Armon, M. (2016). Teaching practice experiences of nursing students: a comparison between direct entry and generic students of department of nursing science, University of Calabar. *Global J Educat Res*, *15*(1), 7-22. doi:10.4314/gjedr.v15i1.2

Muirhead, R. J. (2007). E-learning: Is this teaching at students or teaching with students? *Nursing Forum*, *42*(4), 178-184. doi:10.1111/j.1744-6198.2007.00085.x

Oducado, R. M., & Estoque, H. V. (2021). Online learning in nursing education during the COVID-19 pandemic: stress, satisfaction, and academic performance. *J Nurs Pract*, *4*(2), 143-153. doi:10.30994/jnp.v4i2.128

Sheikhaboumasoudi, R., Bagheri, M., Hosseini, S. A., Ashouri, E., & Elahi, N. (2018). Improving nursing students' learning outcomes in fundamentals of nursing course through combination of traditional and e-learning methods. *Iranian J Nursing Midwifery Res*, *23*(3), 217-221. doi:10.4103/ijnmr.IJNMR_79_17

Govindan, S. N., Singh, H. K., Ling, L. W., & Sekar, M. (2023). Effect of blended self-directed learning on nursing students: quasi-experimental approach. *J Edu Health Promot*. *12*(1), 229. doi:10.4103/jehp.jehp_209_23

MHA MEDIHEALTH ACADEMY
Journal of Nursing Care Research
Original Article
doi: 10.51271/JNCR-0029

The effects of psychodrama on midwifery students' empathy levels

Fadime Bayrı Bingöl, Zeynep Gökdemir, Elif Nur Ketancı
Department of Midwifery, Faculty of Health Sciences, Marmara University, İstanbul, Turkiye

Cite this article as: Bayrı Bingöl, F., Gökdemir, Z., & Ketancı, E. N. (2025). The effects of psychodrama on midwifery students' empathy levels. *J Nurs Care Res, 2*(2), 49-56.

Received: 22.04.2025 ◆ **Accepted**: 23.06.2025 ◆ **Published**: 25.06.2025

ABSTRACT

Aims: The objective of the current research is to determine the effects of psychodrama group sessions on midwifery students' empathy levels.

Methods: This study was a quasi-experimental design study. The research was conducted with third-year students of a midwifery school in İstanbul. Thirteen volunteer students took part in the psychodrama group sessions. Empathy was assessed using the Midwifery Empathy Scale. Descriptive statistics were used to report questionnaire findings. Six psychodrama group sessions were conducted to reveal and improve students' experiences regarding the processes affecting their empathy. In the group sessions, statements were also presented showing that students' empathy skills had improved.

Results: While the empathy levels of the students were similar at the beginning of the study, the empathy levels of the students who participated in the psychodrama group study increased at the end of the study. Students' own birth experiences and memories from early childhood were studied during psychodrama group sessions. During the group sessions, students reported that they could empathise better with women in the childbirths they attended.

Conclusion: The findings highlight the need to heal students' traumas in order to facilitate their awareness of empathy and to prevent the said traumas from being reflected in their professional lives.

Keywords: Psychodrama, midwifery, students, empathy

INTRODUCTION

The midwifery profession, which takes an essential place in women's health, is one of the oldest professions in written history (Beyinli, 2014). Although midwifery has changed over time, its most important characteristic is the concept of being 'with women.' "Being with women" has been accepted as the core of the profession and has formed the definitions of midwifery practices and standards at national and international levels (Bradfield et al., 2018). The International Confederation of Midwives (ICM) defines a midwife as a reliable and responsible professional who cares for women during pregnancy, childbirth, and the postpartum period, provides the necessary training, helps women deliver under her management, cares for newborns, and acts together with women (ICM, 2024). It is known that no device/medicalisation can replace the continuous emotional and physical support provided to women based on empathic communication throughout the labour and that this support of the midwife is unique (Aktaş ve Pasinlioğlu, 2016; Leinweber & Stramrood 2024; Hijazi et al., 2024, Jin et al., 2022). Studies in the field of midwifery have stated that women's greatest expectation from midwives during childbirth is that midwives provide care based on empathic communication skills (Gaskin, 2015).

Empathy is the ability of an individual to put themselves in another person's place and understand their feelings, thoughts, and behaviors. Empathy has cognitive and emotional dimensions. In order for an individual to be able to empathize with another individual, they must first be able to cognitively distinguish between themselves and the other person and cognitively discern what emotional state the other person is in (Ersoy & Köşger, 2016).

Empathy helps to establish strong and healthy relationships, increase communication, and decrease conflict (Dökmen, 2012). Whereas empathy is traditionally defined in healthcare as the cognitive ability to understand others' experiences by "stepping into someone else's shoes," it is a basic component of all therapeutic relationships and is a part of quality patient care (Hojat et al., 2015). In the healthcare field, empathy is defined as understanding the patient's experiences, concerns, and views, primarily of a cognitive nature (Guilera et al., 2018; Lamothe et al., 2016). It has been demonstrated that a midwife's good empathic skills prevent professional burnout, increase job satisfaction and sensitivity to helping in the profession (Charitou et al., 2019; Halldorsdottir & Karlsdottir, 2011), humanise childbirth, and prevent over-medicalisation

Corresponding Author: Fadime Bayrı Bingöl, fadimebayri@gmail.com

of childbirth (Moloney & Gair 2015). Moreover, the empathic approach increases birth satisfaction with the care, compassion, respect, and presence of the midwife (Charitou et al., 2019). Midwives' empathic communication impacts the quality of the care provided. Studies have shown that qualified midwifery services are effective in reducing medical interventions during childbirth, coping with labour pain, having a positive childbirth experience, reducing hospital costs, etc. (Dahlberg & Aune, 2013; Hatem et al., 2018; Sandall et al., 2010).

Carl Rogers defines empathy as the ability to "feel the client's private world as if it were your own." Despite the simplicity of the definition above, debates whether empathy is an innate trait or a skill that can be taught and developed later are still continuing (Richardson et al., 2015). It is reported that empathy can be developed through undergraduate and graduate education in healthcare services. Among studies on the effectiveness of empathy training with nurses and midwives, there are publications indicating that empathy scores can be improved after training (Bas-Sarmiento et al., 2017; Brunero et al., 2010; Özcan et al., 2010; Oflaz et al., 2011; Aktas & Pasinlioğlu, 2021). Some emotions rise to the surface in the patient-caregiver relationship, as in all interactions. While helping patients, caregivers experience numerous emotions such as joy when things go well, disappointment when complications develop, anger when the woman is demanding, etc. As individuals, it is challenging for caregivers to be aware of their own emotions in theoretical courses on communication. Hence it is asserted that the therapeutic elements of group activities and group dynamics help caregivers gain insight (Oflaz et al., 2011).

Psychodrama can effectively increase midwifery students' empathy skills. Psychodrama is based on the integration of philosophy, sociology, and psychological theories. Psychodrama ensures that individuals gain awareness in their relationships. As specified by Moreno, the founder of psychodrama, individuals can encounter all the people they are in a relationship with the concept of "tele," which includes mutual unconscious communication between individuals, and "surplus reality" in the psychodrama scene. Thus, concrete improvements and progress can be achieved in the individual's emotional world. In a psychodrama session, the protagonist work of a group member can be an eye-opener for the others watching it (Altınay, 2015). Psychodrama allows participants to re-experience the events they have experienced before for the second time, so that they can get rid of the impacts of their previous experience. All of these happen simultaneously with joy, tears, laughter, and deep emotions (Karabekir, 2016). A psychodrama session generally consists of three sections; warm-up, enactment and sharing during which individuals can share their experiences with the rest of the group. A fourth element, known as 'processing,' is used for educational purposes. Warm-up helps to create an atmosphere where individuals can begin to trust the director, the group, and the method. During the enactment, group members experience a change in role boundaries by playing another role through role reversal. Sharing is a time for group catharsis and integration. Role reversal, doublind and mirroring are the basic techniques used in this effective method (Altınay, 2015).

Studies on the effectiveness of psychodrama have reported that it incresaes self-awareness in nurses (Oflaz et al., 2011), improves empathy and self-awareness skills of counselling undergraduate students (Dogan, 2018), and incresaes psychological empowerment and reduces burnout (Özbaş and Tel, 2016). Furthermore, the systematic review reported that psychodrama decreases individuals' fear, loneliness, hopelessness, burnout, aggression, anxiety, and depression levels while increasing their problem-solving, overall quality of life, spontaneity, and social functions (Orkibi and Feniger-Schaal, 2019). No study in the literature has examined how psychodrama group sessions can impact empathy and its effects on midwifery students' empathy levels. In this respect, the current study aimed to improve midwifery students' empathy skills through psychodrama group sessions.

Research Questions

- Is psychodrama effective in increasing the empathy levels of midwifery students?
- How does studying their own birth experiences and memories of early childhood affect students' awareness?

METHODS

Ethics Approval and Consent

Institutional permission for this study was obtained from the Marmara University Faculty of Health Sciences Non-interventional Clinical Studies Ethics Committee (Date: 28.12.2023, Decision No: 2023/144) and Marmara University Faculty of Health Sciences Dean's Office. Midwifery students who volunteered to participate in the research filled out the relevant forms and the scale during data collection face-to-face. Permission was received via email from the individuals who performed the Turkish validity and reliability study of the "Midwifery Empathy Scale-Revised Form" used in the study. The ethical requirements specified in the Declaration of Helsinki were fulfilled throughout the study.

Study Design

This study was a quasi-experimental design study. In order to provide a more comprehensive understanding of the effects of psychodrama group sessions, the content of the psychodrama group sessions conducted with midwifery students and the group members' sharings about empathy are presented in the findings.

Setting and Procedure

The midwifery education in Turkiye is provided at the undergraduate level for 4 years after high school, and practical training is provided in a hospital setting in addition to theoretical courses. Theoretical courses include Communication in the 1st year and Pregnancy and Childbirth Psychology in the 2nd year. Clinical practices are conducted with the support of hospital education midwives, clinic responsible midwives, and responsible faculty members. Prior to the study, the first author informed students about the study's purpose, method, and content in a face-to-face classroom setting on a day when they were at school, and the students were invited to participate in the study. The participants were also informed about the principles of group therapy (arriving on time, confidentiality, etc.). The research was carried out in the Midwifery Department of Marmara University, Faculty of Health Sciences, a public university in Istanbul, during the spring semester of the 2023-2024 academic year. The study's population comprised eighty-two 3rd-year students registered in the Department of Midwifery

at Marmara University, Faculty of Health Sciences, between March and June 2024. The study included 3rd-year midwifery students who successfully completed the childbirth course. It was planned to exclude students who wanted to leave the study, filled out the data collection form incompletely, and were absent from psychodrama group sessions for more than one session; however, all students completed the study. After being informed about the study, 60 students constituted the study's sample. Thirteen out of 60 students agreed to take part in the psychodrama group sessions. All students who participated in the group were female because men are not accepted into midwifery education in Turkiye. The 13 students who agreed to take part in the psychodrama group sessions were informed about the day, time, and place of the group sessions. At the beginning and end of the study, all students filled out the research forms simultaneously in the classroom setting.

Psychodrama Group Sessions

Group session were conducted with students who take part in psychodrama group sessions in a classroom in the Faculty of Health Sceinces of Marmara University as 6 sessions (FBB), once in 2 weeks. The sessions were conducted with the first author, the group manager, and the psychodrama therapist FBB, experienced in psychodrama group management, and other researchers (ENK and ZG). Concerning security issues, the students were also assured that counselling would be provided after the study if necessary, and the director gave them a contact address. The director (FBB) and two assistant researchers (ENK and ZG) were present in each session of the psychodrama group sessions. The sessions included the three main phases of psychodrama (warm-up, enactment, and sharing) and lasted 90-100 minutes. The basic techniques of psychodrama, role reversal, doubling, and mirroring, were used in the sessions. During the group sessions, one researcher (ZG) took written notes continuously. Following each group session, the researchers evaluated the session after the group members left. The assistant researchers also served as facilitators throughout the group process. After the group sessions, all researchers discussed the session in detail and completed any deficiencies in the notes. The students' statements in the notes thought to be related to empathy and the content of the group sessions are presented in the findings section.

Preparation of the Sessions

Prior to the group sessions, the classroom was prepared before the group session: chairs were placed in a circle, and cushions, various figurines, small toys, etc. were placed in the room. Each session's structure was based on psychodrama warm-up and enactment in order to help midwifery students reveal their experiences in the care setting and talk about them.

Data Collection

Data collection tools: The "Personal Information Form" prepared by the researchers in line with the literature and the "Midwifery Empathy Scale-Revised Form" were used to collect the research data.

Personal Information Form: The personal information form prepared by the researchers includes questions about individuals' socio-demographic characteristics (age, marital status, educational status, year of education, etc.).

Midwifery Empathy Scale-Revised Form (MES-RF): Vivilaki et al. developed the scale in question in Greece in 2016. The scale comprises 22 questions that assess empathic skills and empathic tendency. Items 4, 5, 6, 9, 11, 15, 18, and 19 were removed since they did not receive sufficient scores in the Turkish validity study (Sevinç, 2019). Each item is a Likert Scale scored from 1 to 6. Items 4, 5, 8, and 14 on the revised Turkish scale are coded reversely. The level of empathy decreases with an increase in the total score. Considering Cronbach's alpha value of the Midwifery Empathy Scale, Cronbach's alpha coefficient of the 22-item scale first developed by Vivilaki et al. (2016) was 0.54, it was 0.72 in the validity study performed in Austria (Jordan et al., 2024), Cronbach's alpha coefficient was 0.71 in the 14-item Turkish validity study conducted by Sevinç (2019) in Turkiye, and it was 0.72 in the present study.

Statistical Analysis

The research data were analysed using the SPSS (Statistical Programme for Social Sciences) package programme. Frequency and percentage distributions, mean±standard deviation (min-max) values were used in the data assesment. The Mann-Whitney U test was used to assesment the difference between the study and control groups before and after the intervention. A $p<0.05$ value was accepted as statistically significant.

RESULTS

Participant Characteristics

Sixty students participated in the first measurement of the study. The students' mean age was 21.13±0.91 (20-24), and all were single. Of the students, 51.7% lived with their families, 11.7% were employed in a regular job, and 18.3% experienced financial difficulties. It was found that 80% of the students chose midwifery education voluntarily, 33.3% considered drop out midwifery education, and 83.3% wanted to work in maternity clinics in public hospitals after graduation. When the individual characteristics of the students in the psychodrama and control groups were compared, it was determined that there was no statistically significant difference between them ($p>0.05$). The characteristics of the students are presented in **Table 1**.

Participants' Empathy Levels

Thirteen students agreed to participate in the group sessions and completed the 6-week group study. In the second measurement, all 60 students completed the questionnaires. While the students had similar empathy levels at the beginning, it was determined that the empathy skills of the students who participated in the psychodrama group sessions increased more (**Table 2**).

Findings Related to the Psychodrama Group Session

Students' own birth experiences and clinical experiences directed the psychodrama group session. A psychodrama group session was also conducted on the students' birth experiences where they felt bad in clinical practice.

Warm-Up

The first session started with sociometric introductions to ensure that group members got to know each other and to increase group cohesion. The group members were divided into smaller groups according to various characteristics

Table 1. Midwifery students' individual characteristics (n=60)

	Psychodrama group (n=13) % (n)	Control group (n=47) % (n)	p
Age, mean (SD, range)	21.30	21.08	p=0.560[a]
Place of residence			
Family home	69.2 (9)	46.8 (22)	p=0.339[b]
Student home	0	2.1 (1)	
Student dormitory	30.8 (4)	51.1 (24)	
Employment status			
Employed	0	14.9 (7)	p=0.139[b]
Unemployed	100 (13)	85.1 (40)	
Economic status			
Income does not cover expenses	23.1 (3)	17.8 (8)	p=0.754[b]
Income covers expenses	69.2 (9)	78.7 (37)	
High income	7.7 (1)	4.3 (2)	
Wanting midwifery education			
Chose midwifery voluntarily	92.3 (12)	76.6 (36)	p=0.210[b]
Entered midwifery since there was no other option	7.7 (1)	23.4 (11)	
Intention to drop out of midwifery education			
Did not consider dropping out	15.4 (2)	38.3 (18)	p=0.121[b]
Considered dropping out	84.6 (11)	61.7 (29)	
Post-graduation work plan			
Working in public health institutions	92.3 (12)	68.1 (32)	p=0.245[b]
Becoming an academician	0	21.3 (10)	
Working as a freelance midwife	7.7 (1)	6.4 (3)	
Working in a field other than midwifery	0	4.3 (2)	

Mann-Whitney U test, Pearson chi-square test, SD: Standard deviation

(those born at home/hospital, those born vaginally/through caesarean section, those who were the first infant/a subsequent infant of their mothers, those with low/high birth weight, etc.). The leader asked whether their mothers were alive and whether they had any information about their own birth experiences. Mothers of all participants were alive. Except for a few participants, most did not know a lot about their birth stories. The leader told the participants to talk to their mothers about their pregnancy, birth, postpartum period, and early childhood in as much detail as possible and that maybe they would work on these.

In order to prepare role reversal and doubling in the protagonist studies, a sculpture warm-up game was played. The leader asked the group members to close their eyes and take a deep breath. After everyone did what she said, the leader asked the group members to imagine that they were in the delivery room they last saw. The leader said that the participants were alone in the environment they imagined and asked to observe the delivery room. The leader asked, "Do you hear any sounds? An infant's voice coming from the next room, or the painful screams of a woman who is about to give birth? Please choose an object from among the things you see when observe the surroundings in this way…" After about a minute, the leader asked everyone to open their eyes and try to show the sculpture of the object they chose with their bodies. After all the members created their sculptures, the leader came to the group members and asked them what the object was and what they experienced when they were that object. The group members created the sculptures of a chair, a portable lamp, a lithotomy table, a crib, episiotomy scissors, an episiotomy suture, a radiant heater, a pump device, a treatment cart, and the door of the delivery room with their bodies. Some students chose the same object and created its sculpture. Those who had chosen the same object in the beginning did not indicate this as a problem during the closing phase. The students generally succeeded in following the instructions.

Sessions 2, 3, 4 and 5 were sessions with protagonists. In the 6th session, the sessions were concluded and closed. At the beginning of each session, group members were asked how they felt since the previous group session. After the members shared about the previous session, if any, they were asked if there were any protagonist candidates. In each session, 2-3 candidates presented their work suggestions. The candidates turned their faces to the wall, and the other group members lined up behind the candidate they selected and made their choice. The candidate that the majority chose became the protagonist. The candidates did not see the other members supporting them. The protagonists' suggestions were as follows, "I hate the midwife who helped my mother deliver during my birth," "I'm in pain when I think of my mother," "I was very scared when I saw the woman bleeding during the last birth I attended," and "What kind of a midwife will I become?" Protagonist studies were initiated with a warm-up walk. During the warm-up walk, the protagonist was supported in providing more detailed information about the suggestion they presented while the leader was walking with them counterclockwise on the stage. Enactment scenes were planned with the leader in line with the suggestions the protagonist presented during the warm-up walk.

Enactment

Since these students had no previous psychodrama experience, a few experienced difficulty with role reversal and doubling at the beginning of the dialogue. However, encouraging them to speak without judgment and occasionally asking another participant to take over so that the first participant could listen helped them to succeed in accomplishing this task. In one group, at the beginning of the role reversal, the director gave the floor to the other researchers to create a role model

Table 2. Midwifery students' empathy levels (n=60)

		Before group sessions (mean rank)	After group sessions (mean rank)
Midwifery Empathy Scale	Psychodrama group (n=13)	34.46	17.38
	Control group (n=47)	29.40	34.13
		p=0.353 Z=-.929	p=0.002 Z=-3.063*

Mann-Whitney U test

for the participants. All students appeared highly motivated, interested, and fully involved in the session during the "role reversal" and listened to each other very carefully. Studies were initiated by having the protagonists choose from among the group members the double and the other auxiliary egos they wanted to be in the scene (mother, father, midwife, physician, their auxiliary egos) to enact the scenes chosen.

During the scenes, the protagonist entered the roles of all the auxiliary egos and started by making an introductory doubling with them one by one. The examples of introductory doublings are given below:

Protagonist 1, SY (in the role of her mother during her own birth) said the following, "I am ***; I have given birth 4 times at home before. I had my 5th birth at home again, but when the midwife told me it was twins, my labour pain stopped and I couldn't give birth to my other baby. What if something happens to me? I have five more children at home. Who will look after them? I don't want to die; I'm so scared. What if something happens to the baby in my womb? Oh Allah, please help me…"

Protagonist 1, SY (in the role of the midwife during her own birth), "I am Sü***, a 50-year-old village midwife in Erzurum. I am not a certified midwife. My mother was a midwife. I became a midwife by learning it from my mother. I have been helping women deliver in this village for 20 years; there is no one better than me to help women in this village during birth..."

Protagonist 2 (in the role of her mother) indicated the following, "I'm the mother of NB; I got married at the age of 17 with my husband who is 10 years older than me by my family's decision…. I started living with my husband and his large family. From the first day I got married until my children grew up, I was subjected to violence by all my husband's relatives. I had depression after the 3rd birth; I didn't sleep, I didn't talk, and I started having hallucinations. Then my husband started taking me to the hospital and taking care of me….

Protagonist 2 (in the role of her father), "I am the father of NB, … I am a taxi driver. I don't like staying at home; I work all the time…"

Protagonist 2 (in the role of her grandmother on the father's side) said the following, "I am the grandmother of NB; my husband left me. I raised my children on my own. I live with my oldest son. I lost my other son. My daughter got divorced and lived with us for a long time with her three children. I'm so happy I have my older son; I love him so much… I see my grandchildren as my children…

Protagonist 3 (in the role of a pregnant woman), "From the first moment I entered that room and lay down on the bed, I felt insecure and helpless and experienced a lot of difficulties. It is very challenging to cope with that pain…"

Protagonist 3 (in the role of an infant) expressed the following, "I was very comfortable. I only said, "What is happening?" when I was coming out of my mother's womb. Someone was pushing me out. Fortunately, I became comfortable again after I was born. I felt very happy in my mother's arms."

Protagonist 3 (in the role of a physician), "Being a physician is a great responsibility. Everything happens in a second; the midwife next to me made my job much easier. She managed everyone. I shouldn't have made a mistake…"

Afterwards, in line with the flow of the scenes created, the protagonists were made to reverse roles with all the auxiliary egos, and doublings were made from the roles. The examples of doubling from the roles are given below:

Protagonist 1 (in the role of her mother saying to her grandmother on the father's side), "You ruined my life. I'll never forgive you…"

Protagonist 1 (in the role of her grandmother on the father's side) said the following, "You lock yourself in your room as if you were suffering a lot. Are your troubles worse than what I have suffered? I lost my son, and I don't want to share the other with you. My son is everything I have in life… I don't care at all. I have had so much pain. The things you're saying sound like a buzz to me..."

During the scenes, after the protagonist reversed the role with all the auxiliary egos, the mirroring technique was used after she was replaced by the double. In the mirroring technique, while the auxiliary egos were enacting the scene, the leader asked, "What do you see in this scene?", allowing the protagonist to look at the scene from the outside, thus increasing her awareness of what was happening in the scene.

Protagonist 2, "It was a marriage tolerated for the children… I would like my mother and father to fall in love. I would like these scenes to be very different…".

Protagonist 4, "I understood the whole team and the woman better; if the mother were educated, it would have been better."

During the scenes, the protagonist was supported to experience catharsis when she felt intense anger. The protagonist was placed in front of a large cushion representing the negative characteristics of the person she felt anger towards, and it was ensured that she vented her anger together with the auxiliary egos by chewing/kicking the cushion hard and swearing. The play was then concluded by creating new scenes as they wanted them to be in order to reconstruct the negative memories positively. At the end of each study, the students "were made to leave the role" by saying goodbye to the emotions of the auxiliary egos they had entered.

Sharing, talking about associations and their connections to daily life; after the protagonist studies, the auxiliary egos shared their roles; they shared what they experienced and felt while playing the role and answered the question, "How was it like to be in the -X- role, in the -Y- scene?" Afterwards, they gave the opportunity for all group members to make associations about their lives.

SY, the protagonist in the previous study, said the following, "After this study, I understood why my mother did not tell me her childbirth story in detail. When I talked to my mother about my birth, she used to tell me without elaborating a lot…. No matter how much I insisted, she would not tell me some things, and I felt something was missing. After the group session, I felt like I was in limbo. I experienced different feelings. … Now I understand my mother better…"

The other members said the following, "What happened in the group came to my mind a lot after the previous study. My mother is very similar... The previous study seemed very familiar to me; I also cried during the study… I think everyone finds a piece of themselves during these studies... (BC)" "I also found a lot of myself during the work… The life story of my mother is also very similar…. What happened here occasionally bothered me after the work... (NB)."

"A birth I witnessed during my internship this week was very challenging; the baby was born with difficulty, and they immediately started aspirating the baby and sent him to the neonatal intensive care unit. The mother asked, "Did it happen because of me?" and kept looking at the empty crib next to the bed until the episiotomy repair and care were completed. I witnessed her fear that something would happen to her baby, and the session conducted here last week came to my mind. I understood the woman better…" (HKK).

ÖSÇ said the following, "I also attended the childbirth of the woman my friend HKK mentioned. There was another childbirth before that one, and the woman was complaining like "Ugh, ugh, it hurts; I can feel the needle entering my body" despite the local anaesthesia applied during the episiotomy repair. However, the woman just kept looking at the empty crib in my friend's discourse and didn't react at all when the episiotomy was being repaired. I understood the woman better after the last week's session..."

Participation in this phase was based on the principle of voluntariness, and students who preferred not to talk were not forced to share their thoughts and feelings. Most students realised the connection between their feelings and their daily lives and that they could be more empathetic in their relationships. Some students said that their awareness increased when they listened to the protagonist studies in which they did not take part. Students reported that they understood women better during the childbirths they attended and that they could empathise with them more during group sessions.

Closing, talking about the sessions; a closing study was carried out in the last session of the group session. The group members were asked to evaluate and share the entire sessions process. The students were very satisfied with the group and indicated that such studies were necessary for improving empathy skills. They also added that the common points that emerged after the experiences they shared and worked on during the psychodrama group sessions surprised them and that they were encouraged when they realised this. The students said they were usually in passive listening mode in theoretical communication courses, but they had the chance to be active and share their experiences during these sessions. All members shared that they were affected by the studies carried out during the group sessions, their emotional awareness increased, and they could empathise more. A "love bombing" warm-up game was played to close the group session and for the members to provide positive feedback to each other. Each member sat on the chair placed in the middle of the group in turn and received positive feedback about themselves from all the other members, and the study was terminated. After these studies, the leader stated that the group members might not experience a one-hundred-and-eighty-degree change in an instant due to protagonist studies, but it was important to increase awareness with achievements from these studies. The leader said that the members were not alone from now on and could always apply to him or another psychodrama experience group or another therapist when needed, and the group therapy was concluded.

DISCUSSION

Among the studies in the literature aimed at improving empathy skills, there are those showing improvements in studies in which assessments are conducted with empathy scales (Aktas & Pasinlioğlu 2021; Dogan, 2018). Likewise, the current study revealed that the empathy skills of students who participated in psychodrama group sessions improved. In this study, unlike literature, we argue that students' empathy skills can be improved in the psychodrama group sessions environment owing to the opportunity to role reversal, doubling, in the different role's students, finding role models in their relationships, and developing their attitudes in the context of the study.

Within the scope of this study, each student was supported in working and talking about their own personal experiences in psychodrama group sessions. The basic phases of psychodrama, including warm-up, enactment, and sharing, were applied during each session. During the enactment phase, the awareness of the protagonists and the auxiliary egos selected for the role increased in terms of being able to empathise through the basic techniques of psychodrama, such as role reversal, doubling and mirroring. In the first group session, the selection and talking about an object used to overcome resistance in the group also facilitated the conversation within the group. It was easier to start talking about personal content through these impersonal objects. Furthermore, talking about the object helped students express their personal experiences afterwards. During the role reversal, students created a sculpture and shared what they experienced when entering the role of the object, what would be missing in the birth without them, etc. Another purpose of using an object was to facilitate role reversal. Talking about a memory and birth as an object helped students embody the emotion.

Psychodrama groups can take diverse forms, and warm-up can cover the entire session, as in the first session of the current study. As indicated by Altınay (2015), a good warm-up exercise leads to successful implementation. Role reversal in the enactment phase is one of the basic techniques of psychodrama, allowing individuals to explore the world of their peers. Entering the role facilitates empathy and enables its development. In the sharing phase, everyone talks about the feedback they received from their role and their personal memories related to the play (Altınay 2015). In the present study, most students shared their feelings about the memories of other group members. They listened to each other without making any comments.

In the closing phase, the director, researchers, and group members reviewed the entire process. The feedback from the participants was positive in this study. Students found the group sessions motivating. Students' focus was drawn to themselves and the uniqueness of their relationship with a particular pregnant woman through the psychodrama group sessions. The students noticed how their interactions with women influenced them.

Midwifery students had the opportunity to work on their own birth experiences and early childhood memories in psychodrama group sessions as part of this study. It was observed that the students' awareness increased and they were able to empathy better in the sharing sessions held after the protagonist sessions ended. Thus, it is thought that this situation increased the students' empathy levels, which were measured at the beginning and end of the study.

It is essential to train healthcare personnel as individuals who recognise human emotions, empathise, and find solutions to problems (Elkin ve ark., 2016; Jin et al., 2022; Leinweber & Stramrood, 2024). Similar to the present study, it was revealed that empathic tendencies and the satisfaction of the mothers cared for increased after 32 hours of didactic narration, creative drama, and psychodrama techniques empathy training provided to midwives working in the maternity unit (Aktas & Pasinlioğlu, 2021). In a review of the effectiveness of empathy training in nursing, 17 studies found that empathy scores were statistically higher after the training (Brunero et al., 2010). A study carried out with nurses in Turkiye found a statistical improvement in empathic communication skills at the end of the programme (Özcan et al., 2010). Dogan (2018) conducted 12 psychodrama sessions with 23 undergraduate counselling students for three months and revealed that psychodrama effectively improved counselling skills (mainly empathy) and self-awareness. These studies have shown that empathy skills can be increased in different sample groups and with different interventions. There are publications showing that shorter-term training is not effective in developing empathy skills. An experimental study conducted with 73 midwifery students in Iran showed that the empathy training programme, which included training on self-awareness and empathy skills, organised in two-hour sessions for two consecutive days, was ineffective for students in the intervention group (Tafazoli et al., 2018). Increasing the empathy skills of midwifery students is of great importance for both their personal and professional development. In order to increase the empathy skills of midwifery students, it is recommended that educational programs be reviewed, empathy-related modules such as role-playing and small group simulation applications be added to the curriculum, and trainer/mentor support be provided on empathy skills in clinical practice.

Limitations

The present article is limited to evaluating the group process and does not examine how empathic students are in practice. No follow-up was conducted on how empathic midwifery students were toward the women they cared for. The tool used to measure empathy levels in this study was a self-report instrument.

CONCLUSION

This article focuses only on increasing midwifery students' awareness of empathy through psychodrama group sessions. It was concluded that such psychodrama sessions are useful for improving students' empathy skills and can be a beneficial educational tool.

ETHICAL DECLARATIONS

Ethics Committee Approval

The study was carried out with the permission of the Marmara University Faculty of Health Sciences Non-interventional Clinical Studies Ethics Committee (Date: 28.12.2023, Decision No: 2023/144).

Informed Consent

Midwifery students who volunteered signed and free and informed consent form.

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Financial Disclosure

ZG and ENK were supported by TÜBİTAK (Ref: TÜBİTAK 2209-A 2023/2 University Students Research Projects Support Programme 2023/2). The funding received was used to cover the translation fee for transforming the research into publication.

Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

Acknowledgements

The authors would like to thank all participants for their generous contribution to this research.

REFERENCES

Aktas, S., & Pasinlioğlu, T. (2021). The effect of empathy training given to midwives on the empathic communication skills of midwives and the birth satisfaction of mothers giving birth with the help of these midwives: a quasi-experimental study. *J Evaluat Clin Pract*, *27*(4), 858-867. doi:10.1111/jep.13523

Altınay, D. (2015) Psychodrama Group Psychotherapy Handbook. İstanbul: Sistem Publishing. (Turkish)

Bas-Sarmiento, P., Fernández-Gutiérrez, M., Baena-Baños, M., & Romero-Sánchez, J. M. (2017). Efficacy of empathy training in nursing students: a quasi-experimental study. *Nurs Edu Today*, 59, 59-65. doi:10.1016/j.nedt.2017.08.012

Beyinli, G. (2014). Midwifery in Modern Turkey with Magical Hands. Ankara, Ayizi Publications. (Turkish)

Bradfield, Z., Duggan, R., Hauck, Y., & Kelly, M. (2018). Midwives being 'with woman': an integrative review. *J Australian College Midwives,* 31(2), 143-152. doi:10.1016/j.wombi.2017.07.011

Brunero, S., Lamont, S., & Coates, M. (2010). A review of empathy education in nursing. *Nurs Inquiry, 17*(1), 65-74. doi:10.1111/j.1440-1800.2009.00482.x

Charitou, A., Fifli, P., & Vivilaki, V. G. (2019). Is empathy an important attribute of midwives and other health professionals? A review. *Eur J Midwifery*, *3*, 4. doi:10.18332/ejm/100612

Dahlberg, U., & Aune, I. (2013). The woman's birth experience-the effect of interpersonal relationships and continuity of care. *Midwifery*, *29*(4), 407-415. doi:10.1016/j.midw.2012.09.006

Dogan T. (2018). The effects of the psychodrama in instilling empathy and self-awareness: a pilot study. *PsyCh J, 7*(4), 227-238. doi:10.1002/pchj.228

Dökmen, Ü. (2012). Communication Conflicts and Empathy. İstanbul, Remzi Bookstore. (Turkish)

Elkin, N., Karadağlı, F., & Barut, Y. (2016). Determination of communication skills levels and related variables of health sciences college students. *Mersin Univ J Health Sci, 9*(2), 70-80.

Ersoy, E., & Kösger, F. (2016). Empathy: definition and its importance. *Osmangazi Med J, 38*(2):9-17. doi:10.20515/otd.33993

Gaskin, I. M. Ina May's Guide to Childbirth Preparation (1st Edition). Erkök ÖE, Güler ZB (trans). Fly Eight Publishing House, İstanbul, 2015, 305-378. (Turkish)

Guilera,T., Batalla, L., & Gonzalez, J. (2018). Empathy and specialty preference in medical students. follow-up study and feedback. *Educacion Medica, 19*(2): 153-161. doi:10.1016/j.edumed.2017.07.017

Halldorsdottir, S., & Karlsdottir, S. I. (2011). The primacy of the good midwife in midwifery services: an evolving theory of professionalism in midwifery. *Scandinavian J Caring Sci*, *25*(4), 806-817. doi:10.1111/j.1471-6712.2011.00886.x

Hatem, M., Sandall, J., Devane, D., Soltani, H., & Gates, S. (2008). Midwife-led versus other models of care for childbearing women. *Cochrane Database Systemat Rev, 4*, CD004667. doi:10.1002/14651858.CD004667.pub2

Hijazi, H., Al-Yateem, N., Al Abdi, R., Baniissa, W., Alameddine, M., Al-Sharman, A., … & Hayajneh, Y. (2024). Assessing the gap between women's expectations and perceptions of the quality of intrapartum care in Jordan: a two-stage study using the SERVQUAL model. *Int J Public Participat Health Care Health Policy*, *27*(3), e14103. doi:10.1111/hex.14103

Hojat, M., Bianco, J. A., Mann, D., Massello, D., & Calabrese, L. H. (2015). Overlap between empathy, teamwork and integrative approach to patient care. *Medical Teacher*, *37*(8), 755-758. doi:10.3109/0142159X.2014.971722

ICM, 2024. Essential Competencies for Midwifery Practice. The International Confederation of Midwives: 9. Access date: 02.02.2025 https://www.internationalmidwives.org/our-work/policy-and-practice/essential-competencies-for-midwifery-practice.html

Jin, Y., Wu, Y., & Li, J. (2022). Midwife empathy and its association with the childbirth experience: a cross-sectional study. *BMC Pregnancy Childbirth*, *22*(1), 960. doi:10.1186/s12884-022-05309-3

Jordan, M. N., Sarantaki, A., Diamanti, A., & Vivilaki, V. (2024). The translation and validation of the MES for an Austrian sample. *Eur J Midwif, 8*, 10-18332. doi:10.18332/ejm/191394

Karabekir N. (2016). Using psychodrama in childbirth education and birth psychotherapy: birth with no regret. *J Prenat Perinat Psychol Health, 30*, 208-217.

Lamothe, M., Rondeaua, E., Malboeuf-Hurtubiseb, C., Duval, M., Sultan, S. (2016) Outcomes of MBSR or MBSR-based interventions in health careproviders: a systematic review with a focus on empathy andemotional competencies. *Complement Therap Med,* (24): 19-28. doi:10.1016/j.ctim.2015.11.001

Leinweber, J., & Stramrood, C. (2024). Improving birth experiences and provider interactions: expert opinion on critical links in maternity care. *Eur J Midwif, 8*, 10-18332. doi:10.18332/ejm/191742

Moloney, S., & Gair, S. (2015). Empathy and spiritual care in midwifery practice: contributing to women's enhanced birth experiences. *J Australian College Midwives*, *28*(4), 323-328. doi:10.1016/j.wombi.2015.04.009

Oflaz, F., Meriç, M., Yuksel, Ç., & Ozcan, C. T. (2011). Psychodrama: an innovative way of improving self-awareness of nurses. *J Psychiatric Mental Health Nurs*, *18*(7), 569-575. doi:10.1111/j.1365-2850.2011.01704.x

Orkibi, H., & Feniger-Schaal, R. (2019). Integrative systematic review of psychodrama psychotherapy research: trends and methodological implications. *PloS One*, *14*(2), e0212575. doi:10.1371/journal.pone.0212575

Ozcan, C. T., Oflaz, F., & Sutcu Cicek, H. (2010). Empathy: the effects of undergraduate nursing education in Turkey. *Int Nurs Rev*, *57*(4), 493-499. doi:10.1111/j.1466-7657.2010.00832.x

Özbaş, A. A., & Tel, H. (2016). The effect of a psychological empowerment program based on psychodrama on empowerment perception and burnout levels in oncology nurses: psychological empowerment in oncology nurses. *Palliativ Supportiv Care*, *14*(4), 393-401. doi:10.1017/S1478951515001121

Richardson, C., Percy, M., & Hughes, J. (2015). Nursing therapeutics: teaching student nurses care, compassion and empathy. *Nurse Edu Today*, *35*(5), e1-e5. doi:10.1016/j.nedt.2015.01.016

Sandall, J., Devane, D., Soltani, H., Hatem, M., & Gates, S. (2010). Improving quality and safety in maternity care: the contribution of midwife-led care. *J Midwifery Women's Health*, *55*(3), 255-261. doi:10.1016/j.jmwh.2010.02.002

Sevinç, A. (2019). Validity and reliability study of Midwifery Empathy Scale [Unpublished Master's Thesis]. Kocaeli University, Kocaeli. (Turkish)

Tafazoli, M., Ezzati, R., Mazlom, S. R., & Asgharipour, N. (2018). The effect of empathy skills training on the empathetic behaviours of midwifery students. *J Midwifery Reproductive Health*, *6*(2), 1236-1243. doi:10.22038/JMRH.2018.10214

MHA MEDIHEALTH ACADEMY
Journal of Nursing Care Research
Review
doi: 10.51271/JNCR-0030

Moral distress in nursing students

Nurgül Özgen[1], Azize Atlı Özbaş[2]
[1]Department of Psychiatric Nursing, Faculty of Health Sciences, Aksaray University, Aksaray, Turkiye
[2]Department of Psychiatric Nursing, Faculty of Nursing, Hacettepe University, Ankara, Turkiye

Cite this article as: Özgen, N., & Atlı Özbaş, A. (2025). Moral distress in nursing students. *J Nurs Care Res, 2*(2), 57-61.

Received: 07.03.2025 ◆ **Accepted**: 11.05.2025 ◆ **Published**: 25.06.2025

ABSTRACT

Nurses and nursing students often face ethical challenges during clinical practice. When they are unable to act in accordance with what they believe is right, they may feel that their personal and professional values are threatened and experience moral distress. Moral distress is an important topic in discussions about the future of the nursing profession because it hinders student nurses from achieving the objectives of nursing profession education. Additionally, it can lead to psychological complications and create a negative perception of the nursing profession. This literature review aims to explore the causes, consequences, and potential solutions related to MD among nursing students. A systematic review of recent national and international literature was conducted. Key findings reveal that moral distress is commonly triggered by value conflicts, lack of support, feelings of powerlessness, exposure to unethical practices, and the theory-practice gap. These factors may lead to psychological effects such as anxiety, burnout, and guilt, and may weaken students' professional commitment. The study contributes to the literature by highlighting the importance of integrating ethical support systems into nursing education and providing recommendations for future research and educational practices. Addressing moral distress is essential for nurturing resilient and ethically competent future nurses.

Keywords: Ethics, moral distress, nurse, nurse education, nursing students

INTRODUCTION

Nursing is a health profession that provides health services to individuals, families, and society. It aims to improve health and prevent diseases, and it fulfills the responsibility of care in case of illness, disability, and death [American Association of Colleges of Nursing (AACN), 2008]. In order for the nursing profession to fulfill these comprehensive and holistic functions, nursing profession education should include multidimensional learning experiences. Consequently, nursing education programs incorporate theoretical and practical courses related to the social sciences and humanities, as well as fundamental nursing courses, and clinical applications where students can transform their theoretical knowledge into professional skills (Kocaman & Okumuş, 1982). The Nursing National Core Education Program (NNCEP 2022) underscored the necessity for nursing education to be aligned with a biopsychosocial and cultural approach, and stipulated that education programs should impart competencies for the management of diverse scenarios that may arise during professional practice (Nursing Education Association, 2022). The Institute of Medicine (IOM) has underscored the necessity for nursing educational programs to incorporate competencies focused on patient-centeredness, collaborative practice, teamwork, evidence-based practices, quality improvement, safety, and informatics [Institute of Medicine (IOM), 2003].

The enhancement of the quality of nursing education is a prerequisite for the advancement of the nursing profession and the quality of care provided. However, studies on the quality of nursing education have identified challenges such as concerns about the theoretical and clinical content of the nursing curriculum, the quality and quantity of educators, and the incompatibility between theory and practice (Akram et al., 2018; Atasoy & Sütütemiz, 2014; Fındık, 2006; Jonsén et al., 2013; Karaöz, 2003; Serçekuş & Başkale, 2016). Another salient issue pertains to the incorporation of professional ethics and values education in the nursing curriculum. The teaching of the ethical foundations and professional values of nursing constitutes the cornerstone of the nursing curriculum, spanning both theoretical and practical domains (Astorino, 2006; Karami et al., 2017; Weis & Schank, 2009). These professional values and ethical norms, which are intended to be instilled in nursing education, function as a fundamental framework for evaluating the learning outcomes of nursing students (American Association of Colleges of, 1998; Gallegos & Sortedahl, 2015). These values and ethical norms are instrumental in shaping the nurse's relationship with the individual, the family, society, interactions with other health professionals, and the practice of the profession (Weis & Schank, 2009).

Corresponding Author: Nurgül Özgen, nurgulozgn@gmail.com

Despite the existence of certain discrepancies at the international level with respect to the professional values that nursing students should acquire [American Association of Colleges of Nursing (AACN), 2008; Lin et al., 2016; University of California, n.d.; Yale School Of Nursing, N.D.], there is a prevailing consensus regarding the necessity of preserving a value-based nursing education that fosters the moral and character development of students [American Association of Colleges of Nursing (AACN), 2008; Fahrenwald et al., 2005; Shaw & Degazon, 2008]. However, nursing students frequently lack opportunities to uphold the ethical principles and professional values they acquire during their education. In nursing education, where theoretical and practical education are integrated, students may encounter circumstances that jeopardize their professional values in both theoretical and practical education (Escolar-Chua, 2018; Mazzotta et al., 2022). In such circumstances, students may encounter situations that challenge their ability to act in accordance with their professional values, or observe the absence of such actions by others (Gandossi et al., 2023; Renno et al., 2018). This phenomenon, termed "moral distress (MD)" involves the experience of distress or discomfort in the face of ethical dilemmas or situations that are perceived as challenging to resolve in accordance with one's moral principles (Wilkinson, 1987).

Corley (2002) defined moral distress as "the psychological disequilibrium and suffering that results from the inability or perceived inability to perform an action that is believed to be morally right due to institutional constraints". In order for moral distress to be in question, three conditions must occur; first, a situation must be identified as being of a morally problematic nature. Second, the individual must determine the most effective strategy for the current situation based on their personal conception of morality. Third, the realization of the strategy they have determined must be hindered due to internal and/or external constraints (McCarthy & Monteverde, 2018). While the extant literature on moral distress has historically focused on healthcare professionals, particularly nurses, recent studies have begun to explore the impact of moral distress on nursing students (Bordignon et al., 2018; Dehkordi et al., 2024; Escolar-Chua, 2018). In a study conducted with nursing students in Norway by Maeland et al. (2021), student nurses reported experiencing moral distress when there were discrepancies between the care behaviors taught in theoretical education and clinical practice, when they observed that nurses were not involved in decision-making processes, when they were not taken into consideration by nurses, and when they witnessed that the financial concerns of the institution override the benefit of patients (Maeland et al., 2021). A similar conclusion was reached in a study conducted in Brazil, which determined that nursing students experienced MD when nursing educators exhibited authoritarian attitudes in the evaluation processes, when educators were indifferent to the problems experienced by students, when they experienced value conflicts with health professionals, and when they witnessed that the institution had difficulty in accessing resources to provide appropriate treatment and care (Renno et al., 2018).

The experience of MD among students is influenced by various factors in both the theoretical education process and the clinical practice process (Heng & Shorey, 2023; Kovancı & Atlı Özbaş, 2022; Krautscheid et al., 2017; Reader, 2015). These factors encompass differences in students' beliefs and values (Bordignon et al., 2019; Chen et al., 2021; Maeland et al., 2021; Monteverde, 2019), their experiences related to the course (Heng & Shorey, 2023), and their experiences and skills related to nursing practices and ethical problems (Bordignon et al., 2019; Defilippis et al., 2023; Escolar Chua & Magpantay, 2019; Maeland et al., 2021; Range & Rotherham, 2010). The factors affecting the MD experienced by nursing students can be categorized under two headings: factors related to practice and the educational process.

FACTORS RELATED TO NURSING EDUCATION

Nursing students experience moral distress due to various difficulties encountered during the educational process. The most significant factors contributing to MD include authoritarian teaching methods (Bordignon et al., 2019; Escolar Chua & Magpantay, 2019; Wojtowicz et al., 2014), inadequate competence levels or a lack of competence among nursing educators (Maeland et al., 2021; Wojtowicz et al., 2014), and a discrepancy between the care practices taught in the theoretical education and clinical practice (Bordignon et al., 2019; Dehkordi et al., 2024; Kovancı & Atlı Özbaş, 2022; Wojtowicz et al., 2014). The avoidance of conflicts by nursing educators to circumvent difficulties with senior clinical staff (Reader, 2015; Wojtowicz et al., 2014; Yılmaz & Kızıltepe, 2022), the students' inability to access support from nursing educators in challenging scenarios (Escolar Chua & Magpantay, 2019; Gandossi et al., 2023; Maeland et al., 2021; Wojtowicz et al., 2014), the discrepancy between nurses' practical experience and nursing educators' pedagogical approaches (Bordignon et al., 2019; Kovancı & Atlı Özbaş, 2022), and unethical learning environments (Bordignon et al., 2019; Dehkordi et al., 2024; Reader, 2015) further complicate the process. Threatening and intimidating behaviors exhibited by nurse educators during course evaluations, as well as instances where students are humiliated during clinical practice (Bordignon et al., 2019; Dehkordi et al., 2024; Reader, 2015; Yılmaz & Kızıltepe, 2022), contribute significantly to moral distress by undermining students' self-worth, creating a hostile learning environment, and hindering their ability to engage confidently in clinical decision-making. Additionally, there is a reported lack of confidence on the part of educators in students' clinical competence and skills (Dehkordi et al., 2024; Monrouxe et al., 2014; Reader, 2015; Wojtowicz et al., 2014). These factors have been shown to result in students experiencing moral distress and decreased motivation for clinical practice (**Table 1**).

Table 1. Factors causing nurses to experience md in the educational environment

Inadequate and/or incompetent nursing instructors
Witnessing unethical behaviours of nursing instructors
Inappropriate communication behaviours of nursing instructors
Thinking that learning environments are unethical
Differences between theoretical education and practice
Thinking that there is no system that evaluates students fairly

FACTORS ASSOCIATED WITH THE CLINICAL PRACTICE PROCESS

The extant literature suggests that the MD experienced by nursing students in the clinical setting is influenced by numerous factors, including institutional policy, legal procedures, the practices of health professionals with regard

to treatment and care, and the characteristics of the clinical setting (Bordignon et al, 2019). Nursing students are taught to prioritize patient-centered care, which encompasses understanding patients' needs and respecting their values, beliefs, lifestyles, and decisions. They are also taught to adhere to professional ethical values and serve as patient advocates during educational processes (Bordignon et al., 2019; Maeland et al., 2021). However, in the clinical setting, students are often exposed to healthcare professionals who engage in practices that contravene ethical principles, thereby challenging their established perceptions of these values. This phenomenon, characterized by the observation of ethical violations pertaining to patients' autonomy, dignity, privacy, and safety, has been documented in the literature (Bordignon et al., 2019; Defilippis et al., 2023; Dehkordi et al., 2024; Heng & Shorey, 2023; Kovancı & Atlı Özbaş, 2022). These observations have been associated with a decline in students' morale, often referred to as "MD." This phenomenon encompasses a disregard for patient autonomy, the performance of treatments solely to satisfy family expectations or to adhere to medical directives (Defilippis et al., 2023; Gandossi et al., 2023; Maeland et al., 2021; Wojtowicz et al., 2014), the observation of students engaging in substandard care practices primarily for the purpose of skill development, (Bordignon et al., 2019; Kovancı & Atlı Özbaş, 2022) and the failure to provide patients with the requisite care (Escolar Chua & Magpantay, 2019; Gandossi et al., 2023; Kovancı & Atlı Özbaş, 2022; Maeland et al., 2021; Wojtowicz et al., 2014). These circumstances are particularly salient sources of moral distress experienced by student nurses during their clinical practice.

In health service delivery institutions, there is a prevalence of institutional factors that impede optimal patient care and engender moral distress among nursing students These factors include prioritizing financial concerns over the quality of care (Reader, 2015), difficulty in accessing the resources required for treatment and care (Bordignon et al., 2019; Escolar Chua & Magpantay, 2019; Kovancı & Atlı Özbaş, 2022; Krautscheid et al., 2017; Maeland et al., 2021), failure to ensure continuity of care (Bordignon et al., 2019; Defilippis et al., 2023; Escolar-Chua, 2018; Wojtowicz et al., 2014), and performing practices that do not benefit patients or that are unnecessary and futile (Bordignon et al., 2019; Defilippis et al., 2023; Escolar-Chua, 2018; Gandossi et al., 2023; Renno et al., 2018; Wojtowicz et al., 2014). It has been observed that nurses do not engage in the decision-making process (Escolar Chua & Magpantay, 2019; Gandossi et al., 2023; Maeland et al., 2021; Wojtowicz et al., 2014). Additionally, there is an absence of effective communication within the team (Defilippis et al., 2023; Escolar Chua & Magpantay, 2019; Gandossi et al., 2023; Maeland et al., 2021), students' practices are not being sufficiently considered by nurses and other health professionals (Bordignon et al., 2019; Dehkordi et al., 2024; Escolar Chua & Magpantay, 2019; Heng & Shorey, 2023; Krautscheid et al., 2017), and there is a deficiency in confidence in clinical practice and skills (Bordignon et al., 2018; Dehkordi et al., 2024; Escolar Chua & Magpantay, 2019; Wojtowicz et al., 2014). These factors contribute to the experience of moral distress among student nurses.

Inadequate communication between healthcare professionals and patients (Escolar Chua & Magpantay, 2019; Gandossi et al., 2023; Maeland et al., 2021; Reader, 2015; Wojtowicz et al., 2014), insufficient skills among healthcare professionals (Bordignon et al., 2019; Defilippis et al., 2023; Escolar-Chua, 2018; Escolar Chua & Magpantay, 2019), conflicts among healthcare team members, negative attitudes and behaviors of colleagues, and the inability of schools and instructors to take action (Heng & Shorey, 2023; Krautscheid et al., 2017; Wojtowicz et al., 2014) lead nursing students to feel isolated during clinical practice, thereby intensifying their experiences of MD. This situation undermines students' sense of competence in clinical settings and weakens their professional confidence (**Table 2**).

Table 2. Factors causing nurses to experience MD in the clinical environment

Differences between theoretical education and practice
Witnessing ethical violations
Witnessing futile treatment
Failure to provide/witnessing failure to provide quality of care
Observing that professional autonomy is not provided
Witnessing conflicts in the medical team
Witnessing that the care and treatment of the patient is disrupted due to poor communication
Observing that health workers do not have the necessary competences

MD: Moral distress

EVALUATION OF MORAL DISTRESS AMONG NURSING STUDENTS

The first and only scale developed to assess moral distress in nursing students is the Moral Distress Scale for nursing students (MDS-NS), published by Bordignon et al. (2020). This scale consists of 6 sub-dimensions and 41 items, addressing aspects such as commitment to the ethical dimension of care, inappropriate institutional conditions, authoritarian teaching practices, instructor incompetence, disrespect for the ethical dimension of professional education, and professional choice. Developed as a 7-point Likert-Type Scale (0: Never-6: Very intense), the tool evaluates moral distress in two columns: frequency (0: Never-6: Very frequent) and intensity. To calculate the overall moral distress score, frequency and intensity scores are multiplied, yielding a score ranging from 0 to 36 for each item. The total score obtainable from the scale ranges between 0 and 246. Without a specific cutoff point, the scale interprets higher scores in each sub-dimension as an increase in moral distress related to that particular aspect.

In 2022, Mazzotta et al. conducted a cultural validity and reliability study of the scale in Italian. During this process, two items were removed because they were deemed to reflect the student's thoughts after experiencing moral distress. Additionally, the item "working with professionals who are not adequately prepared to provide necessary patient care," originally in the "commitment to the ethical dimension of patient care" sub-dimension, was reclassified by Bordignon et al. (2019) under the "inappropriate institutional conditions" sub-dimension. In Turkiye, Kovancı and Atlı Özbaş (2022) carried out the Turkish validity and reliability study of the scale. Their analysis identified a three-factor structure that explained 47.64% of the total variance, differing from the original scale structure. The MDS-NS, with its 41 items and three-factor structure, has been evaluated as a valid and reliable tool for measuring the moral distress levels of nursing students (Kovancı & Atlı Özbaş, 2022).

MANAGING MORAL DISTRESS IN STUDENT NURSES

Despite the integral role of ethics courses in the nursing curriculum at the undergraduate level, where knowledge and skills are developed to help nurses manage the moral situations they will encounter while practicing their profession, nursing education programs do not adequately prepare student nurses to face and manage ethical dilemmas and moral distress (Yılmaz & Kızıltepe, 2022). While professional ethical codes and values serve as crucial guidelines for both student nurses and practicing nurses, it is not always feasible to resolve the ethical dilemmas that arise in both educational and clinical settings. However, in the case of student nurses, addressing the differences between theoretical and clinical practice, examining the problems experienced with instructors, grade anxiety related to the course, and increasing knowledge and skills that serve to cope with ethical problems are possible interventions (Matchett & Stanley, 2014; Robichaux et al., 2022). Robichaux et al. (2022) state that supporting and promoting the mental and emotional health of nursing students and preparing nurses at all levels as moral actors is a critical task of the profession and especially of nursing education (Robichaux et al., 2022). Nurse leaders, educators, and clinicians must collaborate to safeguard the mental health of students by creating evidence-based interventions to bolster the emotional well-being of nursing students (Paidipati et al., 2023).

A paucity of evidence-based studies exists in the literature regarding the prevention or reduction of moral distress in student nurses. However, the creation of discussion and information-sharing groups focusing on students' values and learning experiences in the academic environment (Range & Rotherham, 2010), as well as the utilization of real cases (Curtis, 2014), is believed to facilitate student comprehension of how they can learn from their own experiences and avoid self-blame when they fail to achieve their ideals, thereby serving to reduce MD (Sasso et al., 2016). Interventions to address moral distress in student nurses can be listed as follows;

- In studies conducted with nursing students, informing students after difficult situations, discussing and questioning them about the values and principles they have learned, and supporting them with practices that will increase their moral sensitivity and courage to deal with various ethical conflicts they encounter (Bordignon et al., 2019; Dehkordi et al., 2024; Escolar-Chua, 2018; Heng & Shorey, 2023),
- Conducting studies to evaluate how nursing students cope with morally distressing situations and how this affects their decision to stay in the profession (Escolar Chua & Magpantay, 2019; Sasso et al., 2016),
- Exploring student nurses' experiences of moral distress in geographically and clinically diverse settings to gain a more comprehensive understanding of factors contributing to moral distress among student nurses from different cultural and clinical backgrounds (Escolar-Chua, 2018; Heng & Shorey, 2023; Loyd et al., 2023),
- The increase of cooperation and interaction between health institutions and nursing schools (Heng & Shorey, 2023; Loyd et al., 2023),
- The creation of a positive academic environment throughout the educational experience and the inclusion of concepts related to moral distress in the nursing curriculum (Escolar-Chua, 2018; Sasso et al., 2016; Yılmaz & Kızıltepe, 2022).

CONCLUSION

As a result, MD is a very important and worthy of attention in terms of preventing student nurses from reaching the goal of vocational education, causing psychological problems, and resulting in a negative perception of the profession. MD is associated with educational practices and characteristics of the educational environment, as well as experiences in the clinical practice environment and individual characteristics of the nursing student. It is imperative for nursing educators to be cognizant of MD and implement effective measures to avert its occurrence in the teaching environment. These measures should encompass the preparation and empowerment of students to counteract MD sources that may arise in the clinical setting.

ETHICAL DECLARATIONS

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Financial Disclosure

The authors declared that this study has received no financial support.

Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

REFERENCES

Akram, A.S., Mohamad, A., & Akram, S. (2018). The role of clinical instructor in bridging the gap between theory and practice in nursing education. *Int J Caring Sci*, *11*(2), 876-882. https://internationaljournalofcaringsciences.org/docs/29_akram_original_10_2.pdf

American Association of Colleges of, N. (1998). The essentials of baccalaureate education for professional nursing practice. American Association of Colleges of Nursing.

American Association of Colleges of Nursing. (2008). *The essentials of baccalaureate education for professional nursing practice*. https://www.aacnnursing.org/portals/42/publications/baccessentials08.pdf

Astorino, T. A. (2006). A survey of professional values in graduating student nurses of traditional and accelerated baccalaureate nursing programs [Unpublished doctoral dissertation]. Indiana University of Pennsylvania.

Atasoy, İ., & Sütütemiz, N. (2014). The views of a group of senior nursing students on nursing education. *Florence Nightingale Nurs J, 22*(2), 94-104.

Bordignon, S. S., Lunardi, V. L., Barlem, E. L., da Silveira, R. S., Ramos, F. R., Dalmolin, G. D., & Barlem, J. G. T. (2018). Nursing students facing moral distress: strategies of resistance. *Revista Brasileira de Enfermagem*, *71*, 1663-1670. doi:10.1590/0034-7167-2017-0072

Bordignon, S. S., Lunardi, V. L., Barlem, E. L., Dalmolin, G. D. L., Silveira, R. S. D., Ramos, F. R. S., & Barlem, J. G. T. (2020). Development and validation of a moral distress scale for nursing students. *J Nurs Measurement*, *28*(3), 556-571. doi:10.1891/jnm-d-19-00001

Bordignon, S. S., Lunardi, V. L., Barlem, E. L. D., Dalmolin, G. D. L., da Silveira, R. S., Ramos, F. R. S., & Barlem, J. G. T. (2019). Moral distress in undergraduate nursing students. *Nursing Ethics*, *26*(7-8), 2325-2339. doi:10.1177/0969733018814902

Chen, Q., Su, X. D., Liu, S. Y., Miao, K. K., & Fang, H. L. (2021). The relationship between moral sensitivity and professional values and ethical decision-making in nursing students. *Nurse Educat Today*, *105*, 105056. doi:10.1016/j.nedt.2021.105056

Corley, M. C. (2002). Nurse moral distress: a proposed theory and research agenda. *Nursing Ethics*, *9*(6), 636-650. doi:10.1191/0969733002ne557oa

Curtis, K. (2014). Learning the requirements for compassionate practice: student vulnerability and courage. *Nursing Ethics*, *21*(2), 210-223. doi:10.1177/0969733013478307

Defilippis, T., Prati, A., & Scascighini, L. (2023). Healthcare students' moral concerns and distress during the pandemic. *Nursing Ethics*, *30*(6), 832-843. doi:10.1177/09697330221146227

Dehkordi, L. M., Kianian, T., & Nasrabadi, A. N. (2024). Nursing students' experience of moral distress in clinical settings: a phenomenological study. *Nursing Open*, *11*(3), e2141. doi:10.1002/nop2.2141

Escolar-Chua, R. L. (2018). Moral sensitivity, moral distress, and moral courage among baccalaureate Filipino nursing students. *Nursing Ethics*, *25*(4), 458-469. doi:10.1177/0969733016654317

Escolar Chua, R. L., & Magpantay, J. C. J. (2019). Moral distress of undergraduate nursing students in community health nursing. *Nursing Ethics*, *26*(7-8), 2340-2350. doi:10.1177/0969733018819130

Fahrenwald, N. L., Bassett, S. D., Tschetter, L., Carson, P. P., White, L., & Winterboer, V. J. (2005). Teaching core nursing values. *J Professional Nurs*, *21*(1), 46-51. doi:10.1016/j.profnurs.2004.11.001

Fındık, Ü. (2006). Opinions of health college faculty members on the problems they experience in school-hospital collaboration. *Fırat Health Serv J, 12*(6), 665–672.

Gallegos, C., & Sortedahl, C. (2015). An exploration of professional values held by nurses at a large freestanding pediatric hospital. *Pediatric Nursing*, *41*(4), 187.

Gandossi, C., De Brasi, E. L., Rosa, D., Maffioli, S., Zappa, S., Villa, G., & Manara, D. F. (2023). How do nursing students perceive moral distress? An interpretative phenomenological study. *Nursing Reports*, *13*(1), 539-548. doi:10.3390/nursrep13010049

Nursing Education Association. (2022). Nursing National Core Education Program (NNCEP). https://www.hemed.org.tr/2022-hucep/

Heng, T. J. T., & Shorey, S. (2023). Experiences of moral distress in nursing students-a qualitative systematic review. *Nurse Educat Today, 129*, 105912. doi:10.1016/j.nedt.2023.105912

Institute of Medicine (IOM). (2003). Health professions education: a bridge to quality. National Academies Press.

Jonsén, E., Melender, H. L., & Hilli, Y. (2013). Finnish and Swedish nursing students' experiences of their first clinical practice placement-a qualitative study. *Nurse Educat Today, 33*(3), 297-302. doi:10.1016/j.nedt.2012.06.012

Karami, A., Farokhzadian, J., & Foroughameri, G. (2017). Nurses' professional competency and organizational commitment: Is it important for human resource management? *PLoS One, 12*(11), e0187863. doi:10.1371/journal.pone.0187863

Karaöz, S. (2003). An overview of clinical teaching in nursing and suggestions for effective clinical teaching. *J Res Develop Nurs, 1*(1), 15-21.

Kocaman, G., & Okumuş, H. (1982). A study on the views of student nurses regarding their profession. *Turk Nurs J, 2*(3), 8-14.

Kovancı, M. S., & Atlı Özbaş, A. (2022). Turkish Adaptation of Moral Distress Scale for nursing students: validity and reliability study. *Hacettepe Univ Fac Nurs J, 9*(2), 123-132. doi:10.31125/hunhemsire.1166957

Krautscheid, L., DeMeester, D. A., Orton, V., Smith, A., Livingston, C., & McLennon, S. M. (2017). Moral distress and associated factors among baccalaureate nursing students: a multisite descriptive study. *Nurs Edu Perspectiv, 38*(6), 313-319. doi:10.1097/01.Nep.0000000000000214

Lin, C. C., Han, C. Y., Pan, I. J., & Lin, P. L. (2016). Exploring the perceptions of core values of nursing in Taiwanese nursing students at the baccalaureate level. *J Nurs Res, 24*(2), 126-136. doi:10.1097/jnr.0000000000000108

Loyd, L. A., Stamler, L. L., & Culross, B. (2023). Early career nurses and moral distress: an integrative review. *Nurs Edu Practic*, *73*, 103844. doi:10.1016/j.nepr.2023.103844

Maeland, M. K., Tingvatn, B. S., Rykkje, L., & Drageset, S. (2021). Nursing education: Students' narratives of moral distress in clinical practice. *Nursing Report, 11*(2), 291-300. doi:10.3390/nursrep11020028

Matchett, N. J., & Stanley, M. J. C. (2014). Understanding how student nurses experience morally distressing situations: caring for patients with different values and beliefs in the clinical environment. *J Nurs Edu Pract, 4*(10), 133-140.

Mazzotta, R., De Maria, M., Bove, D., Badolamenti, S., Bordignon, S. S., Silveira, L. C. J., … & Bulfone, G. (2022). Moral distress in nursing students: cultural adaptation and validation study. *Nursing Ethics, 29*(2), 384-401. doi:10.1177/09697330211030671

McCarthy, J., & Monteverde, S. (2018). The standard account of moral distress and why we should keep it. *HEC Forum, 30*(4), 319-328. doi:10.1007/s10730-018-9349-4

Monrouxe, L. V., Rees, C. E., Endacott, R., & Ternan, E. (2014). Even now it makes me angry: Health care students professionalism dilemma narratives. *Medical Education, 48*(5), 502-517. doi:10.1111/medu.12377

Monteverde, S. (2019). Complexity, complicity and moral distress in nursing. *Ethik Der Medizin, 31*(4), 345-360. doi:10.1007/s00481-019-00548-z

Paidipati, C. P., Lozano, A. J., West, J., Huang, L., Hanlon, A. L., & Ulrich, C. M. (2023). Understanding the mediated relationship between moral distress, depression, and suicide risk in undergraduate nursing students. *Nursing Outlook, 71*(3), 101966. doi:10.1016/j.outlook.2023.101966

Range, L. M., & Rotherham, A. L. (2010). Moral distress among nursing and non-nursing students. *Nursing Ethics, 17*(2), 225-232. doi:10.1177/0969733009353496

Reader, R. L. (2015). Students' experiences in associate degree nursing programs: a qualitative study looking at moral distress. *Teach Learn Nurs, 10*(3), 118-123. doi:10.1016/j.teln.2015.05.001

Renno, H. M. S., Ramos, F. R. S., & Brito, M. J. M. (2018). Moral distress of nursing undergraduates: myth or reality? *Nursing Ethics, 25*(3), 304-312. doi:10.1177/0969733016643862

Robichaux, C., Grace, P., Bartlett, J., Stokes, F., Lewis, M. S., & Turner, M. (2022). Ethics education for nurses: foundations for an integrated curriculum. *J Nurs Edu, 61*(3), 123-130. doi:10.3928/01484834-20220109-02

Sasso, L., Bagnasco, A., Bianchi, M., Bressan, V., & Carnevale, F. (2016). Moral distress in undergraduate nursing students: a systematic review. *Nursing Ethics, 23*(5), 523-534. doi:10.1177/0969733015574926

Serçekuş, P., & Başkale, H. (2016). Nursing students' perceptions about clinical learning environment in Turkey. *Nurse Education Practice, 17*, 134-138. doi.:10.1016/j.nepr.2015.12.008

Shaw, H. K., & Degazon, C. (2008). Integrating the core professional values of nursing: a profession, not just a career. *J Cultur Diversity, 15*(1), 1.

University of California, L. A. (n.d.). Core values. Retrieved December 26, 2024, from https://nursing.ucla.edu/about/mission-vision-core-values

Weis, D., & Schank, M. J. (2009). Development and psychometric evaluation of the Nurses Professional Values Scale-revised. *J Nurs Measurement, 17*(3), 221-230. doi:10.1891/1061-3749.17.3.221

Wilkinson, J. M. (1987). Moral distress in nursing practice: experience and effect. *Nursing Forum, 23*(1), 16-29. doi:10.1111/j.1744-6198.1987.tb00845.x

Wojtowicz, B., Hagen, B., & Van Daalen-Smith, C. (2014). No place to turn: nursing students' experiences of moral distress in mental health settings. *Int J Mental Health Nurs, 23*(3), 257-264. doi:10.1111/inm.12043

Yale School of Nursing. (n.d.). Values. Retrieved December 26, 2024, from https://nursing.yale.edu/about/mission-and-values#:~:text=In%20our%20intellectual%20and%20clinical,rigor%2C%20curiosity%2C%20and%20excellence

Yılmaz, Ş., & Kızıltepe, S. K. (2022). Moral distress in nursing undergraduates: a qualitative study. *Karya J Health Sci, 3*(2), 62-68. doi:10.52831/kjhs.1065534