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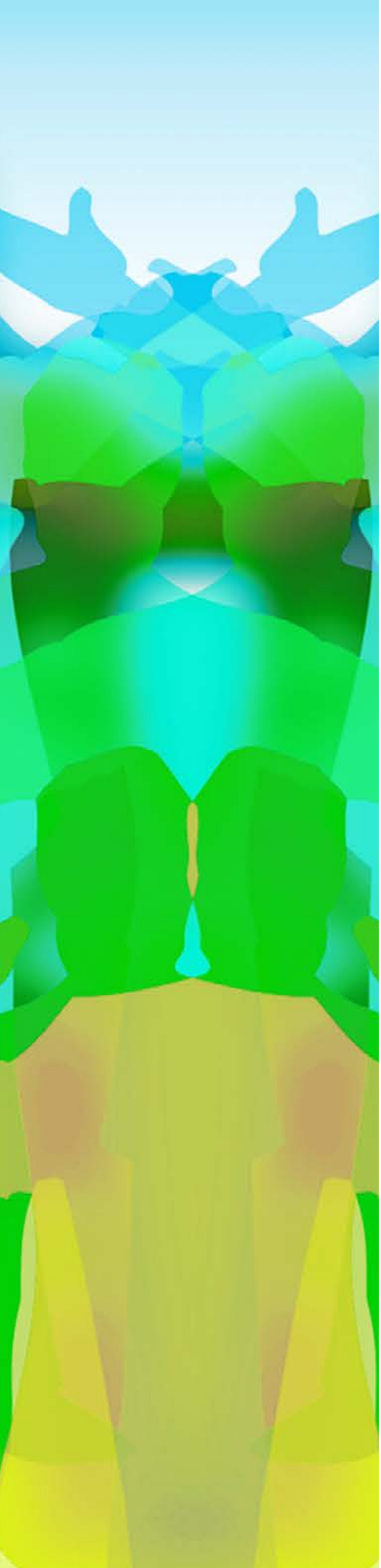
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EDITORIAL

To Our Dear Readers,

I invite you to think about the future, the power of psychiatric nursing, and the need for empowerment within the framework of the 2026 International Nurses Day (IND) theme, "Our Nurses. Our Future. Empowered Nurses Save Lives."

As you know, since 1974, IND has been celebrated around the world on May 12, in commemoration of Nightingale's birthday. The International Council of Nurses (ICN) commemorates this day through the production and distribution of IND reports. Each year, ICN selects a theme for IND, and nurses around the world acknowledge and embrace the power they possess and the impact they make. On IND, ICN highlights the vital role of the nursing workforce in improving health outcomes and calls on communities and policymakers worldwide to invest in nursing.

IND themes are relevant to all fields of nursing and provide an opportunity for all specialized nursing fields to review their own situations in line with these themes. There are approximately 30 million nurses worldwide, and nurses constitute the largest occupational group in the health workforce.[1] This situation is also reflected in mental health, where nurses constitute 44% of those working in this field.[2] Therefore, the ability or inability of the psychiatric mental health nursing workforce, as a specific nursing specialty, to contribute effectively and efficiently to health has very important consequences for public mental health. Consequently, focusing on and evaluating the development of psychiatric mental health nursing within the framework of IND themes is essential for public mental health.

The IND 2026 theme is "Our Nurses. Our Future. Empowered Nurses Save Lives." In fact, the "Our Nurses. Our Future." theme has been running since 2023. Based on data and IND reports regarding increased awareness of nursing's presence within healthcare teams during the COVID-19 pandemic, ICN has been using this theme since 2023 to continue its call for investment in nursing. ICN President Dr. Pamela Cipriano explained the 2023 theme, which aims to empower nursing and nursing services, as follows.[3]

"Our Nurses. Our Future. sets out what ICN wants for nursing in the future in order to address the global health challenges and improve global health for all. We need to learn from the lessons of the pandemic and translate these into actions for the future that ensure nurses are protected, respected and valued." …….. "The Our Nurses. Our Future. campaign will shine the light on nurses and on a brighter future, moving nurses from invisible to invaluable in the eyes of policy makers, the public, and all those who make decisions affecting the delivery and financing of health care." In this statement, the responsibility of nurses in designing the future is emphasized with the sentence, "….Together our future depends on every nurse, every voice, to not only be on the front lines of care, but also be on the front lines of change."

The IND 2024 theme is "The Economic Power of Care" under the main theme "Our Nurses. Our Future." In line with this theme, the economic dimension of care was emphasized in 2024 through the IND report results, and the demand for investment in the nursing workforce was highlighted with the following statement.[4]

"Our report demonstrates the impact that investing in the nursing workforce has, not only on the well-being of populations, but also on boosting economic growth by enhancing workforce productivity; strengthening health care systems, which is critical for ensuring preparedness and effective response during public health emergencies; alleviating poverty and improving gender equality; and contributing to social cohesion, peace and prosperity." Within this theme, ICN also emphasized the responsibility of nurses as follows: "We urge all nurses to use this report to increase their influence on policy makers, employers and politicians so that everyone can benefit from the power of nurses and the economic returns that will ensue."

The IND theme for 2025, as defined by ICN again under "Our Nurses. Our Future.," is "Caring for Nurses Strengthens Economies."[5] This theme highlighted the critical role that a healthy nursing workforce plays in strengthening economies, improving health systems, and delivering better outcomes for communities worldwide. The IND report identifies solutions for the well-being of nurses to build a healthy future.[5] ICN's "Caring for Nurses Agenda for Sustainable Workforce Well-being" is identified as a set of actions that moves nurses from being invisible to invaluable:

1. Ensure adequate staffing and skill mix for effective care
2. Invest in the right resources and equipment
3. Provide safe and decent working conditions
4. Support education, professional development, and optimal scope of practice
5. Build supportive, high-performing organizational cultures
6. Improve access to health care and well-being supports
7. Value nurses with fair, competitive compensation

The responsibilities of nurses were reiterated in the 2025 theme, and Dr. Pamela Cipriano, ICN President, reminded nurses of the need to actively participate in this process as follows: "We must take action to diminish the threats to safe, supportive and healthy working conditions that will attract future nurses and retain the dedicated nurses who are key to healthier communities, responsive societies, thriving economies and powerful nations."[5]

In 2026, ICN continued to present evidence and steps to support investment in nurses and nursing for a sustainable workforce and stronger health systems. The IND theme for 2026 is "Our Nurses. Our Future. Empowered Nurses Save Lives."[6] According to this theme, "nurses both save and improve lives, and their impact is greatest when they are properly empowered." ICN President José Luis Cobos Serrano explained why the nursing workforce needs to be empowered with this striking statement: "Empowering the world's nurses is the surest way to meet today's health challenges and bring care to all people."[7]

The ICN President also made the following statements regarding the ICN theme and the content of structural empowerment: [7]

"……'My watchword as ICN President is empowerment, and this year's theme reflects that commitment to ensuring nurses have the authority, resources, and working conditions they need to deliver exceptional care. True empowerment means eliminating the barriers that prevent nurses from using their full knowledge and skills and creating pathways for nurses' voices to shape the future of care." …..".……."True empowerment is structural. It means leaders making the deliberate choice to invest in the safe, fair working conditions and policies that allow nursing to deliver at its highest impact, consistently and at scale."

The IND 2026 theme also clarifies what is meant by empowering nurses, drawing particular attention to the concept of "structural empowerment," and urgently calls on countries, institutions, and societies to take action as follows.[7]

"Empowerment, in the ICN's framing, is not a motivational abstraction; it demands concrete reforms: safe and adequate staffing ratios, fair and equitable remuneration, protection from workplace violence and moral injury, recognition of nursing's independent scope of practice, and meaningful representation at the highest tables of health governance." ……."ICN is calling on governments to translate commitments into action through funded national workforce plans, improved working conditions, investment in education, expanded scope of practice, and stronger nursing leadership."

The ICN's 2026 theme presents an opportunity to consider the future of psychiatric mental health nursing and demand structural empowerment. However, empowerment and strengthening are not passive waiting processes. Let us establish a starting point and begin to consider the answers to a few questions below, as well as any additional questions you may formulate:

As psychiatric mental health nurses:

- Do we have a perspective on the concepts of power and empowerment?
- Are we aware of the relationship between power and decision-making mechanisms and the consequences of being powerful?
- Do we perceive ourselves as powerful?
- Do we feel equal to and equally powerful as other members of the profession?
- Are we equal to others in accessing and utilizing power resources within the system?
- Do we feel the need for empowerment, and are we conscious of this need? What feelings and thoughts do we have, and what kind of behavior do we exhibit?
- Have we demanded power and empowerment so far?

In the work environment:

- Is the empowerment and strengthening of psychiatric mental health nurses a defined goal for the system, and is an expectation for nursing services based on this outcome defined?
- What mechanism has been established within the institution for the use and sharing of power and power resources?
- Are there defined policies, strategies, values, a culture, and a work environment based on these values regarding the positive use and sharing of power and empowerment?

In conclusion, utilizing the ICN theme and IND resources would be a good starting point for empowering psychiatric mental health nursing and mobilizing both ourselves and society in this process. An empowered psychiatric mental health nurse strengthens community mental health and saves lives. The nursing profession acknowledges the value of human beings and life. Therefore, what needs to be done is clear (is it?). We should not wait any longer to think and take action to participate in empowerment.

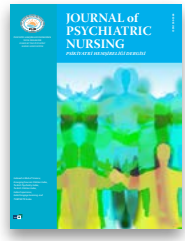
Prof. Dr. Gülsüm Ançel

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Original Article

Development of a nurse-observed functional recovery instrument for patients with schizophrenia: A preliminary pilot study

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Abstract

Objectives: Schizophrenia is a chronic mental disorder that impairs various functional domains of life. In Indonesia, most assessment tools used in mental health care remain focused on symptom measurement rather than functional recovery. There is a growing need for contextually relevant, nursing-based instruments to evaluate patients' daily functioning through direct observation. However, existing instruments often lack sensitivity to cultural context and are not optimized for routine use by nurses in community settings. Objective: This study aimed to develop and test the initial validity and reliability of a nurse-based Functional Recovery Scale for patients with schizophrenia in a community mental health setting.

Methods: A pilot study with a quantitative design was conducted from June to August 2024 at an outpatient mental health facility in Yogyakarta, Indonesia. A total of 30 patients diagnosed with schizophrenia were selected through purposive sampling. The initial instrument consisted of 40 observational items across seven domains: physical, psychological, social, economic, religious, medication adherence, and communication. Construct validity was assessed using Spearman's correlation, while internal consistency was evaluated using Cronbach's alpha.

Results: Of the 40 items initially tested, 38 were found to be valid, with r values above 0.361 and $p<0.05$. Two items ("able to dress independently" and "able to eat independently") were excluded due to low correlation values, likely because of ceiling effects. The scale demonstrated excellent internal consistency, with a Cronbach's alpha of 0.977. The instrument effectively captured key aspects of functional recovery relevant to the Indonesian cultural context and nursing practice.

Conclusion: The developed instrument demonstrated satisfactory validity and high internal consistency. The final 38-item scale, with its nurse-observed and culturally relevant design, may serve as a practical tool for assessing functional recovery in schizophrenia, particularly in Indonesian community care settings. However, given the small sample size (n=30) and single-site design, further studies with larger samples, multiple sites, and cross-validation against international instruments are recommended to enhance generalizability and establish inter-rater reliability. These findings suggest that nurse-observed, culturally grounded instruments may offer practical advantages over existing tools in community mental health settings, particularly in contexts where spirituality plays a central role in recovery.

Keywords: Functional recovery; nurse observation; reliability; schizophrenia; validity

Schizophrenia is a chronic mental disorder characterized by disturbances in thought, emotion, and behavior, which can lead to impaired functioning in social, occupational, and self-care domains.[1] Globally, schizophrenia affects approximately 24 million people, with significant variation in prevalence and outcomes across different healthcare systems. In Indonesia, the increasing number of individuals diagnosed with schizophrenia each year highlights the growing relevance of a

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functional recovery approach in rehabilitation efforts. According to the 2023 Indonesian Health Survey (Survei Kesehatan Indonesia/SKI 2023), released by the Ministry of Health of the Republic of Indonesia, the national prevalence of households with members experiencing symptoms of psychosis/schizophrenia reached 4.0 per 1,000 households, with 3.0 per 1,000 households having a confirmed diagnosis. Notably, the Province of Daerah Istimewa Yogyakarta recorded the highest prevalence nationally at 9.3 per 1,000 households, underscoring the particularly urgent need for effective community-based mental health services and functional recovery-oriented care in the study setting. Functional recovery refers to an individual's ability to independently perform daily activities, encompassing physical, social, economic, and psychological aspects.[2–4]

Contemporary approaches to schizophrenia care have shifted from a symptom-focused medical model toward a recovery-oriented framework that emphasizes functional outcomes and quality of life. This paradigm recognizes that symptom reduction alone does not guarantee improved quality of life or successful community reintegration. The ability to independently carry out daily tasks is a more robust predictor of long-term outcomes in individuals with schizophrenia.[5–7]

However, most instruments currently used to assess recovery in patients with schizophrenia in Indonesia remain symptom-focused rather than addressing patients' functional abilities.[4] Tools such as the Global Assessment of Functioning (GAF) and the World Health Organization Disability Assessment Schedule (WHODAS) are often considered too general and may lack sensitivity to patients' day-to-day behavioral dynamics.[5] Furthermore, these instruments typically rely on patient self-report or structured interviews, which may be influenced by insight deficits, cognitive impairments, or social desirability bias, all of which are common challenges in populations with schizophrenia.[6] There is limited availability of holistic and culturally relevant assessment tools, particularly in nursing practice, that reflect the sociocultural context of Indonesian society. Beyond symptom reduction, the ability to independently carry out daily tasks is a key predictor of long-term quality of life in individuals with schizophrenia.[6,7]

Instruments that can assess real-time, context-based functioning—especially through direct observation by nurses—are therefore highly relevant in community settings, where such observations may more accurately reflect patients' real-life functioning than interviews or self-report scales.[8,9] Nurses, particularly in community mental health settings, have the most frequent and sustained contact with patients and are uniquely positioned to observe functional behaviors in naturalistic contexts.[10] Consequently, a practical, observation-based tool that nurses can use without requiring extensive technical training is urgently needed. Previous studies have shown that function-based observational instruments can enhance the objectivity of assessments and strengthen targeted nursing interventions.[10,11]

What is presently known on this subject?

- Most assessment tools used for schizophrenia in Indonesia remain symptom-focused rather than evaluating functional recovery, and existing instruments such as GAF and WHODAS lack sensitivity to context-based functioning and often require specialized training.

What does this article add to the existing knowledge?

- This study developed a culturally relevant, nurse-observed functional recovery instrument for patients with schizophrenia that incorporates a religious/spiritual domain and demonstrated excellent validity and reliability, with 38 valid items and a Cronbach's alpha of 0.977.

What are the implications for practice?

- The instrument provides a practical, observation-based tool that nurses can use without extensive training to assess real-time functional recovery across seven domains (physical, psychological, social, economic, religious, medication adherence, and communication) in Indonesian community mental health settings.

Aligned with this perspective, developing a nursing-based instrument that captures the real-life dimensions of patients' experiences is essential. The instrument developed in this study comprises seven key domains: physical, psychological, social, economic, religious, medication adherence, and communication. These domains were identified through a combination of literature review, clinical observation, and expert consultation with mental health professionals working in Indonesian community settings. The domains were designed based on clinical observations and nurses' practical needs for evaluating patients' comprehensive recovery status.

The primary innovation of this instrument lies in its direct observation approach and the use of functional indicators that nurses can readily identify in daily practice. By focusing on observable functional behaviors rather than subjective symptom reports, the instrument enhances objectivity and reduces assessment bias. Moreover, this instrument incorporates a religious domain—an aspect often overlooked in conventional tools—despite spirituality playing a significant role in the recovery process of patients with schizophrenia in the Indonesian context.[12,13] The inclusion of this culturally relevant domain represents a significant departure from Western-developed instruments and reflects the reality that spirituality plays a vital role in coping, meaning-making, and recovery for many Indonesian patients.[14,15]

To ensure the instrument's reliability, psychometric testing was conducted, including assessments of item validity and reliability. Item validity was evaluated using Spearman correlation between item scores and total scores, while reliability was tested using Cronbach's alpha. This approach aligns with best practices in small-scale instrument validation, which have proven effective in measuring item stability and consistency.[14]

Several studies over the past five years have demonstrated that instruments developed with sound theoretical frameworks and rigorous statistical methods can achieve validity and reliability, even with relatively small sample sizes (e.g., 30 respondents).[15,16]

Based on the above rationale, this study aimed to (1) develop a nurse-observed functional recovery assessment instrument for patients with schizophrenia based on culturally relevant domains and (2) assess the preliminary validity and reliability of the nurse-developed instrument for evaluating functional recovery in patients with schizophrenia through pilot testing in a community mental health setting in Yogyakarta, Indonesia. The findings are expected to support evidence-based nursing practices and contribute to the availability of a contextual, practical, and highly applicable assessment tool in mental healthcare services. The study sought to answer the following research questions: (1) Do the instrument items demonstrate acceptable construct validity, as indicated by Spearman correlation coefficients exceeding the critical r value of 0.361 at $p<0.05$? (2) Does the final instrument achieve excellent internal consistency, as indicated by a Cronbach's alpha coefficient of ≥0.90?

Materials and Method

Study Design

This study employed a quantitative design with a pilot-testing approach as the initial phase in developing a new assessment instrument. The research was conducted between June and August 2024 at an outpatient mental health facility in the Special Region of Yogyakarta, Indonesia.

Participants and Sampling Technique

The target population comprised all patients with schizophrenia who were actively registered and receiving outpatient care at the study facility. During the study period, approximately 120 patients were registered at the facility. Purposive sampling was employed because the study required participants who met specific clinical criteria essential for instrument testing, namely clinical stability and verbal communicability, which precluded the use of random sampling methods. A total of 30 respondents were selected using purposive sampling based on the following inclusion criteria: (1) diagnosed with schizophrenia by a psychiatrist, (2) able to communicate verbally, (3) aged 18–65 years, (4) clinically stable, with no acute psychotic episode in the past month, and (5) willing to participate in the study by signing an informed consent form. Exclusion criteria included severe cognitive impairment or comorbid substance use disorders that could affect functional assessment. This sample size aligns with recommendations for exploratory psychometric validation studies, particularly in small-scale research.[16]

Research Instrument

The instrument was developed through a three-stage process: (1) a literature review of existing functional recovery frameworks, (2) focus group discussions with mental health nurses to identify culturally relevant functional indicators, and (3) expert panel review for content validation. The initial instrument consisted of 40 observational items reflecting seven domains: physical, psychological, social, economic, religious, medication adherence, and communication. Each item was rated by nurses using a four-point Likert scale (1=never, 2=occasionally, 3=often, 4=always). A total score was calculated by summing the item scores. As this study employed an instrument development design rather than a correlational or experimental design, traditional independent and dependent variables were not applicable. The primary construct measured was functional recovery, operationalized as nurses' observed scores across the seven domains. Each domain captured a distinct aspect of recovery: the physical domain assessed self-care and daily living skills; the psychological domain measured emotional regulation and symptom awareness; the social domain evaluated community participation; the economic domain captured work capacity and financial management; the religious domain assessed spiritual practice; the medication adherence domain measured treatment compliance; and the communication domain evaluated verbal interaction skills.

As supplementary data, nine additional dichotomous observational indicators (e.g., personal hygiene, affect, and eye contact) were also assessed (yes/no). These items were used for descriptive purposes and were not included in the statistical analyses of validity or reliability.

Before data collection, the instrument was reviewed by three senior nurses and one psychiatrist through a focus group discussion to ensure content relevance. However, formal content validity indexing (I-CVI) was not conducted. The expert panel reached consensus on item clarity, relevance, and comprehensiveness, with minor wording adjustments made based on their feedback.

Data Collection Procedure

Observations were conducted directly by three trained nurses who had completed a two-hour training session on the use of the instrument, including scoring guidelines and behavioral indicators for each item. Each patient was observed during at least two interactions over 1 week to capture typical functional behaviors. Assessments were conducted during routine interactions between nurses and patients in the outpatient setting, without any specific intervention or experimental manipulation. Observations typically lasted 15–30 minutes per session and were documented immediately after each interaction to ensure accuracy.

Statistical Analysis

Data were analyzed using SPSS version 25. Descriptive statistics were used to characterize the sample and examine score distributions. Construct validity was examined using Spearman's correlation between each item score and the total score. An item was considered valid if its correlation coefficient exceeded the critical r value of 0.361 at the $p<0.05$ significance level. Internal consistency was assessed using Cronbach's alpha and interpreted as follows: ≥0.90, excellent; 0.80–0.89, good; 0.70–0.79, acceptable; and <0.70, poor. Items with correlation values below the threshold were flagged for revision or removal. Incomplete data were excluded from the analysis.

Ethical Considerations

This study received ethical approval from the Health Research Ethics Committee of Universitas Aisyiyah Yogyakarta (Approval No: 1790/KEP-UNISA/VIII/2023, Date: August 21, 2023). All research procedures adhered to ethical standards in health research, including obtaining written informed consent from all participants. Participants were informed of their right to withdraw at any time without consequences for their treatment. Confidentiality was maintained by assigning unique identification codes to all data, and only the research team had access to identifiable information.

Results

Participant Demographics

The demographic characteristics of the study participants included age, gender, education level, employment status, and duration of illness. A total of 30 patients diagnosed with schizophrenia participated in this study. The mean age was 38.5 years (SD=10.2; range, 22–58 years), with the majority being female (n=17, 56.7%). Most participants had completed secondary education (n=17, 56.7%), were unemployed (n=20, 66.7%), and had been diagnosed with schizophrenia for an average of 8.3 years (SD=5.1). The distribution of participant characteristics is presented in Table 1.

Table 1. Participant demographics

No	Variable	Frequency	Percentage (%)
1.	Age		
	<24-35 years	4	13.3
	36-45 years	7	23.3
	46-55 years	7	23.3
	>56 years	12	40.0
2.	Gender		
	Male	13	43.3
	Female	17	56.7
3.	Education Level		
	Elementary School	6	20
	Junior High School	6	20
	Senior High School	16	53.3
	Bachelor's Degree	2	6.7
4.	Duration of Illness		
	<10 years	3	15.8
	10–20 years	7	36.8
	21–30 years	5	26.3
	>30 years	4	21.1

Validity Testing Results

Following data collection from 30 patients with schizophrenia, statistical analysis was conducted to evaluate the psychometric characteristics of the developed functional recovery assessment instrument. The analysis focused on two main aspects: construct validity, assessed using Spearman's rank correlation between each item and the total score, and internal consistency, measured using Cronbach's alpha. The objective was to determine how consistently and significantly the instrument items reflected the theoretical construct of functional recovery. Initial testing was conducted on all 40 items. The structure and example items of the instrument were previously described in the Methods section, while the full list of items is presented in Table 2.

Based on the results, 38 of the 40 items demonstrated acceptable construct validity during this initial pilot testing. The validity criteria required each item to have a correlation coefficient (r value) greater than the critical value of 0.361 and a significance level of $p<0.05$. The valid items spanned all seven domains—physical, psychological, social, economic, religious, medication adherence, and communication—suggesting that they reliably reflected the construct of functional recovery as intended.

Two items did not meet the criteria. Specifically, the item "The patient can dress independently" yielded a correlation coefficient of 0.122 ($p>0.05$), and the item "The patient can eat independently" showed a correlation coefficient of 0.098 ($p>0.05$), both indicating insufficient construct representation. These findings likely reflect ceiling effects, as most participants in this stable outpatient sample had already mastered these basic self-care skills, resulting in limited score variability. These findings suggest that while the majority of items in the instrument are psychometrically sound, the nonvalid items should be considered for revision or removal in future studies.

Reliability Testing

To assess the instrument's internal consistency, a reliability analysis was conducted using Cronbach's alpha. The analysis

Table 2. Validity test results

No	Statement Item	r-value	r-table	p	Validity
Physical Indicators					
1	The patient is able to bathe independently	1	0.361	0.000	Valid
2	The patient uses soap while bathing	0.826	0.361	0.000	Valid
3	The patient can urinate independently in the bathroom	0.565	0.361	0.001	Valid
4	The patient can defecate independently in the bathroom	0.565	0.361	0.001	Valid
5	The patient is willing to brush their teeth independently	0.805	0.361	0.000	Valid
6	The patient is able to dress independently	0.122	0.361	0.519	Not Valid
7	The patient is willing to wash their hair	0.687	0.361	0.001	Valid
8	The patient participates in household chores (sweeping, doing laundry, and/or helping out)	0.714	0.361	0.000	Valid
9	The patient is able to sleep at night (7–8 hours/day)	0.412	0.361	0.024	Valid
10	The patient is able to eat independently	-0.122	0.361	0.522	Not Valid
11	The patient dresses appropriately	0.593	0.361	0.001	Valid
Psychological Indicators					
12	The patient is able to manage emotions when facing problems (stressors)	0.593	0.361	0.004	Valid
13	The patient's facial expressions match their emotional state	0.516	0.361	0.003	Valid
14	The patient can recognize early signs of relapse	0.632	0.361	0.000	Valid
15	The patient is able to express signs of relapse	0.579	0.361	0.001	Valid
16	The patient is free from clinical symptoms (delusions, hallucinations, etc.)	0.467	0.361	0.009	Valid
Social Indicators					
17	The patient is willing to participate in community activities	0.411	0.361	0.024	Valid
18	The patient is able to interact well with others	0.358	0.361	0.052	Valid
19	The patient is able to use transportation	0.482	0.361	0.007	Valid
Economic Indicators					
20	The patient is able to work according to their abilities	0.533	0.361	0.002	Valid
21	The patient earns income from their work	0.532	0.361	0.002	Valid
22	The patient is able to manage their finances	0.532	0.361	0.002	Valid
Religious Indicator					
23	The patient performs religious practices according to their faith	0.655	0.361	0.000	Valid
24	The patient believes in the existence of God (for those who are religious)	0.670	0.361	0.000	Valid
Medication Adherence					
25	The patient takes medication regularly and independently	0.539	0.361	0.002	Valid
26	The patient is able to attend scheduled health check-ups independently	0.548	0.361	0.002	Valid
Communication Indicators					
27	The patient's speech is coherent	0.535	0.361	0.002	Valid
28	The patient is able to maintain interactions	0.511	0.361	0.004	Valid
29	The patient is able to initiate conversation	0.509	0.361	0.004	Valid
30	The patient is able to ask questions spontaneously	0.480	0.361	0.007	Valid
31	The patient is able to respond spontaneously	0.563	0.361	0.001	Valid
Observation					
	The patient does not have body odor	0.727	0.361	0.000	Valid
	The patient's fingernails appear clean	0.608	0.361	0.000	Valid
	The patient's hair appears clean	0.608	0.361	0.000	Valid
	The patient's hair appears neat	0.686	0.361	0.000	Valid
	The patient's skin appears clean	0.733	0.361	0.000	Valid
	The patient's teeth appear clean	0.666	0.361	0.000	Valid
	The patient's mouth does not have bad odor	0.727	0.361	0.000	Valid
	The patient's affect is appropriate	0.675	0.361	0.000	Valid
	The patient makes eye contact during interaction	0.343	0.361	0.000	Valid

An item is considered valid if r-value > r-table (0.361) and $p<0.05$. Source: Validity test conducted using Spearman's correlation (n=30). The "Observation" section (items 1–9) consists of dichotomous indicators (yes/no) assessed for descriptive purposes only. These items were not subjected to Spearman's correlation analysis for construct validity. The r-values displayed for these items are presented for reference and should not be interpreted as validity coefficients equivalent to those of the Likert-scale items (1–31)

Table 3. Cronbach's alpha reliability test results

Instrument	Number of Items	Cronbach's Alpha	Interpretation
Functional Recovery Scale for Schizophrenia	38	0.977	Very High Reliability

was applied to the 38 items previously deemed valid based on the construct validity results. A high alpha value indicates strong inter-item correlations and consistency in measuring the same construct, namely functional recovery in patients with schizophrenia. The results are summarized in Table 3.

The final reliability analysis was conducted on the 38 items included in the final version of the Functional Recovery Scale for Schizophrenia. The calculated Cronbach's alpha value was 0.977, which is categorized as very high. This result indicates excellent internal consistency, suggesting that the items are positively correlated and reliably measure the construct of functional recovery in individuals with schizophrenia. Corrected item-total correlations ranged from 0.58 to 0.89, with all items contributing positively to the overall scale reliability.

Discussion

The findings demonstrate that the majority of items in the Functional Recovery Scale for Schizophrenia exhibit acceptable construct validity. A total of 38 of the 40 items showed statistically significant correlations with the total score, suggesting that these items effectively represent the main domains of functional recovery: physical, psychological, social, economic, religious, medication adherence, and communication. These results reinforce the conceptual understanding that recovery in schizophrenia involves not only symptom remission but also the restoration of a person's ability to live a socially meaningful and productive life.[17]

A key strength of the instrument lies in its design for use by nurses through direct observation, which allows assessment of functional indicators as they naturally occur in patients' daily behaviors.[18,19] Unlike self-report measures that may be affected by poor insight or response bias, observational assessment provides a more objective evaluation of actual functional performance in real-world contexts. This aligns with the findings of Parker et al.,[20] who highlighted the value of observational approaches in nursing for producing valid, actionable clinical data.

The few items found to be invalid likely exhibited score homogeneity or limited variability. The exclusion of "able to dress independently" and "able to eat independently" is methodologically justified, as the ability to dress and eat independently represents basic skills that most patients in this study had already mastered, which reduced score variation and weakened their statistical correlations. This ceiling effect is common when assessing stable outpatient populations and suggests that these items may be more appropriate for acute or institutionalized settings, where basic self-care deficits are more prevalent.[21] Additionally, although the item "eye contact during interaction" was statistically significant, its correlation value fell below the threshold, possibly reflecting cultural variations in social expression or clinical symptoms that affect relational behavior, as also noted in other psychiatric studies.[21,22]

From a reliability perspective, the Cronbach's alpha value of 0.977 indicates excellent internal consistency, suggesting that the instrument items coherently measure the intended construct. While such a high alpha value could theoretically indicate item redundancy, the breadth of functional domains covered and the face validity confirmed by expert reviewers suggest that the items capture distinct yet related aspects of functional recovery. Although the sample size was relatively small (n=30), early-stage validation with small samples is widely accepted in instrument development, especially when items are constructed on a strong theoretical foundation and with expert consultation.[23,24]

The content development process involved consultation with three senior nurses and one psychiatrist. Although a formal content validity index (I-CVI) was not computed, the instrument underwent qualitative content review through focus group discussions, ensuring that the items were practically relevant and reflective of clinical nursing practice. Future studies should include formal I-CVI calculations to strengthen evidence of content validity. From the authors' clinical perspective as community mental health nurses, the domains and items identified in this instrument reflect the real challenges observed in daily nursing practice. Patients who demonstrate improvements in medication adherence, religious participation, and communication tend to show broader signs of functional recovery in community settings. These observations, accumulated through years of direct patient interaction, informed the selection of items and reinforced the instrument's practical relevance beyond its statistical properties.

Unlike instruments such as GAF or WHODAS, which are often too broad and require specialized training, this tool was intentionally designed to be contextual, practical, and usable by nurses in community mental health settings. Although GAF is widely used, it lacks sensitivity to subtle behavioral changes in daily functioning. Similarly, WHODAS offers strong theoretical grounding but is less suited for routine clinical observation in real-world nursing practice.[25] Thus, there is a critical need for observation-based, cultur-

ally contextualized tools that can be administered without additional training.

One of the most notable strengths of this instrument is the inclusion of a religious domain. Spirituality is rarely integrated into international functional recovery instruments despite its critical role in the psychological resilience and recovery of patients with mental health conditions in Indonesia.[26] The inclusion of this culturally relevant domain enhances not only the scale's statistical validity but also its practical and cultural applicability. Items in the religious domain (e.g., "patient participates in religious activities" and "patient expresses spiritual beliefs as a source of comfort") demonstrated strong correlations with the total score (r>0.70), supporting the relevance of this dimension in the Indonesian context.

Limitation

The study has several limitations, particularly regarding sample size and geographic scope. First, the small sample size (n=30) limits the generalizability of the findings and precludes more advanced statistical analyses, such as exploratory or confirmatory factor analysis. Second, data were collected from a single outpatient facility in Yogyakarta, which may not represent the diversity of populations with schizophrenia across Indonesia, including those in rural settings or with different cultural backgrounds. Third, inter-rater reliability was not assessed, which is an important consideration for observational instruments to ensure consistency across different nurse observers. Fourth, no concurrent validation with established instruments (e.g., FROGS or WHODAS) was performed to establish criterion validity. Therefore, the generalizability of the findings is limited to the local setting in which the study was conducted. Further research with larger and more diverse populations, including multicultural validation, is recommended to expand the instrument's applicability and robustness across broader mental healthcare contexts.

Conclusion

The Functional Recovery Scale for Schizophrenia, developed based on nursing observation, demonstrated acceptable validity and reliability in the initial pilot phase. Of the 40 items initially tested, 38 met the validity criteria, resulting in a final 38-item scale with a Cronbach's alpha coefficient of 0.977, indicating excellent internal consistency. The valid items span all seven domains—physical, psychological, social, economic, religious, medication adherence, and communication—demonstrating comprehensive coverage of the dimensions of functional recovery. Clinically and contextually, the instrument is considered relevant for community-based nursing practice in Indonesia, as it captures patients' functional dimensions in a direct and holistic manner.

However, as this study is exploratory, with a limited sample size and a single-site design, several limitations must be acknowledged. Further testing on a larger scale is necessary to strengthen external validity and support the generalizability of the findings. Future research should include (1) multicenter validation with larger and more diverse samples (n>100), (2) assessment of inter-rater reliability to ensure consistency across nurse observers, (3) concurrent validation with established international instruments to establish criterion validity, (4) exploratory and confirmatory factor analyses to verify the seven-domain structure, (5) test-retest reliability assessment, and (6) evaluation of the instrument's sensitivity to change over time. Additionally, formal content validity indexing (I-CVI) should be performed, and the instrument's utility in different clinical settings (e.g., inpatient and rural community settings) should be explored.

Despite these limitations, this study provides important preliminary evidence for a culturally relevant, nurse-friendly functional recovery assessment tool that addresses a significant gap in Indonesian mental healthcare. The instrument's practical design and inclusion of spirituality as a recovery domain represent meaningful contributions to evidence-based psychiatric nursing practice.

Ethics Committee Approval: The study was approved by the Health Research Ethics Committee of Universitas Aisyiyah Yogyakarta (no: 1790/KEP-UNISA/VIII/2023, date: 21/08/2023).

Informed Consent: Written informed consent was obtained from all participating patients before enrollment in the study. Participants were informed about the purpose and procedures of the study, the voluntary nature of participation, confidentiality of their information, and their right to withdraw at any time without any effect on the care they received.

Conflict of Interest Statement: The authors declare that there is no conflict of interest.

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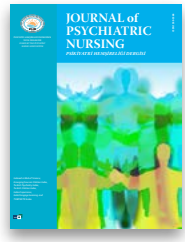
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Original Article

The effect of aromatherapy on learning and anxiety: A randomized controlled study

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Abstract

Objectives: This study aimed to determine the effect of aromatherapy on nursing students' skill acquisition and anxiety experienced during skills training.

Methods: The population of this randomized controlled study consisted of all nursing students actively enrolled at a foundation university during the spring semester of the 2023–2024 academic year. The sample consisted of 73 students (experimental=37, control=36) who met the inclusion criteria and voluntarily participated in the study. Lemon, orange, and frankincense essential oils were used during the intervention. Data were collected using the Descriptive Information Form, State-Trait Anxiety Inventory (STAI), and Peripheral Intravenous Catheter Insertion Skills Checklist.

Results: No statistically significant differences were found between the experimental and control groups in terms of age, sex, or baseline STAI scores ($p>0.05$). In the experimental group, the mean pretest STAI score was 37.81±10.19, and the mean posttest score was 40.43±10.46; the difference between the scores was statistically significant ($p<0.05$). In the control group, the mean pretest STAI score was 36.38±9.94, while the mean posttest score was 38.30±10.25; the difference was not statistically significant ($p>0.05$). The mean Peripheral Intravenous Catheter Insertion Skills Checklist score was significantly higher in the experimental group (77.05±11.26) than in the control group (62.63±11.88) ($p<0.05$). No statistically significant difference was found between the groups in terms of pretest and posttest STAI scores ($p>0.05$).

Conclusion: Aromatherapy may have a positive effect on learning. However, aromatherapy was not found to be effective in reducing students' anxiety levels.

Keywords: Anxiety; aromatherapy; learning; nursing education; nursing skills

Nursing education is an integrated process in which theoretical knowledge and practical training are closely intertwined, aiming to develop students' cognitive and motor skills. The laboratory environment, where clinical skills are taught and motor skills are developed, serves as a bridge between classroom learning and clinical practice. In the laboratory, students are expected to transform target behaviors into practical skills through practice on inanimate models under the supervision of instructors.[1]

Skills laboratories, in which students perform practical applications, can be stressful environments, and this may negatively affect nursing students' performance. Performance anxiety, concerns about being underestimated by peers, lack of knowledge, and differences in skill-teaching methods among instructors may cause students to experience stress, anxiety, fear, and decreased self-confidence, consequently adversely affecting their performance.[2,3] In particular, students have been observed to experience stress, trembling hands, and

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discomfort before performing procedures involving invasive interventions. Therefore, students need to feel comfortable, confident, and cognitively receptive to learning during skills training. In this regard, new practices and alternative techniques that can be incorporated into skills training are important. In recent years, aromatherapy has been used as a method to support the acquisition of cognitive and motor skills among nursing students during practical training.[4,5]

Aromatherapy is a natural therapeutic approach that involves administering essential oils derived from plants through massage, inhalation, compresses, or bathing.[4,5] Aromatherapy administered via inhalation can be performed by applying essential oil to a tissue, using a nasal patch, or diffusing the oil into the environment through an aroma lamp.[5] Essential oils that affect the limbic system may exert modulatory effects in the periphery through autonomic pathways associated with overall organismal functioning and may be used to manage depression, anxiety, and dementia.[6] Essential oils such as eucalyptus, lemon, orange, rose, lavender, basil, and frankincense have been used to facilitate learning and reduce anxiety. Compounds such as citronellol, limonene, and linalool found in these oils have sedative effects.[7] Lemon and orange essential oils are used to reduce stress and anxiety and to enhance cognitive functions.[8] Frankincense oil has antioxidant and anti-inflammatory properties and may also reduce anxiety and positively affect concentration and memory.[9]

Due to its potential effects on reducing anxiety and enhancing concentration, aromatherapy has recently been investigated among nursing students.[10,11] A study examining the effects of aromatherapy on stress among first-year nursing students reported that inhalation of essential oils reduced students' stress levels.[12] Another study reported that nursing students perceived medicinal and aromatic plants as helpful in increasing their motivation while studying, reducing examination-related stress, and providing relaxation in stressful situations.[13] However, further studies involving different sample groups are needed to determine whether aromatherapy is effective in enhancing learning and reducing anxiety among nursing students. Although aromatherapy has been used in Türkiye for many years, studies investigating its effects among nursing students remain limited.[1,7] Therefore, this study aimed to determine the effect of aromatherapy on nursing students' skill acquisition and anxiety experienced during skills training.

The hypotheses of this study were as follows:

H0.1: There is no significant difference between nursing students in the experimental and control groups in terms of their checklist scores during the procedure.

H0.2: There is no significant difference between nursing students in the experimental and control groups in terms of their post-aromatherapy state anxiety scores.

What is presently known on this subject?

- Skills laboratories can be stressful environments for students, which may affect their performance and learning outcomes.

What does this article add to the existing knowledge?

- This study found that aromatherapy had a positive effect on students' skill acquisition; however, it was not effective in reducing their anxiety levels.

What are the implications for practice?

- Given aromatherapy's positive effect on skill acquisition, its use during skills training in laboratory settings may be beneficial.

H1.1: There is a significant difference between nursing students in the experimental and control groups in terms of their checklist scores during the procedure.

H2.1: There is a significant difference between nursing students in the experimental and control groups in terms of their post-aromatherapy state anxiety scores.

Materials and Method

Study Design

This study used a randomized controlled trial design.

Setting and Time

The study was conducted during the spring semester of the 2023–2024 academic year at a foundation university.

Population and Sample

The study population consisted of all nursing students actively enrolled at a foundation university during the spring semester of the 2023–2024 academic year. The study sample consisted of nursing students enrolled in the Department of Nursing during the specified academic year (n=81). The inclusion criteria were being enrolled in the Fundamentals of Nursing course for the first time, having no cardiovascular or respiratory disease (e.g., asthma or chronic obstructive pulmonary disease), having no allergy to odors or essential oils, not being pregnant, having no condition that could impair the sense of smell, being aged 18 years or older, and voluntarily agreeing to participate in the study. Data were collected before and after peripheral intravenous (IV) catheter insertion. Incomplete completion of data collection instruments, having a diagnosed psychiatric disorder, having previously received skills training on IV catheter insertion or having previously performed IV catheter insertion, and experiencing any adverse effects during the study constituted the exclusion criteria.

According to the power analysis, with a 95% confidence interval, a significance level of 5%, and an effect size of 0.760, the required sample size was calculated as 42 participants, with 21 participants in each group (df=20; t=1.725).[10] Accounting for possible withdrawals and missing data, the study began with 77 students (experimental=39, control=38), who were then randomized.

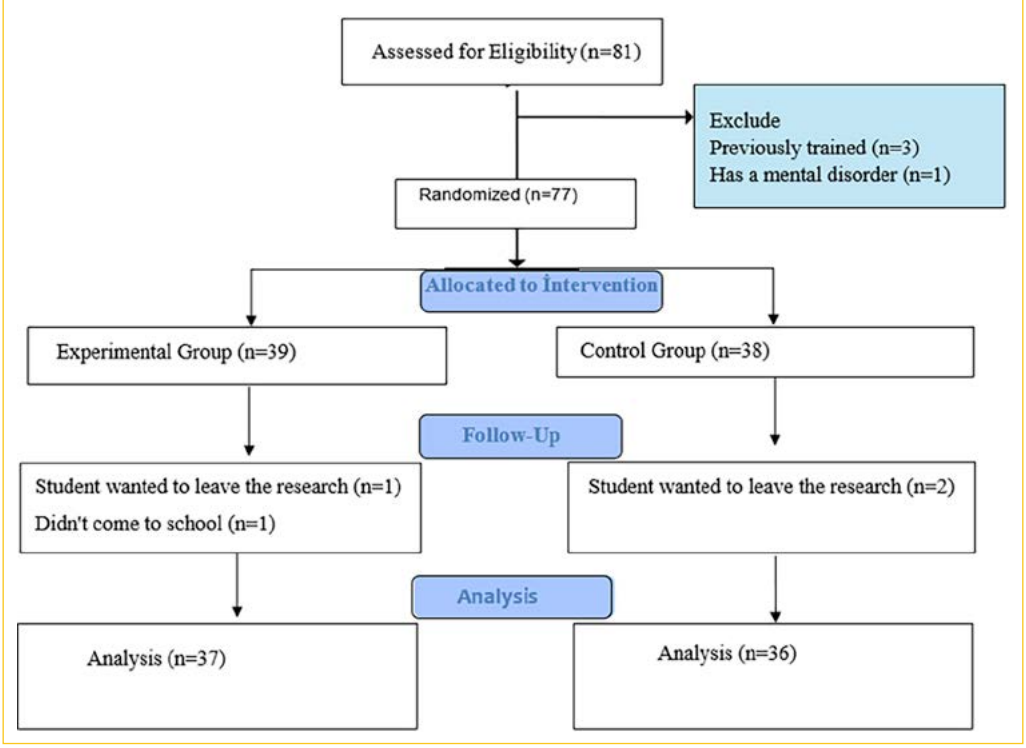


Figure 1. CONSORT flow diagram.

Students who met the inclusion criteria were listed by student identification number to create the sampling pool, and simple randomization was performed using https://www.calculatorsoup.com.[14] The study was completed with 73 students (experimental=37, control=36) due to failure to meet the inclusion criteria, absence from the university on the day of the intervention, and participants' desire to withdraw during the procedure (Fig. 1). A post hoc power analysis indicated that the study's statistical power was 0.99.

The study used single blinding. The students were blinded to their group allocation, whereas the researchers were aware of the group assignments.

Data Collection Instruments

The data were collected using the Descriptive Information Form, State-Trait Anxiety Inventory (STAI), and Peripheral Intravenous Catheter Insertion Skills Checklist.

Descriptive Information Form: The form included questions assessing students' age, sex, school of graduation, diagnosis of a psychiatric disorder, and whether they had previously performed IV catheter insertion.

State-Trait Anxiety Inventory: Developed by Spielberger, Gorsuch, and Lushene, the inventory consists of two subscales: State Anxiety and Trait Anxiety. Each subscale contains 20 items. Since the present study aimed to assess anxiety before the procedure, the State Anxiety Inventory (SAI) was used.[15] Öner and Le Compte adapted the State-Trait Anxiety Inventory into Turkish.[16] The State Anxiety Inventory contains 10 reverse-scored items (items 1, 2, 5, 8, 10, 11, 15, 16, 19, and 20). Total scores range from 20 to 80, with higher scores indicating higher levels of anxiety and lower scores indicating lower levels of anxiety. Scores of 0–19 indicate no anxiety, 20–39 mild anxiety, 40–59 moderate anxiety, and 60–79 severe anxiety.[16] The Cronbach's alpha coefficient of the scale was 0.86, while the Cronbach's alpha coefficient in the present study was 0.89.

Peripheral Intravenous Catheter Insertion Skills Checklist

The researchers developed this instrument based on the literature; it consists of 25 procedural steps evaluated using a five-point rubric (0–4 points), with a maximum total score of 100 points.[17,18] The checklist includes subheadings for required materials, purpose, and procedural steps, with a total of 25 steps.

To establish content validity, the checklist was submitted to three faculty members specializing in Fundamentals of Nursing and two practicing nurses for expert review. The Cronbach's alpha coefficient based on expert evaluation of the checklist was 0.88.

Materials Used

Lemon (Citrus limon), orange (Citrus sinensis), and frankincense (Boswellia carterii) essential oils and two ceramic aromatherapy lamps (oil burners) were used.

Data Collection Procedure

After receiving routine theoretical training on intravenous catheter insertion, the students participated in the study in the nursing skills laboratory. The laboratory in which the intervention was conducted had an area of 135 m^2. To prevent interaction between the students, the experimental group underwent the intervention on a different day from the control group. For the experimental group, two oil burners containing a mixture of essential oils were used, with six drops in total in each burner. The essential oil mixture consisted of lemon, orange, and frankincense oils in a 2:2:2 ratio. Approximately 15 minutes before the experimental group entered the laboratory, the essential oils were allowed to diffuse throughout the environment. The students were then asked to complete the Descriptive Information Form and State Anxiety Inventory. Students in the control group completed the Descriptive Information Form and State Anxiety Inventory before entering the laboratory.

During skills training, one researcher demonstrated IV catheter insertion to both the experimental and control groups using a simulation mannequin. Each student performed the procedure once on the mannequin. During the experimental group assessment, aromatherapy was also administered in the assessment laboratory, as in the training laboratory, and students were exposed to the scent of the essential oils while being evaluated. To minimize assessment bias, a researcher other than the instructor who provided the training evaluated the procedure using a standardized checklist for each student. Students in the control group completed the State Anxiety Inventory again immediately after the skills training and were subsequently taken to another laboratory for assessment of their skill acquisition.

Statistical Analysis

The data were analyzed using SPSS version 22.0. The normality of the data distribution was assessed using the Shapiro–Wilk test and visual methods (histograms and Q–Q plots). Continuous variables were presented as mean±standard deviation (mean±SD), and Pearson's chi-square test was used for categorical variables. The analysis indicated that age did not follow a normal distribution ($p<0.05$). In contrast, peripheral intravenous catheter insertion skill scores (checklist scores) and State Anxiety Inventory scores followed a normal distribution ($p>0.05$). Accordingly, the Mann–Whitney U test was used for between-group comparisons of non-normally distributed variables. Independent-samples t-tests were used for between-group comparisons of normally distributed variables. Within-group pretest–posttest comparisons were performed using the paired-samples t-test because the parametric assumptions were met. Cohen's d was calculated to determine the effect size.[19] Effect sizes were interpreted as small (0.20), medium (0.50), and large (≥0.80). A p value of <0.05 was considered statistically significant in all analyses.

Ethical Considerations

Before the study commenced, institutional permission was obtained from the institution where the study was conducted, and approval was obtained from the Fenerbahçe University ethics committee (No. 34.2024fbu, date: February 20, 2024). The study was conducted in accordance with the principles of the Declaration of Helsinki. All students were informed about the purpose and procedures of the study, that their data would not be shared with third parties, and that they could withdraw from the study at any time. Students who did not consent to participate in the study received routine skills training. The ClinicalTrials.gov registration number was NCT06381544.

Results

When the descriptive characteristics of the students in the experimental and control groups were examined, no statistically significant difference was found between the groups in terms of age ($Z=-0.113$, $p=0.910$). Similarly, no significant difference was found between the groups in terms of sex distribution ($\chi^2=0.205$, $p=0.651$). There was also no statistically significant difference between the groups in terms of baseline anxiety levels (STAI pretest scores) ($t=-0.603$, $p=0.548$). These findings indicate that the experimental and control groups were homogeneous at baseline ($p>0.05$) (Table 1).

When the mean checklist and STAI scores were compared between the groups, the mean checklist score was 77.05±11.26 in the experimental group and 62.63±11.88 in the control group. The experimental group had higher mean checklist scores than the control group, and the 14.42-point difference between the groups was statistically significant ($p<0.05$). According to Cohen's d effect size analysis conducted to determine the effect of aromatherapy on checklist scores, aromatherapy had a large effect on skill acquisition (Cohen's $d=1.24$). The H1.1 hypothesis was accepted. No statistically significant difference was found between the groups in terms of STAI posttest and pretest scores ($p>0.05$) (Table 2), and H0.2 was not rejected.

When the pretest and posttest STAI anxiety scores of the students in the experimental group were compared, the difference between the two measurements was statistically significant ($t=-2.722$, $p<0.05$), and the students' anxiety scores increased at posttest. No statistically significant difference was found between the mean pretest and posttest anxiety scores in the control group ($t=-1.507$, $p>0.05$) (Table 3).

Table 1. Characteristics of students in the experimental and control groups (n=73)

	Experimental group (n=37) Mean (SD)	Control group (n=36) Mean (SD)	Test	p
Age				
Mean (19.83, SD=1.75)	19.81 (SD=1.63)	19.86 (SD=1.89)	0.122*	0.904
Sex				
Female (n=53)	26	27	0.205**	0.651
Male (n=20)	11	9	0.205**	0.651
STAI pretest				
Mean (37.10, SD=10.02)	37.81 (SD=10.19)	36.38 (SD=9.94)	-0.603*	0.548
STAI post test				
Mean (39.89, SD=10.40)	41.43 (SD=10.46)	38.30 (SD=10.25)	-1.290*	0.201

*: Independent-samples t-test, **: Chi-square test. n: Number of participants; SD: Standard deviation; STAI: State-trait anxiety inventory.

Table 2. Comparison of the mean checklist and STAI scores of students in the experimental and control groups

	Experimental group (n=37) Mean (SD)	Control group (n=36) Mean (SD)	Test	p
Checklist score	77.05 (SD=11.26)	62.63 (SD=11.88)	-5.319*	**0.00**
STAI pre-test	37.81 (SD=10.19)	36.38 (SD=9.94)	-0.603*	0.548
STAI post-test	41.43 (SD=10.46)	38.30 (SD=10.25)	-1.290*	0.201

*: Independent-samples t-test. n: Number of participants; SD: Standard deviation; STAI: State-trait anxiety inventory.

Table 3. Comparison of within-group STAI scores in the experimental and control groups

	STAI pre-test Mean (SD)	STAI post-test Mean (SD)	Test	p
Experimental group	37.81 (SD=10.19)	40.43 (SD=10.46)	-1.507*	0.010
Control group	36.38 (SD=9.94)	38.30 (SD=10.25)	-2.722*	0.141

*: Paired-samples t-test. n: Number of participants, SD: Standard deviation; STAI: State-trait anxiety inventory.

Discussion

This randomized controlled study was conducted to determine the effect of aromatherapy on skill acquisition and anxiety experienced during skills training among nursing students. The findings showed that the experimental and control groups were comparable in terms of age, sex, and baseline anxiety scores.

A statistically significant difference was found between the experimental and control groups in terms of peripheral intravenous catheter insertion checklist scores. Therefore, aromatherapy may have positively affected students' learning. It has been suggested that odors may enhance learning by establishing more neural connections in the brain.[20] Previous studies conducted in different fields and age groups have demonstrated positive effects of aromatherapy on learning and cognitive functions.[21–23]

Because previous studies have frequently examined the effects of aromatherapy on anxiety among nursing students, the present study's examination of the effects of lemon, orange, and frankincense oils on learning is a distinctive aspect of this research. Further high-quality studies are needed to provide stronger evidence in this area.

In the present study, although no significant difference was found in anxiety scores among students in the control group, a statistically significant difference was observed among students in the experimental group, with their anxiety scores increasing. Previous studies have frequently reported that aromatherapy reduces anxiety before skills practice and examination-related anxiety. Studies conducted with nursing students have demonstrated that aromatherapy can affect stress, examination anxiety,[24] the learning of Fundamentals of Nursing skills,[10] and state anxiety.[25] Similarly, studies conducted among students in health sciences and pharmacy programs have reported that aromatherapy reduces stress and anxiety.[26] However, the essential oils used in these studies differed, and the effects of individual oils may also vary.[8] In the present study, the increase in anxiety scores among students in the experimental group may have been partly attributable to the different types of oils used. On the other hand, because aromatherapy was not used

during the other laboratory sessions attended by the experimental group and informed consent was obtained from the students before the study, their awareness of the intervention may have increased. This may have contributed to increased anxiety among the students. Previous studies have also investigated the combined use of aromatherapy and music therapy.[10] The use of aromatherapy as a standalone intervention in the present study may have limited its potential to reduce anxiety.

Studies reporting no significant effect of aromatherapy on anxiety are also available in the literature. Some studies have found no significant differences between experimental and control groups in anxiety experienced during skills training and students' vital signs following aromatherapy[1] or in examination anxiety.[27,28] A systematic review examining the effects of aromatherapy on anxiety and stress reported that 70% of the included studies demonstrated positive effects of aromatherapy.[5] However, the researchers emphasized concerns about essential oil dosage, participant safety, and potential sources of bias. Therefore, the development and implementation of standardized protocols for aromatherapy interventions have been recommended. In this regard, further studies with larger sample sizes are needed.

Limitation

The findings of this study are limited to the sample in which the study was conducted. The State Anxiety Inventory was used to assess anxiety. Vital signs, a Visual Analog Scale, clinical observations, or other objective measures were not used. Future studies should consider assessing anxiety using both objective and subjective measures. The intervention was performed only once and focused on a single skill. Future studies could examine different skills and repeated skill assessments. Because there is no standardized aromatherapy protocol in the literature, the generalizability of the findings may be limited. In addition, the nursing educators who completed the checklist were also exposed to the aromatherapy intervention. Therefore, future studies may consider requiring evaluators to wear masks to minimize potential bias.

Conclusion

The findings suggest that pre-intervention aromatherapy may have a positive effect on learning among students in the experimental group. However, state anxiety scores increased in the experimental group, whereas no change was observed in the control group. Previous studies investigating the effects of aromatherapy on anxiety have reported inconsistent findings. Differences in the types and ratios of essential oils used, as well as variations in study methodology, may account for these discrepancies. Further research is needed to establish stronger evidence regarding the effects of aromatherapy, and standardized protocols and guidelines should be developed.

Ethics Committee Approval: The study was approved by the Fenerbahçe University Non-interventional Clinical Research Ethics Committee (no: 34.2024fbu, date: 20/02/2024).

Informed Consent: Informed consent was obtained from the students prior to the study.

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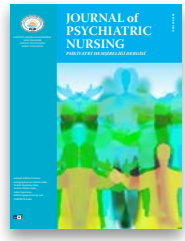
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Original Article

Emotional intelligence and perceived stress among psychiatric nurses: The moderating role of mindfulness

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Abstract

Objectives: The field of psychiatric nursing is filled with daunting challenges and stress. Emotional intelligence in nurses is associated with better mental health and work performance. However, there are underlying processes that might moderate these associations. The objective of this study was to explore the moderating role of mindfulness in the relationship between emotional intelligence and perceived stress among psychiatric nurses.

Methods: The study adopted an explanatory sequential design. In Phase I, quantitative data were collected from 112 working psychiatric nurses in Maharashtra. Those with adequate educational qualifications, experience in the field, and willingness to participate were requested to provide sociodemographic details, followed by completion of questionnaires on perceived stress, mindfulness, and emotional intelligence after providing written informed consent. In Phase II, qualitative data were gathered from participants who had the highest (n=10) and lowest (n=10) levels of mindfulness in the previous phase. A semi-structured interview was used to gather data on the stressors they faced, the causes of stress, and coping strategies.

Results: The results of hierarchical regression analysis indicated that, after controlling for sociodemographic variables, emotional intelligence was negatively associated with perceived stress, and this relationship was moderated by mindfulness. Those with higher levels of mindfulness tended to use adaptive coping strategies, whereas those with lower levels of mindfulness tended to use maladaptive coping strategies.

Conclusion: This study contributes to a deeper understanding of the relationship between emotional intelligence and perceived stress and the moderating role of mindfulness. The results suggest that intervention programs focusing on mindfulness skills can be incorporated for psychiatric nurses to improve their mental health.

Keywords: Emotional intelligence; mindfulness; nurses; psychiatry; stress

The field of psychiatric nursing is distinct from other nursing specialties. It is associated with daunting physical and psychological challenges such as exposure to verbal and physical violence.[1–4] Other challenges include unpredictable behavior,[1,3] increased paperwork,[1,4,5] and a lack of managerial support.[1,5] These challenges and work-related stress reduce the professional quality of life of psychiatric nurses and lead to burnout.[2,3] Nurses who perceive their work as more stressful report lower job satisfaction.[2] The methods used by psychiatric nurses to manage stress are linked to their job satisfaction.[1] Occupational stress can negatively affect the well-being of psychiatric nurses, which can translate into poor patient care.[5] Individuals experience stress when they subjectively appraise an event as exceeding their ability to cope.[4] Most nurses reported that they needed support and further training to cope with stress in the workplace.[3]

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Emotional intelligence (EI) is a construct that plays a key role in managing stress.[6] Various studies indicate that individuals with high EI can cope better with work pressure.[7] EI is the ability to understand and manage one's own emotions and to recognize and influence the emotions of people around them.[6] It plays an important role in forming successful human relationships. EI involves perceiving emotions in oneself and others, appropriately utilizing and regulating emotions, and managing emotions in oneself and others. It helps individuals cope with frustration and develop empathy and hope. Any workplace is associated with task-related and social emotions, which can lead to stress when not managed appropriately. Psychiatric nursing is especially demanding and emotionally draining. EI plays a role in coping with these aspects of work. EI helps with task-specific and non-task-specific behaviors.[7] Professionals rely on EI to meet job demands and provide patient care.[8] EI in nurses is associated with greater engagement with patients and better interpersonal relationships with patients and colleagues, which improves their performance in the workplace.[8] EI enables individuals to cope better with the stress they experience and to report lower levels of stress. This allows them to create a healthy and stable work environment and fosters active and effective coping strategies when facing stress.[9,10] This improves their well-being[9,11] and reduces perceived job stress,[9] enhances problem-solving and perceived competence,[11] and offers protection from burnout.[10]

Mindfulness is another construct that has been shown to have a positive impact on nurses' levels of stress, emotional distress, burnout and job satisfaction.[12,13] Mindfulness is the process of openly attending, with awareness, to one's present-moment experience and accepting thoughts, emotions, and experiences without an evaluative stance.[14] This differs from the everyday experience of most people, in which they let their minds wander, operate on autopilot or suppress unwanted experiences.[15,16] Mindfulness promotes emotional regulation, helps manage negative emotions, and supports coping with everyday challenges.[17]

The mindfulness stress-buffering account suggests that mindfulness promotes emotional regulation, helps manage negative emotions, supports coping with everyday challenges, and protects individuals from the impact of stress.[12] Multiple studies have shown that developing mindfulness skills helps reduce stress.[14,17,18] Studies indicate that increases in self-reported mindfulness statistically mediate improvements and reduce perceived stress levels.[14,19] Mindfulness moderates the association between distressing life events and psychopathological symptoms.[20] It allows individuals to cope with daily distress by being aware, non-evaluative, and accepting of the situation. This suggests that mindfulness plays a role in improving the ability to cope with stressful events and alleviating their detrimental effects on mental health.

What is presently known on this subject?

- Emotional intelligence (EI) and mindfulness play key roles in managing and coping with stress and burnout. Most psychiatric nurses face daunting challenges in their field of work.

What does this article add to the existing knowledge?

- This article focuses on how mindfulness moderates the relationship between emotional intelligence and perceived stress in psychiatric nurses. Emotional intelligence was negatively associated with perceived stress. Those with higher levels of mindfulness tend to use adaptive coping strategies compared with those with lower levels of mindfulness, who tend to use maladaptive coping strategies.

What are the implications for practice?

- These findings indicate the need to adopt intervention programs for psychiatric nurses to teach mindfulness and emotional intelligence skills, which can help them develop adaptive coping skills and buffer work-related stress.

Systematic reviews indicate that there is a positive relationship between mindfulness and emotional intelligence among healthcare professionals, particularly in the ability to regulate one's emotions, and a negative relationship between mindfulness and emotional exhaustion.[21,22] Studies have also shown a strong negative relationship between emotional intelligence and stress among nursing professionals.[22,23]

Need for Study

In this context, the significance and importance of emotional intelligence and mindfulness among psychiatric nurses need to be recognized in the field so that management programs can be developed for professionals. Hence, this research was undertaken to shed light on the relationships among emotional intelligence, mindfulness, and perceived stress in psychiatric nurses.

Objectives

The research was undertaken with the following objectives:

- To study the relationships among mindfulness, perceived stress, and emotional intelligence in psychiatric nurses.
- To study the moderating role of mindfulness in the relationship between emotional intelligence and perceived stress in psychiatric nurses.
- To study perceived stress, causes of stress, and coping strategies in psychiatric nurses with high and low levels of mindfulness.

Materials and Method

An explanatory sequential design was employed, in which quantitative data were collected and analyzed using correlation and regression analyses in Phase 1, followed by the collection and analysis of qualitative data in Phase 2 based on the prior results. Data from both phases were integrated to understand the role of mindfulness. Data collection for both phases was completed in 2021 over a period of 6 months, and the study was completed within 1 year.

Phase 1

In the first phase, a purposive sampling method was used, whereby researchers recruited participants from various private and government psychiatric settings and tertiary healthcare settings in Maharashtra, India, after obtaining permission. The G*Power tool was used to determine the sample size for this investigation, ensuring sufficient power to identify significant effects according to predetermined alpha and effect size parameters. Data were gathered from 112 working psychiatric nurses over a period of 3 months. The inclusion criteria were at least 1 year of psychiatric nursing experience, adequate educational qualifications, and willingness to participate. A 100% response rate was obtained, as no incomplete questionnaires were received by the researcher. Data were gathered using paper-and-pencil forms completed by the participants. After providing written informed consent, participants were first asked to provide sociodemographic details, followed by completion of self-report questionnaires assessing perceived stress, mindfulness, and emotional intelligence.

Tools

The Perceived Stress Scale (PSS), consisting of 14 items, was used to assess the appraisal of stressful situations.[24] It helps to determine the extent to which one's life is perceived as unpredictable, uncontrollable, and overwhelming using a Likert scale ranging from 0 to 4. The established cutoff scores for the total score reflect low, moderate, or high perceived stress.

The Five Facet Mindfulness Questionnaire (FFMQ-15), consisting of 15 items, was used to assess five facets of mindfulness: observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience.[25] It is based on a Likert scale ranging from 1 to 5. Average scores are calculated by summing the responses and dividing by the number of items. Average scores >4 reflect a high level of mindfulness, whereas average scores <2 reflect lower levels of mindfulness.

The Schutte Self-Report Emotional Intelligence Test (SSEIT), consisting of 33 items, was used to assess four subscales of emotional intelligence, including emotion perception, utilization of emotions, management of self-relevant emotions, and management of others' emotions, using a Likert scale ranging from 1 to 5.[26] The established cutoff scores for the total score reflect low, moderate, or high levels of emotional intelligence.

Phase 2

In the second phase, 20 participants from the first phase of the study were recruited. Psychiatric nurses who had the highest (n=10) and lowest (n=10) levels of mindfulness in the previous phase were invited to participate. Interviews were conducted. At the end of the study, a basic debriefing session was conducted to orient the nurses to adaptive coping strategies that they could use to improve their well-being.

Tools

A semi-structured interview was conducted after appointments were scheduled. Participants provided consent for the interviews. Interviews were conducted for 30–45 minutes with each participant. They were asked questions regarding their understanding of stress, the areas in which they experienced stress, specific work- and family-related stressors, other stressors they faced, causes of stress, their health and well-being, the social support they used, and the strategies they employed to manage stress. The participants were divided into two groups: those with high and those with low levels of mindfulness. Their responses were recorded, and verbatim responses were documented.

Ethical Approval and Informed Consent

The study was conducted after formal approval was obtained from the Ethical Committee of the Amity Institute of Behavioral and Allied Sciences, Amity University Mumbai (Approval date: May 20, 2019; Approval no: 201900/01). The research was conducted in accordance with the Declaration of Helsinki. Written informed consent was obtained from the participants to ensure that the ethical requirements were clearly understood. Permission was obtained from the participants for audio recording during the interviews. All data were kept confidential and secure.

Statistical Analysis

The collected data were compiled for analysis. A statistical significance level of 0.05 ($p<0.05$) was adopted throughout the analysis. Descriptive statistics were calculated for sociodemographic information. Pearson correlation analysis was performed to examine the relationships among emotional intelligence, mindfulness, and perceived stress. Hierarchical multiple regression was used to assess the effect of the moderating variable, mindfulness. Moderation analysis was used to investigate the conditional influence of mindfulness on the relationship between emotional intelligence and perceived stress.

In Phase 2, Braun and Clarke's (2006) six-phase framework was used for inductive thematic analysis. The six phases were familiarization with the transcribed data and developing an overall understanding of the data, generating initial codes and identifying meaningful groups, searching for themes, reviewing themes and data extracts, defining the themes, and writing up the themes.

Results

The mean age of the participants was 33.16 years (Table 1). Most participants were female (81.25%), and most resided in Mumbai (46.42%). Their mean duration of experience was 8.53 years. Most nurses had completed a BSc degree (31.25%).

Table 2 indicates that females had higher levels of emotional intelligence (M=122.91) and mindfulness (M=36.29) compared with males, whose emotional intelligence and mindfulness scores were M=118.43 and M=38.13, respectively. Males (M=19.52) had higher levels of perceived stress than females (M=17.67). However, these differences were not statistically significant. The difference in perception of emotions between males (M=32.39) and females (M=34.70) was statistically significant (p<0.5). Among the other subscales, the mean scores for the ability to manage one's own and others' emotions, observing and describing skills, awareness, non-judging, and non-reactivity were higher in females. Utilization of emotions was higher in males. However, these differences were not statistically significant.

Table 3 shows the Pearson correlations among emotional intelligence, mindfulness, and perceived stress at the 0.01 and 0.05 levels of significance. Mindfulness was negatively correlated with perceived stress (r=-0.357) and positively correlated with emotional intelligence (r=0.44) at the 0.01 level of significance. Perceived stress was negatively correlated with mindfulness (r=-0.357) and emotional intelligence (r=-0.253) at the 0.01 level of significance.

At the 0.01 level of significance, perception of emotions was positively correlated with mindfulness (r=0.462), while managing one's own emotions and others' emotions was positively correlated with mindfulness (r=0.335 and r=0.365, respectively) and negatively correlated with perceived stress (r=-0.314 and r=-0.197, respectively). At the 0.05 level of significance, utilization of emotions was positively correlated with mindfulness (r=0.235). At the 0.01 level of significance, perception of emotions was positively correlated with describing (r=0.353), awareness (r=0.301), and non-judging (r=0.363). At the 0.01 level of significance, management of one's own emotions was positively correlated with describing (r=0.346) and awareness (r=0.337); management of others' emotions was positively correlated with describing (r=0.251), awareness (r=0.335), and non-judging (r=0.336); and utilization of emotions was positively correlated with the awareness subscale of mindfulness (r=0.255). At the 0.01 level of significance, describing was negatively correlated with perceived stress (r=-0.359), and awareness was negatively correlated with perceived stress (r=-0.537). At the 0.05 level of significance, non-judging was negatively correlated with perceived stress (r=-0.217), whereas non-reactivity was positively correlated with perceived stress (r=0.206). At the 0.01 level of significance, describing was positively correlated with EI (r=-0.341), awareness was positively correlated with EI (r=-0.382), and non-judging was positively correlated with EI (r=-0.295).

Table 1. Frequency distribution and percentage based on sociodemographic variables (n=112)

		Percentage	Frequency
Gender	Males	81.25	91
	Females	18.75	21
Age	20–29	33.03	37
	30–39	51.78	58
	40–49	10.71	12
	50–59	4.46	5
Locality	Mumbai	46.42	52
	Pune	21.42	24
	Nashik	22.32	25
	Other cities	8.92	10
Educational qualification	12th	8.92	10
	ANM	11.60	13
	GNM	25.89	29
	DPN	11.60	13
	BSc	31.25	35
	MSc	10.71	12
Years of experience	1–9	75	84
	10–19	16.07	18
	20–29	6.25	7
	30–39	2.67	3

ANM: Auxiliary nurse midwife, BSc: Bachelor of science, DPN: Diploma in psychiatric nursing, GNM: General nursing and midwifery, MSc: Master of science, n: Number of participants.

Hierarchical multiple regression (Table 4) was used to assess the effects of the moderating variable, mindfulness. The moderating effect was assessed through the interaction between mindfulness and emotional intelligence in predicting perceived stress. It was assumed that the relationship between emotional intelligence and perceived stress would change as the value of mindfulness changed. In the first block (Table 5), emotional intelligence predicted perceived stress. Emotional intelligence accounted for a significant amount of variance, R^2=0.064. In Block 2, the interaction between emotional intelligence and mindfulness showed an R^2 change=0.139, indicating a potentially significant moderating effect of mindfulness on the relationship between emotional intelligence and perceived stress. The model summary (Table 5) shows that emotional intelligence (5.6%) and mindfulness (12.3%) played a role in changes in perceived stress levels.

The second phase included more females (n=14) than males (n=6). Based on the participants' responses, various codes were generated and grouped into themes. The themes of

Table 2. Comparison of means of emotional intelligence, mindfulness, perceived stress and their subscales across genders (n=112)

	Gender	Mean	SD	SE mean	t- test for equality of means	df	Significance (2- tailed)
Emotional intelligence	M	118.43	14.045	3.065	-1.382	110	0.17
	F	122.91	13.25	1.389			
Mindfulness	M	36.29	6.72	1.467	-1.051	110	0.296
	F	38.13	7.37	0.773			
Perceived stress	M	19.52	7.195	1.57	1.077	110	0.284
	F	17.37	7.088	0.743			
Perception of emotion	M	32.39	5.283	1.153	-2.291	110	0.024*
	F	34.70	4.124	0.432	-1.963		
Managing own emotions	M	35.14	4.328	0.944	-0.625	110	0.533
	F	35.87	4.893	0.513	-0.675		
Managing others' emotions	M	26.81	4.654	1.016	-1.702	110	0.092
	F	28.54	4.086	0.428	-1.569		
Utilization of emotions	M	24.19	3.108	0.678	0.521	110	0.603
	F	23.80	3.070	0.322	0.517		
Observing	M	7.48	2.442	0.533	-0.457	110	0.649
	F	7.75	2.452	0.257	-0.458		
Describing	M	7.76	2.682	0.585	-1.067	110	0.288
	F	8.45	2.664	0.279	-1.062		
Awareness	M	7.57	2.158	0.471	-0.409	110	0.683
	F	7.84	2.762	0.290	-0.477		
Non-judging	M	7.14	2.632	0.574	-0.569	110	0.571
	F	7.52	2.730	0.286	-0.582		
Non-reactivity	M	6.33	1.983	0.433	-0.405	110	0.686
	F	6.58	2.650	0.278	-0.484		

*: Level of Significance at <0.05 level. SD: Standard deviation, SE: Standard error, df: Degrees of freedom.

work, family, understanding of stress, health, social factors, and strategies for dealing with stress were reviewed. (Table 6) Among participants in the low-mindfulness group, 80% reported using maladaptive strategies that may be helpful initially but create more stress in the long term. These included procrastination, eating comfort food, daydreaming, and similar behaviors. In contrast, 80% of participants in the high-mindfulness group reported using adaptive strategies, such as seeking support from their partner or family members, being assertive, validating their emotions, engaging in some form of exercise or meditation, and maintaining positive relationships with colleagues.

Some common problems reported by participants in the low-mindfulness group included feeling stressed because of their superiors, difficulties managing work pressure and family responsibilities, experiencing interference with daily functioning because of stress, physical symptoms related to stress, and a lack of social support. Some common problems reported by participants in the high-mindfulness group included work pressure, family responsibilities, and a lack of "me time."

Discussion

The purpose of the present study was to investigate the pivotal role of mindfulness in the relationship between emotional intelligence (EI) and perceived stress in psychiatric nurses and to understand the differences between individuals with high and low levels of mindfulness. It provides several new insights at both theoretical and practical levels. Phase 1 of the study indicated a positive correlation between emotional intelligence and mindfulness, a negative correlation between emotional intelligence and perceived stress, and a negative correlation between mindfulness and perceived stress. These findings are consistent with previous research.[18,21–23] The subscales of mindfulness and EI also showed positive correlations. A strong relationship exists between the facets of mindfulness and EI. Regression analysis with perceived stress as the dependent variable indicated that both mindfulness and emotional intelligence predicted stress. After controlling for the effects of emotional intelligence and demographic variables on perceived stress, the present research confirmed that higher levels of mindfulness were as-

Table 3. Correlation among emotional intelligence, mindfulness and perceived stress and among their subscales in mental health nursing staff (n=112)

	Mindfulness	Perceived stress	Emotional intelligence	Observing	Describing	Awareness	Nonjudging	Nonreactivity	Perception of emotions	Managing own emotions	Managing others emotions	Utilization of emotions
Mindfulness	1	-	-	-	-	-	-	--	-	-	-	-
Perceived Stress	-0.357**	1	-	--	-	-	-	-	-	-	-	-
Emotional intelligence	0.44**	-0.253**	1	-	-	-	-	-	-	-	-	-
Observing	0.52**	-0.06	0.166	1	-	-	-	-	-	-	-	-
Describing	0.727**	-0.359**	0.341**	0.193*	1	-	-	-	-	-	-	-
Awareness	0.608**	-0.537**	0.382**	0.5	0.39**	1	-	-	-	-	-	-
Nonjudging	0.631**	-0.217*	0.295**	0	0.482**	0.376**	1	-	-	-	--	-
Nonreactivity	0.29**	0.206*	0.026	0.27**	-0.079	-0.165	-0.162	1	-	-	-	-
Perception of emotions	0.462**	-0.186	0.768**	0.177	0.353**	0.301**	0.363**	0.078	1	-	-	-
Managing own emotions	0.335**	-0.314**	0.87**	0.72	0.346**	0.337**	0.18	-0.021	0.491**	1	-	-
Managing others emotions	0.365**	-0.197*	0.872**	0.185	0.251**	0.335**	0.336**	-0.104	0.593**	0.685**	1	-
Utilization of emotions	0.235*	-0.081	0.716**	0.104	0.101	0.255**	0.022	0.176	0.339**	0.6**	0.518**	1
Mean	37.79	18.02	122.07	7.7	8.32	7.79	7.45	6.54	34.25	35.73	28.21	23.88
SD	7.26	7.11	13.45	2.44	2.66	2.65	2.7	2.53	4.44	4.78	4.23	3.06

*: Correlation is significant at the 0.05 level (2-tailed), **: Correlation is significant at the 0.01 level (2-tailed). M: Mindfulness subscale; EI: Emotional intelligence subscale.

sociated with lower levels of perceived stress. These findings are consistent with the existing literature indicating that higher levels of mindfulness serve as a buffer against negative stress responses.[17,27]

Among the facets, the strongest correlations were found between perception of emotions (EI subscale) and describing (mindfulness subscale), and between perception of emotions (EI subscale) and non-judging (mindfulness subscale). Perception of emotions was strongly correlated with mindfulness. Perception of emotions is most strongly associated with the ability to respond empathically to others.[6] The inability to perceive emotions is associated with poor coping with daily stress and difficulties in social relationships.[28] Greater describing ability is necessary for effective communication and self-control which helps individuals seek social support and facilitates successful task completion, thereby promoting positive affect and personal success.[27] Non-judging is the ability to refrain from judging one's own cognitions, emotions, and bodily sensations and is an important facet of mindfulness that protects individuals from stress and negative affect.[29] Overall, mindfulness functions by helping individuals develop greater awareness of present-moment experiences, which enhances the quality and vividness of everyday experiences. Observation, awareness, a non-evaluative stance, the ability to describe and communicate effectively, and non-reactivity to inner experiences act as stress buffers, allowing emotional regulation to occur, cushioning against negative emotions, and helping individuals cope with everyday challenges.[17]

Phase 2 of the study indicated that nurses with lower levels of mindfulness tended to use maladaptive coping strategies. This is consistent with previous research suggesting that individuals with higher levels of mindfulness use adaptive coping strategies.[18] A study among university students indicated that lower levels of mindfulness are associated with lower resilience, reduced use of adaptive coping, and greater psychological distress.[30]

This research demonstrates how mindfulness exerts its influence and serves as an important moderator between emotional intelligence and perceived stress. If an individual is emotionally intelligent and experiences perceived stress, cultivating mindfulness may act as a buffer against stress. In other words, EI improves the ability to engage one's emotions and rational thinking simultaneously.[6,7] This results in a more controlled reaction to stress, better coping, and reduced perceived stress.[6,7,10] Individuals with high EI take the initiative to put things into perspective, are less likely to catastrophize or blame themselves, use problem-focused coping strategies, have the potential to evaluate themselves honestly, can self-regulate, and can

Table 4. Hierarchical multiple regression for predictive analysis for mindfulness and emotional intelligence (n=112)

Model		Unstandardised co-efficients		Standardised coefficient	t	Significance
		B	SE	Beta		
1	(Constant)	34.358	5.989	-0.253	5.737	0.000
	Emotional intelligence	-0.134	0.049		-2.745	0.007
2	(Constant)	36.991	5.833		6.342	0.000
	Emotional intelligence	-0.063	0.052	-0.119	-1.204	0.231
	Mindfulness	-0.299	0.097	-0.305	-3.082	0.003

B: Unstandardized regression coefficient; SE: Standard error.

Table 5. Model summary

Model	R	R square	Adjusted R square	SE of estimation
1	0.253[a]	0.064	0.056	6.912
2	0.373[b]	0.139	0.123	6.66

[a]: Predictors: (Constant), Emotional Intelligence, [b]: Predictors: (Constant), Emotional Intelligence, Mindfulness. SE: Standard error.

manage conflict and social difficulties.[6] However, EI alone is not sufficient. Psychiatric nurses work in stressful and demanding environments. Mindfulness strengthens the inverse relationship between EI and perceived stress. The presence of mindfulness enhances the effect of EI on perceived stress. Mindfulness improves the ability to cope adaptively with stressful situations by bringing one's awareness to the present moment rather than operating on autopilot and by accepting the unpleasantness of aversive situations.[14–16] This allows individuals to use their EI to cope with the detrimental effects of stress.

This study provides a basis for establishing the importance of EI and mindfulness among psychiatric nurses and may stimulate further research. Hospital management should conduct intervention programs to cultivate both emotional intelligence and mindfulness among psychiatric nursing professionals. This may help develop adaptive coping strategies, protect nurses from stress, and lead to better outcomes. The significance of these aspects also needs to be recognized in nursing education.

Table 6. Categories and subcategories for high and low mindful group (n=20)

Sr. no	Categories	Subcategories	High mindful group		Low mindful group	
			Percentage	Frequency	Percentage	Frequency
1.	Work	1. Superiors	20	2	50	5
		2. Own responsibilities	30	3	20	2
		3. Pressure of work	50	5	40	4
2.	Family	1. Responsibility	40	4	10	1
		2. Management	20	2	50	5
		3. Children	40	4	40	4
3.	Understanding of stress	1.Uncertainty, uncontrollability	40	4	30	3
		2. Hinderance in daily functioning	40	4	40	4
		3. External stress	10	1	10	1
		4. Internal stress	10	1	10	2
4.	Health	1. Physical symptoms	30	3	40	4
		2. Behavioral changes	30	3	30	3
		3. No 'me time'	40	4	30	3
5.	Social factors	1. Absence of partner	40	4	40	4
		2. Lack of social network	20	2	40	4
		3. Family members	40	4	20	2
6.	Strategies to deal with stress	1. Adaptive strategies	80	8	20	2
		2. Maladaptive strategies	20	2	80	8

Limitations

The study was limited to one geographical region and can be expanded to other regions. The sample included a limited number of male nurses. A larger sample with more male nurses may shed further light on gender differences in the variables. Intervention studies for psychiatric nurses based on mindfulness and emotional intelligence can be conducted to examine their impact on perceived stress and other variables such as well-being and coping.

Conclusion

The current research revealed the moderating effect of mindfulness on the relationship between emotional intelligence and perceived stress in psychiatric nurses. It also indicated that higher levels of mindfulness foster adaptive coping and reduce perceived stress. The field of psychiatric nursing involves unique challenges such as violence and unpredictable behavior, which can reduce professional quality of life and increase work-related stress among nurses. Researchers can develop stress management programs by considering the predictive value of each of the variables analyzed. Intervention programs for psychiatric nurses that aim to improve both emotional intelligence and mindfulness may be beneficial for coping with stress.

Ethics Committee Approval: The study was approved by the Amity Institute of Behavioral and Allied Sciences, Amity University Mumbai Ethics Committee (no: 201900/01, date: 20/05/2019).

Informed Consent: Written informed consent was obtained from the participants to ensure that the ethical requirements were clearly understood. Permission was obtained from the participants for audio recording during the interviews. All data were kept confidential and secure.

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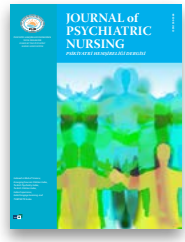
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Original Article

The relationship between spirituality, serenity, and depression levels of students studying at a university of health sciences in Türkiye

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Abstract

Objectives: Depression is one of the major health problems of our era. This study aimed to examine the relationship between university students' depression levels, spirituality, and feelings of serenity, as no previous study in the literature has addressed this relationship.

Methods: A cross-sectional design with convenience sampling was used. Data were collected from 851 students studying at the University of Health Sciences in Ankara, Türkiye, between February and December 2023. The Beck Depression Inventory (BDI), Spiritual Orientation Scale (SOS), and Brief Serenity Scale (BSS) were used for data collection.

Results: The mean total scores of the students were 16.46±11.69 for the BDI, 71.62±16.07 for the BSS, and 84.64±25.62 for the SOS. Regression analysis showed a significant relationship between serenity, spirituality, and depression (F=120.196; p=0.001). Serenity and spirituality explained 22.5% of the total variance in depression levels (R^2=0.225).

Conclusion: Serenity and spirituality were found to reduce depression levels. Universities are recommended to encourage students to engage in spiritual and serenity-related activities and to allocate some free time for these activities, which may positively influence depression levels.

Keywords: Depression; health sciences; serenity; spirituality; students

Depression is one of the most frequently diagnosed psychiatric disorders, but it is also a universal emotion experienced by most people at some point in their lives without necessarily being pathological.[1] Depression is a significant public health problem because it is highly prevalent and causes functional impairment.[1,2] A significant proportion of university students in Türkiye consists of young people between the ages of 15 and 29, and depression is considered one of the most significant disorders threatening this group.[2] Studies conducted among university students indicate that depression is the most serious mental disorder they face.[1] Depression is associated with various problems that may even lead to suicide if the condition is not effectively addressed.[3] Depression among university students may cause a lack of motivation, social withdrawal, and pessimism, which may further lead to decreased academic achievement as well as thoughts of death and suicide.[4] Suicide ranks as the second most common cause of death among individuals aged 15–29 worldwide.[5] In two different studies conducted among university students, Günay et al.[1] found the prevalence of depression to be 21.2%, whereas a literature review conducted by Liu et al.[6] reported that the prevalence of depression among college students worldwide ranged from 5.6% to 53.6%, with most studies reporting rates between 20% and 40%. Depression causes inactivity, unhappiness, and decreased productivity even when it manifests at a mild level. Therefore, it is im-

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portant to identify students showing signs of depression and ensure that they are aware of the types of thoughts, feelings, and actions that may facilitate coping with depression.[1,6]

Spiritual orientation has been discussed as a factor that can play a significant role in coping with depression. Studies have indicated that depression levels decrease as an individual's sense of spirituality increases. Therefore, an inverse association exists between spirituality levels and depression.[7,8] Spirituality and spiritual orientation are fundamental in helping individuals form their own understanding of the meaning of life and build self-confidence, and they can contribute to a calmer and more comfortable life.[9] Jafari et al.[10] reported a connection between the spiritual attitudes and mental health of university students. Deb et al.,[11] who examined psychological well-being and spirituality among university students, reported a statistically significant, albeit modest, positive association between spirituality and subjective happiness, life satisfaction, and meaning in life. Studies conducted among students in Hong Kong highlighted the significance of having a sense of spirituality not only for adults but also for younger students. It was further reported that the suicide rate among university students in Hong Kong had recently increased and that there had been 22 student suicide cases in the 2016 academic year, while more than 900 students had sought counseling support for depression, anxiety disorders, and self-harm during the same academic year.[12] In this context, the significance of university students' sense of spirituality was emphasized.[13]

Spirituality is closely linked to serenity, as it may help individuals find meaning in life, maintain inner peace, and develop emotional balance when coping with stressful life experiences.[8,10,14] Serenity includes aspects such as long-term and enduring feelings of calm, comfort, and peace and is therefore generally considered a positive emotion.[15] Serenity can also refer to the inner harmony and balance that enable a person to have peace of mind, feel safe and calm, have a clear conscience, and not feel disturbed or distracted by what occurs around them.[15] Serenity has a positive relationship with well-being, positive emotions, feelings of connection, a sense of meaning, success in life, and physical and mental health.[15] When individuals are serene, they are more likely to approach situations positively and holistically rather than focusing on a single negative aspect of their lives, which may reduce stress and improve overall health.[16] University students have ranked "serenity" among the top five of their preferred values.[17]

Although previous studies have examined depression among university students in Türkiye and other populations,[1,6] the relationship between spirituality and mental health,[7,8,10,11] and the role of serenity in well-being and positive psychological functioning,[15–17] these variables have generally been addressed separately. Therefore, there is still a need for studies that evaluate spiritual orientation, serenity, and depression together, especially among students enrolled in health sciences programs. This is important because these students are exposed not only to academic stress but also to clinical practice, patient care responsibilities, human suffering, and concerns about future professional roles.[18,19] In this context, spirituality may support students' search for meaning and coping capacity, while serenity may contribute to inner peace, emotional balance, and psychological resilience. By examining the relationship between spirituality, serenity, and depression among students studying at a university of health sciences in Türkiye, this study may contribute to the literature by providing a more holistic understanding of the psychological and spiritual factors associated with depressive symptoms and by offering evidence that may guide preventive and supportive interventions for health sciences students.

What is presently known on this subject?

- Depression remains a major health problem of our era. There is no previous study in the literature addressing the direct relationship between university students' depression levels, spirituality, and feelings of serenity.

What does this article add to the existing knowledge?

- This study demonstrates that spirituality and serenity are significant predictors of depression among university students. Together, spirituality and serenity explained 22.5% (R^2=0.225) of the variance in depression levels.

What are the implications for practice?

- Universities are recommended to encourage students to engage in spiritual and serenity-related activities and allocate free time for these activities. Integrating such activities into university life may serve as a simple yet effective strategy to positively influence and reduce students' depression levels.

Research Questions

1. Is there a significant relationship between spiritual orientation and depression among university students?
2. Is there a significant relationship between serenity and depression among university students?
3. Is there a significant relationship between spiritual orientation and serenity among university students?

Materials and Method

Research Design

This was a cross-sectional study.

Sample

The study was conducted between February and December 2023 with students from a university providing health education in Ankara, the capital of Türkiye. The sample included volunteer students from the Faculty of Nursing and the Vocational School of Health who met no age restrictions and completed the survey form fully and accurately.

Power analysis was conducted to determine the sample size using the G*Power 3.1 program. The effect size was considered moderate at 0.02 based on Cohen's multiple regression analysis.[20] It was calculated that 776 individuals were needed at a 5% significance level and an effect size of 0.02 to achieve more than 95% power (df=773; F=3.007). Accordingly, 821 participants were included in the study.

Measurements

The data for this study were obtained using the Demographic Characteristics Form, the Spiritual Orientation Scale (SOS), the Beck Depression Inventory (BDI), and the Brief Serenity Scale (BSS).

Demographic Characteristics Form

This questionnaire was developed by the authors to evaluate the sociodemographic characteristics of the participants and consisted of six questions assessing the gender, age, department/faculty, income level, family type, and place of residence of the university students.[2,7,8,16]

Spiritual Orientation Scale (SOS)

The SOS was developed by Kasapoğlu in 2015 with the participation of university students to evaluate individuals' orientation toward spirituality.[21] The scale includes 16 items, each rated on a seven-point Likert scale ranging from "Strongly Disagree" (1) to "Strongly Agree" (7). Scores on the scale range from 16 to 112, with higher scores indicating a stronger spiritual orientation. The Cronbach's alpha reliability coefficient for the Spiritual Orientation Scale was reported as 0.87.[21] In the present study, it was calculated to be 0.94.

Beck Depression Inventory (BDI)

The Beck Depression Inventory (BDI) was originally developed by Beck et al.[22] to assess the severity of depressive symptoms. The instrument aims to identify the intensity of depression. The validity and reliability of the Turkish adaptation were established by Hisli among university students. The inventory comprises 21 items, each offering four response options. Scores range from 0 to 3 per item, with a total possible score of 63. According to the scoring system, depression severity is classified as follows: 0–9="minimal," 10–16="mild," 17–29="moderate," and 30–63="severe." The Cronbach's alpha coefficient was reported as 0.80.[23] In the current study, the Cronbach's alpha value of the inventory was found to be 0.92.

Brief Serenity Scale (BSS)

The Brief Serenity Scale (BSS) was developed by Kreitzer et al.[24] to evaluate individuals' levels of serenity. The validity and reliability of the Turkish adaptation were established by Altunkurek.[25] This 22-item instrument is structured on a 5-point Likert scale, with response options ranging from "Never" (1) to "Always" (5). Total scores range from 22 to 110. The scale consists of three subdimensions: Acceptance, Inner Peace, and Trust. Of the 22 items in the scale, items 6, 7, 8, 9, 10, 13, 15, 18, 21, and 22 belong to the Acceptance subdimension; items 1, 2, 5, 11, 12, 14, 17, and 19 belong to the Inner Peace subdimension; and items 3, 4, 16, and 20 belong to the Trust subdimension. Higher scores in each subdimension reflect a greater presence of the corresponding characteristic, while a higher overall score indicates a higher level of serenity. The Cronbach's alpha coefficient for the scale was reported as 0.87,[25] whereas in the present study, it was determined to be 0.91.

Ethical Approval

This study was conducted in accordance with the principles of the Declaration of Helsinki. Ethics committee approval was obtained from the University of Heath Sciences, Gülhane Scientific Research Ethics Committee (Approval Date: February 14, 2023; Approval No: 46418926), and written permission was obtained from the deans and directorates of the faculties and vocational schools where the research was conducted. In addition, the purpose and procedures of the study were explained to the students, and the study was conducted with those who agreed to participate.

Statistical Analysis

The data were analyzed using SPSS version 22.0. The descriptive characteristics of the students were examined using frequency and percentage analyses, while means and standard deviations were used for scale evaluation. The normality of the data distribution was assessed using skewness and kurtosis coefficients, and the results indicated that the data were normally distributed. Therefore, parametric tests were used in the analyses. Relationships between variables were analyzed using linear regression. Independent-samples t tests, one-way analysis of variance (ANOVA), and Tukey's least significant difference (LSD) post hoc test were applied to identify differences in scale scores based on descriptive characteristics. Effect sizes were calculated using Cohen's d and eta squared (η^2) and were interpreted as small (0.2/0.01), moderate (0.5/0.06), and large (0.8/0.14), respectively.[26]

Results

The mean age of the students participating in the study was 20.32±2.42 years. Of the participants, 82.3% were women, 50.1% were studying at the Vocational School of Health, 51.0% had an income equal to their expenses, 80.3% had a nuclear family, and 54.8% lived with their families (Table 1).

The mean total BDI score of the students was 16.46±11.69, and the mean total BSS score was 71.62±16.07. The mean scores

Table 1. Sociodemographic characteristics of the students (n=821)

Variable	n	%
Gender		
Male	145	17.7
Female	676	82.3
Years	20.32	2.42
Department/Faculty		
Faculty of Nursing	410	49.9
Vocational School of Health	411	50.1
Family Income		
Low	295	35.9
Middle	419	51.0
High	107	13.0
Family Type		
Nuclear Family	659	80.3
Extended Family	107	13.0
Fragmented Family	55	6.7
Place of Residence		
Dormitory	304	37.0
With Family	450	54.8
Lodgings	45	5.5
Home Alone	22	2.7

for the acceptance, inner peace, and trust subdimensions of the BSS were 32.51±7.33, 25.81±6.51, and 13.29±3.39, respectively, while the mean total SOS score was 84.64±25.62 (Table 2). When differences in serenity, spiritual orientation, and depression scores were examined according to descriptive characteristics, men had higher depression scores (18.66±14.69) than women (15.99±10.90), while men had lower spiritual orientation scores (73.18±29.02) than women (87.09±24.16). The differences were statistically significant ($p<0.05$). No statistically significant differences were observed between genders for the BSS and its subdimensions ($p>0.05$).

Comparison of the participants' scores according to the department or vocational school in which they were enrolled revealed that the depression scores of students studying at the Faculty of Nursing (13.61±10.28) were lower than those of students studying at the Vocational School of Health (19.31±12.32). The total serenity scores of students studying at the Faculty of Nursing (74.22±15.12) were higher than those of students studying at the Vocational School of Health (69.02±16.59). In addition, the spiritual orientation scores of students studying at the Faculty of Nursing (89.63±22.49) were higher than those of students studying at the Vocational School of Health (79.65±27.54). A statistically significant difference was observed between the scores obtained for the BDI, SOS, BSS, and its subdimensions according to the students' departments ($p<0.05$).

Table 2. Scores of the students for the BSS, SOS and BDI

Scales	Mean±SD	Min±Max
BDI total	16.46±11.69	0±61
SOS total	84.64±25.62	16±112
BSS total	71.62±16.07	22±110
BSS acceptance subdimension	32.51±7.33	10±50
BSS inner peace subdimension	25.81±6.51	8±40
BSS trust subdimension	13.29±3.39	4±20

BDI: Beck depression inventory, SOS: Spiritual orientation scale, BSS: Brief serenity scale, SD: Standard deviation.

The depression scores of students with low family income (19.90±12.68) were higher than those of students with medium (14.34±10.17) and high family income (15.31±12.34). The total serenity scores of students with medium (72.59±15.01) and high family incomes (75.16±18.67) were higher than those of students with low family income (68.96±16.18). Students with medium family income also exhibited higher levels of spiritual orientation (88.02±23.15) than those with high (78.67±30.08) and low income (81.99±26.58). There was a statistically significant difference in the students' BDI, SOS, BSS, and subdimension scores according to monthly family income ($p<0.05$).

The students' depression and spiritual orientation scores differed significantly according to family type and place of residence ($p<0.05$). The depression scores of students with fragmented families (22.18±15.12) were higher than those of students with extended families (18.15±12.39) and nuclear families (15.71±11.10), while students with fragmented families (69.4±25.43) had lower spiritual orientation scores than students with extended (83.37±26.29) and nuclear families (86.11±25.13). The depression scores of students living in lodgings (24.57±13.66) were higher than those of students living alone (23±11.06), in a dormitory (16.33±12.02), or with their families (15.42±10.88). The spirituality scores of students living in a dormitory (85.46±25.47) or with their families (85.7±24.95) were higher than those of students living in lodgings (75.75±28.04) or alone (69.72±29.6) ($p<0.05$). There was no significant difference in the BSS and its subdimension scores according to place of residence or family type ($p>0.05$) (Table 3).

Significant results were obtained in the regression analysis performed to determine the cause-and-effect relationship between serenity, spirituality, and depression ($F=120.196$; $p=0.001<0.05$). Serenity and spirituality explained 22.5% of the total variance in depression levels ($R^2=0.225$). Serenity was found to reduce the level of depression ($\beta=-0.363$). Spirituality also reduced the level of depression ($\beta=-0.187$). Significant results were obtained in the regression analysis performed to determine the cause-and-effect relationship between acceptance, inner peace, and depression ($F=70.824$;

Table 3. Differentiation of serenity, spirituality and depression scores based on descriptive characteristics (n=821)

Demographic characteristics	n	Depression Mean±SD	Total serenity Mean±SD	Acceptance Mean±SD	Inner peace Mean±SD	Trust Mean±SD	Spirituality Mean±SD
Gender							
Male	145	18.66±14.69	72.45±18.56	33.37±8.18	25.93±7.46	13.14±3.96	73.18±29.02
Female	676	15.99±10.90	71.44±15.50	32.33±7.13	25.78±6.3	13.32±3.26	87.09±24.16
t =		2.50	0.68	1.55	0.25	-0.58	-6.05
p =		0.040*	0.542	0.121	0.821	0.606	0.001**
d=		0.229					0.555
Department/Faculty							
Faculty of Nursing	410	13.61±10.28	74.22±15.12	33.56±6.97	26.80±6.14	13.85±3.17	89.63±22.49
Vocational School of Health	411	19.31±12.32	69.02±16.59	31.46±7.54	24.82±6.73	12.73±3.52	79.65±27.54
t =		-7.19	4.69	4.13	4.38	4.81	5.68
p =		0.001**	0.001**	0.001**	0.001**	0.001**	0.001**
d=		0.502	0.328	0.289	0.306	0.336	0.397
Family Income							
Low	295	19.90±12.68	68.96±16.18	31.58±7.35	24.67±6.55	12.70±3.50	81.99±26.58
Middle	419	14.34±10.17	72.59±15.01	32.78±6.92	26.28±6.11	13.52±3.23	88.02±23.15
High	107	15.31±12.34	75.16±18.67	34.01±8.47	27.12±7.48	14.02±3.52	78.67±30.08
F =		21.14	7.51	4.96	7.9	7.93	8.28
p =		0.001**	0.001**	0.007**	0.001**	0.001**	0.001**
η^2=		0.049	0.018	0.012	0.019	0.019	0.020
Post Hoc =		1>2, 1>3 (p<0.05)	2>1, 3>1 (p<0.05)	2>1, 3>1 (p<0.05)	2>1, 3>1 (p<0.05)	2>1, 3>1 (p<0.05)	2>1, 2>3 (p<0.05)
Family type							
Nuclear Family	659	15.71±11.10	71.62±16.12	32.42±7.43	25.9±6.46	13.28±3.37	86.11±25.13
Extended Family	107	18.15±12.39	73.26±15.54	33.31±6.77	26.16±6.49	13.77±3.42	83.37±26.29
Fragmented Family	55	22.18±15.12	68.47±16.32	32.03±7.15	24±7.06	12.43±3.49	69.4±25.43
F =		9.22	1.61	0.8	2.36	2.83	11.22
p =		0.001**	0.200	0.446	0.095	0.059	0.001**
η^2=		0.022					0.027
Post Hoc=		2>1, 3>1, 3>2 (p<0.05)					1>3, 2>3 (p<0.05)
Place of Residence							
Dormitory	304	16.33±12.02	70.99±15.85	32.21±7.16	25.56±6.44	13.21±3.39	85.46±25.47
With Family	450	15.42±10.88	71.98±15.77	32.63±7.29	25.98±6.37	13.36±3.28	85.7±24.95
Lodging	45	24.57±13.66	72.75±18.96	33.04±8.5	26.2±7.84	13.51±3.85	75.75±28.04
Home Alone	22	23±11.06	70.77±19.58	33.22±8.16	25.04±7.7	12.5±4.67	69.72±29.6
F =		11.1	0.32	0.35	0.40	0.58	4.71
p =		0.001**	0.807	0.786	0.750	0.625	0.003**
η^2=		0.039					0.017
Post Hoc =		3>1, 4>1, 3>2, 4>2 (p<0.05)					1>3, 2>3, 1>4, 2>4 (p<0.05)

*: p<0.05, **: p<0.001. F: ANOVA; t: Independent samples t-test, d: Cohen's d effect size, η^2: Eta squared effect size, Post hoc: Tukey, LSD.

Table 4. Effects of serenity and spirituality on depression (n=821)

Independent variable	Unstandardized coefficients		Standardized coefficients	t	p	95% Confidence interval	
	B	SE	ß			Lower	Higher
Constant	42.650	1.728		24.686	0.001	39.258	46.041
Total Serenity	-0.264	0.025	-0.363	-10.622	**0.001**	-0.313	-0.216
Spirituality	-0.086	0.016	-0.187	-5.476	**0.001**	-0.116	-0.055
*Dependent Variable = Depression, R=0.477; R^2=0.225; F=120.196; p=0.001; Durbin-Watson Statistics=1.657							
Constant	39.717	1.691		23.485	0.001	36.397	43.037
Acceptance	-0.447	0.089	-0.281	-5.034	**0.001**	-0.622	-0.273
Inner Haven	-0.429	0.112	-0.239	-3.827	**0.001**	-0.649	-0.209
Trust	0.178	0.186	0.052	0.957	0.339	-0.187	0.543
*Dependent Variable = Depression, R=0.454; R^2=0.203; F=70.824; p=0.001; Durbin-Watson Statistics=1.658							

SE: Standard error.

p=0.001<0.05). Acceptance, inner peace, and trust explained 20.3% of the total variance in depression levels (R^2=0.203). Acceptance was found to reduce the level of depression (β=-0.281). Inner peace was also found to reduce the level of depression (β=-0.239). Trust did not affect the level of depression (p=0.339>0.05) (Table 4).

Discussion

Depression is currently a common mental health problem among university students.[2] However, spirituality and religion are important sources of strength for many individuals and play a significant role in improving feelings of serenity and reducing symptoms of psychological distress.[21] This study was conducted to examine the relationship between university students' depression levels, spiritual orientation, and feelings of serenity. It was considered that revealing the correlations between depression among university students and their spiritual orientation and serenity would make a significant contribution to the literature.

In this study, the mean BDI score of the students was 16.46±11.69, indicating a level close to the upper limit of mild depressive symptoms and suggesting a tendency toward moderate symptom levels. In a study conducted by Günay et al.[1] among university students, the mean BDI score was reported as 11.3±8.6, indicating that the score in the present study was higher. In addition, the literature indicates that depressive symptoms in community samples are generally at low to moderate levels; however, they may vary depending on cultural and environmental factors.[27] These findings suggest that depressive symptoms among students in the present study are relatively high and should be taken into consideration.

The students' mean SOS score was 84.64±25.62, which, considering the possible score range of the scale, indicates a moderate-to-high level of spiritual orientation. The literature reports that spiritual orientation among nursing and health sciences students is generally at moderate to high levels.[28,29] Similarly, in the study conducted by Dalcalı (2020), the mean SOS score was reported as 92.62±23.31, reflecting a high level of spiritual orientation.[9] This finding suggests that the students in the present study demonstrate a relatively strong spiritual inclination.

In addition, the mean total BSS score was 71.62±16.07, which, based on the possible score range of 22–110, indicates a moderate level of serenity. The subscale scores also indicate that students' levels of acceptance, inner peace, and trust were moderate. Due to the limited number of studies directly using the BSS among university students, findings from studies assessing similar constructs, such as serenity and peace of mind, using comparable scales were considered. In this regard, Du and Liu (2025) reported that university students' level of inner peace was moderate and was associated with positive cognitive reappraisal.[30] Furthermore, Vasiou et al. (2026)[14] emphasized that university students' levels of peace of mind were moderate and that peace of mind represents an important psychological determinant of well-being.

The World Health Organization (WHO) defines depression as a health problem affecting both men and women but reports that its prevalence is 50% higher among women.[31] Some studies have reported that female students have higher levels of depression than male students.[32,33] In contrast, other studies have found no significant difference in depression levels between male and female students.[6,34] However, in the present study, male students had higher levels of depression than female students. Similarly, higher depression levels among male students were reported in a study conducted among university students in Hong Kong and another study conducted in Türkiye.[35,36] These discrep-

ancies may be attributable to differences in sociocultural characteristics, the characteristics of the universities attended, and students' living arrangements.

Spirituality can be defined as individuals' efforts to understand their place in the universe, their relationships, and life beyond their own existence.[9,37] The findings of our study revealed that female students had higher spirituality scores. Consistent with our findings, meta-analyses examining the relationship between gender and spirituality have found that women have higher levels of spirituality than men.[38–40] However, other studies in the literature have found no significant difference in spirituality levels according to gender.[7,41,42] The gender-related differences observed in spirituality levels may be explained by women's more pronounced emotional intelligence, meaning-oriented coping strategies, and greater openness to seeking spiritual support. Furthermore, cultural socialization processes and the tendency of female students in health-related disciplines to associate spirituality with empathy and caregiving roles may also be considered contributing factors to this difference.

In the present study, the depression levels of students studying at the Vocational School of Health were higher than those of students in the Faculty of Nursing; however, their spiritual orientation and serenity scores were lower. Studies addressing the relationship between university students' depression levels and the faculties in which they study revealed no significant relationship between the department and students' depression levels.[1,35] However, in a study conducted during the COVID-19 pandemic, mean BDI scores were higher among students studying in the Faculty of Nursing than among students studying at a Vocational School of Health.[43] This result may be attributable to the fact that the research was conducted during the pandemic. It was further concluded that spiritual orientation among university students did not differ significantly according to the department in which the students studied.[44] In light of the findings of the present study and the available literature, the type of educational institution may be associated with students' depression, spiritual orientation, and serenity levels. The higher depression scores and lower spiritual orientation and serenity scores observed among students at the Vocational School of Health may be explained by differences in educational structure, professional expectations, and uncertainty regarding future employment and academic opportunities.

Economic status also affects individuals' mental health and serenity.[31] The results of the present study indicated that students with poor socioeconomic status had higher depression levels and lower serenity scores. Findings in the literature support our results; poor socioeconomic status may therefore play a role in increasing depression levels.[35,45] In the present study, spiritual orientation was lower among students with medium economic status but higher among students with high economic status. The literature review indicated a negative relationship between spirituality and economic status.[46] However, a study conducted in India reported a positive relationship between spirituality and economic status.[39] Another study reported that spirituality did not differ significantly according to economic status.[7] Based on the results of the present study, it may be argued that individuals tend to turn toward spirituality to cope with decreased serenity due to poor economic conditions and increased levels of depression.

Strong family relationships and support from individuals in students' immediate environments affect them psychologically and spiritually.[47] In the current study, students from fragmented families exhibited higher depression scores and lower spiritual orientation levels. This finding is consistent with studies reporting that the likelihood of experiencing depressive symptoms and psychological problems increases among students with problematic family structures and disconnected relationships with their parents.[48,49] However, studies conducted in Türkiye and Puerto Rico found that a fragmented family structure was not associated with students' depression levels.[33,50] Another study examining the relationship between family type and depression found that the probability of depression among individuals with a nuclear family structure was lower than among those with an extended family structure, although this difference was not statistically significant.[51] Contrary to the findings for spiritual orientation observed in the present study, no statistically significant relationship was found in studies examining the relationship between spirituality and family structure, the number of people in the family, and depression.[7,52]

In the present study, however, the depression levels of university students living in dormitories and with their families were significantly lower than those of students living alone and in lodgings, whereas the spirituality levels of those living in dormitories and with their families were significantly higher than those of students living alone and in lodgings. In a study conducted in Greece, which yielded results consistent with those of our study, the depression levels of students living in dormitories were found to be lower.[43] The literature review revealed that the likelihood of depression was higher among students living away from their families or living in dormitories.[33,53] In other studies, however, no relationship was found between students' place of residence and depression.[49] In the present study, the depression scores of students living in dormitories were lower, whereas they were higher among students living in lodgings and alone. This result may be attributable to a lack of socially supportive environments and the possibility of ex-

periencing economic difficulties. Regarding research examining the relationship between university students' spiritual orientation and psychological well-being, no significant relationship was found between place of residence and psychological well-being, whereas the relationship between spirituality and psychological well-being was reported to be positive and significant.[54] Finally, differences in cultural values across societies and variations in the number of students participating in these studies may have contributed to the differences in the findings.

As a result of the regression analysis conducted to determine the cause-and-effect relationship between serenity, spirituality, and depression, it was concluded that serenity and spirituality reduced depression levels. It was further determined that acceptance and inner peace, which are subdimensions of the BSS, reduced students' depression levels. The literature review revealed a significant negative relationship between depression and spiritual orientation, which is consistent with the findings of our study.[7,55] In approximately 40% of the studies examined in a systematic review, spirituality was found to reduce depression levels.[56] A meta-analysis, with results consistent with those of the present study, reported an inverse correlation between depression and spirituality. [8] Considering these findings, the number of studies examining the effects of spirituality on serenity and mental health remains limited and should be increased.

Limitation

One of the significant strengths of this study is that it is the first to investigate the relationship between depression, spirituality, and serenity among students studying in health sciences faculties in Türkiye. However, one limitation is that the findings cannot be generalized because the study was conducted in only two departments at a single university.

Conclusion

The results suggest that cultivating higher levels of spirituality and serenity may contribute to reduced depression among students pursuing health-related education. It is therefore recommended that courses on spirituality and serenity be added to the curriculum to ensure that health professionals, who provide healthcare services to all sectors of society, understand the significance of spirituality during their education. This may enable them to maintain their own psychological resilience and promote the health of those receiving healthcare services. In addition, allocating more time to activities that promote spirituality at universities and supporting students in this regard may contribute to the prevention of psychological problems such as depression and help students lead more peaceful lives.

Ethics Committee Approval: The study was approved by the University of Heath Sciences, Gülhane Scientific Research Ethics Committee (no: 46418926, date: 14/02/2023).

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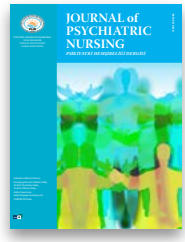
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Original Article

Logotherapy as a psychosocial intervention for quarter-life crisis among young adults: A quasi-experimental study

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Abstract

Objectives: Quarter-life crisis (QLC) is a developmental and existential phenomenon commonly experienced by university students and young adults. It is characterized by identity confusion, uncertainty regarding future life direction, and psychological pressure during the transition to adulthood. QLC may negatively affect mental health, academic motivation, and social functioning. Logotherapy, as a meaning-centered form of psychotherapy, has the potential to reduce existential distress and improve psychological adaptation. This study aimed to examine the effect of logotherapy on quarter-life crisis levels among university students and to compare changes in QLC scores between intervention and control groups.

Methods: A quasi-experimental study with a pre–posttest control group design was conducted. A total of 134 university students were randomly allocated to an intervention group (n=67) and a control group (n=67). QLC levels were measured using a modified Quarter-Life Crisis Questionnaire developed based on Robbins and Wilner's conceptual framework (Cronbach's alpha=0.843). The intervention group received structured group logotherapy, while the control group received no intervention. Data were analyzed using the Wilcoxon signed-rank test for within-group comparisons and the Mann–Whitney U test for between-group comparisons.

Results: Significant reductions in QLC scores were observed in both groups ($p<0.001$). The control group had a mean reduction of 7.07 points, whereas the intervention group experienced a greater mean reduction of 14.76 points. Mann–Whitney U analysis indicated a significant difference in posttest scores between groups ($U=273.5$; $p<0.001$).

Conclusion: Logotherapy demonstrated beneficial effects in reducing QLC levels among university students. These findings underscore the value of meaning-centered psychosocial interventions for enhancing resilience and adaptive capacity in young adults, supporting their integration into university mental health services.

Keywords: Mental health; psychological adaptation; psychotherapy; students; young adults

The transition from adolescence to early adulthood represents a developmental phase characterized by complex adaptive demands, particularly in the domains of identity formation, career planning, and social relationships. Hurlock described the age range of 18–30 years as a period marked by significant psychological changes, which are often accompanied by internal conflicts and uncertainty regarding life direction. These conditions have been closely associated with the phenomenon of quarter-life crisis (QLC), defined as a state of confusion, anxiety, and profound doubt concerning life goals and future orientation.[1] Previous studies have indicated that QLC may negatively affect psychological well-being and adaptive functioning among young adults.

In recent years, quarter-life crisis has been increasingly observed among university students undergoing the transition toward professional life and adult independence. University students have been identified as a particularly vulnerable population due to academic pressure, career uncertainty, and social comparison with peers.[2] Evidence has shown that students experiencing QLC tend to demonstrate decreased

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academic motivation, heightened anxiety, sleep disturbances, and difficulties in decision-making, which may ultimately impair academic performance and social functioning.[3,4] These findings highlight the need for evidence-based interventions that address not only psychological symptoms but also underlying existential concerns.

Quarter-life crisis is increasingly conceptualized not merely as a developmental transition but as an existential and meaning-related crisis emerging during early adulthood. Individuals experiencing QLC often report feelings of emptiness, loss of purpose, uncertainty regarding identity, and anxiety about future life direction. These existential concerns closely align with Viktor Frankl's concept of an "existential vacuum," characterized by diminished meaning and reduced psychological coherence. Therefore, logotherapy was selected in the present study because it specifically targets meaning-making processes and existential distress, making it theoretically relevant for addressing the psychological core of quarter-life crisis.

Recent studies published within the last five years have demonstrated that quarter-life crisis among university students is associated with depressive symptoms, emotional dysregulation, low self-esteem, academic stress, and impaired psychological well-being. Furthermore, research has highlighted the role of meaning-centered coping in psychological adjustment and well-being, particularly during periods of uncertainty and life transition.[5–17] Despite these findings, intervention-based studies specifically targeting quarter-life crisis remain limited, particularly in psychiatric nursing contexts.

Within psychiatric nursing practice, psychosocial interventions emphasizing self-awareness, coping, resilience, and meaning reconstruction are highly relevant for supporting students and young adults experiencing psychosocial distress. Psychiatric nurses play an important role in delivering therapeutic communication, facilitating group-based psychosocial interventions, and promoting adaptive coping strategies. Consequently, the integration of logotherapy into student mental health and psychiatric nursing services represents a promising approach for addressing existential distress associated with quarter-life crisis. Logotherapy, a meaning-centered psychotherapeutic approach developed by Viktor Frankl, offers a framework for addressing existential distress and helping individuals discover meaning in life experiences, including adversity.[11,12]

Despite these findings, empirical evidence regarding the effectiveness of structured logotherapy interventions in reducing quarter-life crisis remains limited. Most existing studies have focused on descriptive analyses and associated factors, while experimental investigations targeting meaning-centered interventions are still scarce, particularly within higher education settings. Therefore, the present study examined the effect of logotherapy on quarter-life crisis levels among university students using a quasi-experimental design with a control group. The findings were expected to contribute empirical evidence supporting the development of meaning-centered psychiatric nursing interventions for young adult populations.

What is presently known on this subject?

- Quarter-life crisis is commonly experienced by university students and is associated with psychological distress, identity confusion, and uncertainty regarding future life roles.

What does this article add to the existing knowledge?

- This study provides empirical evidence that structured group logotherapy significantly reduces quarter-life crisis levels compared with no intervention.

What are the implications for practice?

- The findings support the application of logotherapy as a meaning-centered psychosocial intervention within psychiatric nursing and student mental health services.

Materials and Method

Research Hypotheses

H1: University students receiving logotherapy will demonstrate significantly lower quarter-life crisis scores after the intervention.

H2: Posttest quarter-life crisis scores in the intervention group will be significantly lower than those in the control group.

Type and Design

A quantitative approach was employed using a quasi-experimental pre–posttest control group design to examine the effect of logotherapy on quarter-life crisis (QLC) levels. Logotherapy was treated as the independent variable, while the level of QLC among university students was considered the dependent variable.

Place and Date

The study was conducted at the Faculty of Nursing, Universitas Islam Sultan Agung Semarang, Indonesia, from March to September 2025.

Population and Sample

The study population consisted of 202 university students. A total of 134 participants were selected using simple random sampling and allocated to an intervention group (n=67) and a control group (n=67). Inclusion criteria included students aged 20–25 years who experienced quarter-life crisis and provided informed consent. Students with physical or psychological conditions that could interfere with active participation were excluded.

Data Collection Tools

Quarter-life crisis levels were measured using a modified Quarter-Life Crisis Questionnaire developed based on the conceptual framework proposed by Robbins and Wilner.[4] The questionnaire consisted of 20 items rated on a four-point Likert scale ranging from strongly disagree to strongly agree. The total score range was 20–80, with higher scores indicating greater levels of quarter-life crisis. Scores were categorized as low (20–39), moderate (40–59), and high (60–80). Previous psychometric testing demonstrated acceptable validity and reliability, and the instrument showed good internal consistency in the present study (Cronbach's alpha=0.843).

Intervention Procedure

The intervention consisted of structured group logotherapy delivered in six sessions over a six-week period. Each session focused on meaning-making through guided reflection on personal experiences, exploration of individual values, and reframing of challenging life situations. The intervention was facilitated by the researcher, who had received basic training in logotherapy. Participants in the control group did not receive any logotherapy intervention during the study period.

Statistical Analysis

Descriptive and inferential statistical analyses were performed using SPSS version 25 (IBM Corp., Armonk, NY, USA). A significance level of α=0.05 was applied. The Wilcoxon signed-rank test was used to examine within-group pre–post differences, while the Mann–Whitney U test was employed to compare posttest scores between the intervention and control groups.

Sample size was determined using a power analysis for two-group comparisons with a significance level of 0.05 and statistical power of 0.80. The minimum required sample size was estimated at 128 participants, and an additional margin was added to anticipate participant attrition, resulting in a final target sample of 134 participants.

Participants were recruited through announcements distributed within the Faculty of Nursing. Students who met the inclusion criteria completed an initial screening using the Quarter-Life Crisis Questionnaire. Eligible participants were subsequently assigned to intervention and control groups using simple random allocation.

To maintain intervention feasibility and group dynamics, the intervention group was divided into several smaller therapeutic groups consisting of approximately 10–12 participants per session. Sessions were conducted in classroom-based counseling settings within the faculty environment. The intervention process was facilitated by the principal researcher with assistance from two trained observers who monitored participation and intervention adherence.

A semi-structured logotherapy module was developed based on Frankl's meaning-centered therapeutic principles and reviewed by experts in psychiatric nursing and psychotherapy prior to implementation. A pilot implementation involving a small number of students was conducted to evaluate clarity, feasibility, and session flow before the main study.

The six intervention sessions included: (1) introduction and identification of existential concerns; (2) self-awareness and exploration of personal values; (3) understanding meaning in life experiences; (4) reframing stressful experiences through meaning-centered reflection; (5) future orientation and life-goal clarification; and (6) evaluation, reflection, and strengthening adaptive coping strategies.

Detailed Structure of Logotherapy Sessions

The logotherapy intervention was delivered by the principal researcher, who had received formal training in basic logotherapy principles and group psychosocial intervention techniques. In addition, two psychiatric nursing assistants were involved as observers to monitor participant engagement, group dynamics, and adherence to the intervention protocol.

Each session lasted approximately 90–120 minutes and followed a structured therapeutic format consisting of opening, exploration, reflection, discussion, and closing phases. The intervention procedures were adapted from Frankl's meaning-centered therapeutic framework and previous applications of group logotherapy and meaning-centered interventions reported in psychiatric and counseling settings.[9,11,12]

Session 1 focused on orientation and identification of existential concerns. Participants were introduced to the concept of quarter-life crisis, the purpose of logotherapy, group rules, and therapeutic expectations. Participants were encouraged to share personal experiences related to uncertainty, stress, and future concerns. This initial stage aimed to facilitate awareness of existential distress and establish a therapeutic climate conducive to meaning exploration, consistent with Frankl's theoretical framework and contemporary meaning-centered psychotherapy approaches.[9,11,12]

Session 2 emphasized self-awareness and personal values exploration. Participants reflected on meaningful life experiences, strengths, important relationships, and personal goals through guided discussion and reflective exercises. Guided self-awareness and value exploration techniques were developed according to Frankl's existential principles and previous group logotherapy studies.[9,11,23]

Session 3 addressed meaning in life experiences. Participants explored the concept of meaning according to Frankl's perspective and discussed how meaning can be discovered through creativity, relationships, responsibility, and attitudes toward adversity. Exploration of meaning through creativity, relationships, and atti-

Table 1. Frequency distribution of participants by characteristics

Characteristic	Control group		Intervention group	
	Frequency	%	Frequency	%
Gender				
Female	56	83.6	40	59.7
Male	11	16.4	27	40.3
Age (years)				
21	54	80.6	35	52.2
22	13	19.4	32	47.8
Religion				
Islam	67	100.0	67	100.0
Total	67	100.0	67	100.0

n=67 per group. No abbreviations used.

Table 2. Frequency distribution of quarter-life crisis levels

QLC	Pretest		Posttest	
	Frequency	%	Frequency	%
Control group				
Low	0	0	3	4.5
Moderate	57	85.1	57	85.1
High	10	14.9	7	10.4
Total	67	100.0	67	100.0
Intervention group				
Low	0	0	27	40.3
Moderate	44	65.7	40	59.7
High	23	34.3	0	0
Total	67	100.0	67	100.0

QLC: Quarter-Life Crisis.

tudes toward suffering was based on Frankl's theory of meaning and subsequent meaning-centered psychotherapy models.[11,12]

Session 4 focused on cognitive reframing and self-distancing techniques. Participants were guided to reinterpret stressful experiences and identify adaptive perspectives toward challenges associated with academic pressure, identity confusion, and future uncertainty. Cognitive reframing and self-distancing techniques have been widely described as essential components of logotherapy interventions.[9,12,26]

Session 5 emphasized future orientation and life-purpose clarification. Participants developed realistic personal goals, identified sources of motivation, and discussed strategies for coping with developmental transitions in early adulthood. Future orientation and life-purpose clarification were explored through meaning-centered reflection and value-oriented goal setting based on Frankl's theoretical framework and previous applications of logotherapy and meaning-centered psychotherapy.[9,11,12]

Session 6 involved evaluation, reflection, and strengthening adaptive coping strategies. Participants summarized personal insights gained during the intervention, discussed perceived psychological changes, and formulated plans for maintaining meaning-centered coping strategies after the program ended. Reflection and reinforcement of adaptive coping strategies were intended to facilitate sustainable meaning reconstruction and resilience, consistent with previous applications of logotherapy and meaning-centered interventions.[9,12,26]

Ethical Considerations

The study was conducted in accordance with the Declaration of Helsinki. Ethical approval was obtained from the Research Ethics Committee of the Universitas Islam Sultan Agung Semarang (approval number: 1000/A.1-KEPK/FIK-SA/VII/2025). Written informed consent was obtained from all participants prior to data collection, and anonymity and confidentiality were ensured.

Results

Participant Characteristics

A total of 134 university students participated in this study, consisting of 67 participants in the control group and 67 participants in the intervention group. In both groups, the majority of participants were female. Most participants were 21 years old, and all participants in both groups identified as Muslim. Detailed participant characteristics are presented in Table 1. No participants withdrew during the intervention period, and all participants attended the complete six-session program. Therefore, all enrolled participants were included in the final statistical analysis.

Quarter-Life Crisis Levels

At baseline (pretest), most participants in both the control and intervention groups were classified as having a moderate level of quarter-life crisis, with a notable proportion of participants in the intervention group also categorized as having a high level of quarter-life crisis.

At posttest, the distribution of quarter-life crisis levels in the control group showed minimal change, with most participants remaining in the moderate category. In contrast, the intervention group demonstrated a clear shift toward lower levels of quarter-life crisis, with an increased proportion of participants classified as having a low level and no participants remaining in the high category. The distribution of quarter-life crisis levels before and after the intervention is shown in Table 2.

Effect of Logotherapy on Quarter-Life Crisis

The Shapiro–Wilk test indicated that posttest scores violated normality assumptions; therefore, nonparametric statistical analyses were applied.

Table 3. Differences between pretest and posttest scores in both groups using the wilcoxon signed-rank test

Variable	Mean pre	Mean post	Mean difference	Z	p	Outcome
Quarter-life crisis (control group)	55.16	48.09	-7.07	-7.22	<0.001	Mild reduction
Quarter-life crisis (intervention group)	57.33	42.57	-14.76	-7.32	<0.001	Marked reduction

Differences analyzed using Wilcoxon Signed-Rank Test (p<0.05).

Table 4. Differences in posttest scores between the control and intervention groups using the mann–whitney u test

Variable	U	Z	p	Outcome
Quarter-Life Crisis (Control vs Intervention)	273.5	-8.46	<0.001	Significant difference between groups

Mann–Whitney U test used to compare posttest scores (p<0.05).

Wilcoxon Signed-Rank Test Results

Within-group comparisons using the Wilcoxon signed-rank test revealed statistically significant reductions in quarter-life crisis scores in both the control and intervention groups (p<0.001). The magnitude of score reduction was greater in the intervention group than in the control group. Detailed results of the Wilcoxon signed-rank test are shown in Table 3.

Mann–Whitney U Test Results

Between-group analysis using the Mann–Whitney U test demonstrated a statistically significant difference in posttest quarter-life crisis scores between the intervention and control groups (U=273.5; p<0.001). Participants in the intervention group exhibited lower posttest quarter-life crisis scores compared with those in the control group. The results of the Mann–Whitney U test are presented in Table 4.

Discussion

Principal Findings

This study demonstrated beneficial effects of logotherapy in reducing quarter-life crisis among university students. Participants in the intervention group experienced a substantially greater reduction in QLC levels compared with those in the control group, confirming the study hypothesis. The marked shift from high to low QLC categories and the larger decrease in mean scores in the intervention group indicate that logotherapy produced a clinically meaningful improvement rather than a minimal or spontaneous change.

Although the control group also showed a statistically significant reduction in QLC scores, the magnitude of change was relatively small. This modest improvement may reflect natural psychosocial adaptation and gradual changes in identity and emotional adjustment during emerging adulthood.[6–8] Longitudinal evidence also indicates that experiences of quarter-life crisis may change during the transition from university to adult roles.[18]

Interpretation of Changes in Quarter-Life Crisis

The pronounced improvement in the intervention group indicates that logotherapy contributed directly to reducing existential distress associated with quarter-life crisis. Unlike the control group, the intervention group showed not only a decrease in symptom severity but also a substantive categorical transition from high to low levels of QLC. This pattern suggests a deeper transformation in participants' perception of life meaning, identity, and future orientation.

Quarter-life crisis has been associated with negative emotional experiences, including heightened depressive symptoms and reduced psychological well-being.[5] The sharp reduction in QLC following logotherapy is consistent with evidence that meaning-centered and logotherapy-based interventions can enhance meaning in life and reduce psychological distress, depressive symptoms, and hopelessness.[9–14]

Mechanisms Underlying the Effectiveness of Logotherapy

The effectiveness of logotherapy in this study can be explained through its focus on meaning-making processes. According to Frankl's theoretical framework, existential crises such as QLC originate from an existential vacuum characterized by a lack of perceived meaning.[11,12] Logotherapy targets this noetic dimension through self-distancing, self-transcendence, and meaning reconstruction, enabling individuals to reinterpret stressful life events in a more adaptive and purposeful manner.

Recent empirical studies have shown that meaning-based interventions enhance purpose clarity, life coherence, and future orientation—key protective factors against quarter-life crisis.[19–21] These mechanisms were not present in the control group and may explain why the intervention group demonstrated a significantly greater reduction in QLC scores.

These findings are consistent with previous studies indicating that meaning-centered psychotherapy improves psychological adaptation, resilience, and emotional regulation among young adults facing developmental transitions. The present

study extends previous literature by specifically demonstrating the effectiveness of logotherapy for quarter-life crisis within a university student population. The intervention may have facilitated cognitive reframing, improved future orientation, and enhanced participants' ability to perceive life challenges as meaningful and manageable experiences.

Comparison with Previous Studies

The findings of this study are consistent with prior research demonstrating that logotherapy and other meaning-centered approaches can reduce psychological distress and enhance meaning in life and psychological well-being among university students and young adults.[9,10,13–15] Similar studies have reported improvements in identity development and psychological adjustment following logotherapy-based interventions.[16]

Furthermore, the significant difference in posttest scores between the intervention and control groups supports previous evidence that changes resulting from meaning-centered therapy cannot be attributed solely to natural developmental processes.[21–24] These findings strengthen the empirical support for logotherapy as an effective psychosocial intervention for individuals experiencing quarter-life crisis.

Clinical and Theoretical Implications

The results of this study have important implications for mental health services in higher education. The high prevalence of quarter-life crisis among students highlights the need for structured interventions that address existential concerns, not only symptom reduction. Logotherapy may serve as a cost-effective, flexible, and culturally adaptable intervention that can be integrated into university counseling and psychiatric nursing services.

From a theoretical perspective, this study supports the applicability of logotherapy within the Indonesian cultural context. The findings suggest that logotherapy may enhance intervention acceptability within the Indonesian cultural context. Meaning-centered approaches may facilitate adaptive coping and psychological well-being among Indonesian young adults.[22–29] These findings provide empirical support for the development of culturally sensitive, meaning-centered mental health interventions for university students.

The present findings also reinforce the relevance of psychiatric nursing interventions that address existential dimensions of mental health. Psychiatric nurses working in university and community settings are strategically positioned to provide supportive counseling, psychoeducation, and meaning-centered group interventions for students experiencing developmental crises. By facilitating reflection, emotional expression, and adaptive coping, psychiatric nurses may contribute substantially to improving psychological resilience and preventing more severe mental health problems among young adults.

In addition, the integration of logotherapy into psychiatric nursing practice may strengthen holistic approaches to mental health care by addressing cognitive, emotional, social, and spiritual dimensions simultaneously. This aligns with contemporary mental health frameworks emphasizing person-centered and recovery-oriented care.

Limitations and Future Directions

Several limitations should be acknowledged. First, the quasi-experimental design limits causal inference despite the inclusion of a control group. Second, the sample was drawn from a single institution, which may limit generalizability. Third, reliance on self-report measures introduces the possibility of response bias. In addition, the long-term effects of logotherapy were not examined.

Future research should employ randomized controlled trials, include more diverse student populations, and incorporate longitudinal follow-up to assess the sustainability of logotherapy outcomes. Further exploration of culturally adapted meaning-centered interventions may also enhance the effectiveness of mental health services for young adults experiencing quarter-life crisis.

Conclusion

The findings suggest that logotherapy may serve as an effective intervention for reducing quarter-life crisis among university students and support the proposed research hypotheses. The findings demonstrate that logotherapy facilitates adaptive meaning-making, enhances clarity of life direction, and strengthens students' capacity to cope with existential challenges during the transition to early adulthood. Practical implications of these findings include the incorporation of structured logotherapy programs into university counseling and psychiatric nursing services to support students experiencing uncertainty, identity confusion, and existential distress during early adulthood.

The significance of this research lies in its contribution to student mental health interventions by demonstrating that meaning-centered therapy addresses core existential concerns rather than merely alleviating symptoms. These results support the integration of logotherapy into university counseling services and emphasize the importance of culturally sensitive meaning-centered interventions for promoting psychological well-being among university students. Future research is recommended to involve more diverse populations, apply longitudinal designs to examine the sustainability of intervention outcomes, and explore digital-based formats to enhance accessibility and continuity of logotherapy-based programs. Nursing practitioners and university mental health professionals are encouraged to incorporate structured meaning-centered interventions into counseling and psychosocial support programs for students experiencing quarter-life crisis.

Ethics Committee Approval: The study was approved by the Universitas Islam Sultan Agung Semarang Ethics Committee (no: 1000/A.1-KEPK/FIK-SA/VII/2025, date: 10/07/2025).

Informed Consent: Written informed consent was obtained from all participants prior to data collection, and anonymity and confidentiality were ensured.

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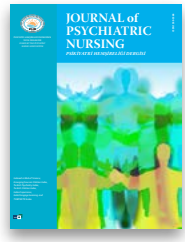
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Systematic Review

Unspoken norms and silent struggles: A scoping review of cultural ınfluences on adults' mental health help-seeking

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Abstract

Objectives: The purpose of this scoping review is to synthesize the existing literature on cultural factors influencing mental health help-seeking attitudes to understand how different cultural groups perceive mental disorders and how these perceptions influence their mental health help-seeking attitudes.

Methods: The scoping review utilized a six-step protocol that included the following key steps: formulating the research question, conducting a literature search, selecting studies, charting the data to extract relevant information from each selected study, collating and summarizing the findings, and disseminating the results.

Results: A total of 1,065 studies were retrieved through electronic databases. Of these, 28 peer-reviewed articles were included in the study. The findings from this scoping review reveal that cultural elements such as attitudes toward mental illness, cultural beliefs about the etiology of mental illnesses, acculturation, and the use of alternative treatment modalities influence mental health help-seeking attitudes and behaviors across different cultural groups. Communities with negative beliefs about mental illness and those that associate mental illness with supernatural causes have lower rates of mental health service utilization and higher rates of social stigma and self-stigma.

Conclusion: Psychiatric mental health nurse practitioners can utilize the findings from this scoping review to provide culturally competent mental health services. These findings can be used in policymaking to improve mental health help-seeking behaviors across different cultural and ethnic groups by facilitating access to culturally competent psychiatric care.

Keywords: Atitude; culture; help-seeking; help-seeking behavior; mental health disorders

The World Health Organization (WHO) estimated that 1 out of every eight people in the world was living with at least one mental disorder in 2019, representing nearly 970 million people in the global population.[1] The third Sustainable Development Goal (SDG) focuses on good health and well-being and aims to reduce by one-third premature deaths resulting from non-communicable diseases through disease prevention and the promotion of mental health.[2] It also aims to strengthen measures that will facilitate the prevention and treatment of mental disorders, including substance use disorders.[2] Such global actions have targeted improvements in mental healthcare utilization. However, only a small proportion of those with mental disorders utilize available mental healthcare services. For example, a nationwide study involving 55,052 American adults with mental disorders revealed that only 11.3% utilized mental healthcare services.[3] Evidence indicates that 44%–70% of individuals in high-income countries and up to 90% in developing countries who could benefit from mental health treatment do not receive it. Sociocultural factors have been cited as being among the leading causes of underutilization of mental healthcare services.[4]

Culture can be defined as a set of attitudes, values, traditions, rituals, beliefs, and behaviors shared by a group of people and usually communicated and passed down from generation

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to generation.[5] Culture differentiates social groups and influences not only how individuals behave but also how they perceive the behavior of others.[6] Cultural factors, including beliefs, patterns, and practices, shape societal attitudes toward mental illnesses, and such attitudes can directly influence the health-seeking behaviors of individuals struggling with mental or psychiatric disorders.[4,7] Previous studies have shown that access to mental healthcare services is impaired by cultural factors, such as public stigma.[8] The influence of religious beliefs has also been demonstrated.[4] In particular, cultures that perceive mental diseases as resulting from a curse or evil spirits may prevent their members from seeking timely psychiatric care, leading to increased morbidity, mortality, and healthcare expenditure.[9–11] Therefore, cultural norms play an important role in help-seeking for mental health issues, leading some people to choose traditional medicine over standard psychiatric care.[12,13] Health-seeking behaviors and attitudes play an essential role in determining access to care and recovery from psychiatric illnesses.[10]

Despite the growing literature on cultural factors and their relationship with mental health help-seeking attitudes, most studies focus on specific cultural groups. Therefore, there is a need for a comprehensive review to provide an in-depth understanding of how different cultures influence mental health help-seeking attitudes across diverse cultural groups. The review will provide a detailed description of the key similarities and differences in these cultural factors, thereby allowing mental health practitioners to modify existing treatment modalities to make them culturally sensitive rather than using a one-size-fits-all approach. Additionally, combining qualitative and quantitative studies is beneficial for adding to the body of knowledge while offsetting the limitations of both research designs. The aim of this scoping review is to synthesize the existing literature on cultural factors influencing mental health help-seeking attitudes to understand how different cultural groups perceive mental disorders and how these perceptions influence their mental health help-seeking attitudes. The review informs mental health practitioners about effective strategies that can be implemented to promote access to culturally sensitive mental healthcare services, mitigate stigma, and enhance mental health recovery within a multicultural society.

What is presently known on this subject?

- Only a small proportion of people with mental disorders actually use the mental health services available to them.
- Research shows that cultural norms vary widely, and most studies tend to focus on specific cultural groups rather than capturing this broader diversity.

What does this article add to the existing knowledge?

- Certain cultural factors, in particular, shape how people from different backgrounds view mental health and influence whether and how they seek help.
- Communities that hold negative beliefs about mental illness tend to have lower use of mental health services and experience higher levels of both social stigma and self-stigma.

What are the implications for practice?

- The study highlights the crucial role of culture in shaping how mental illness is understood, explained, and stigmatized.
- A one-size-fits-all approach in psychiatry is ineffective, as cultural groups differ in their mental health beliefs and practices.
- Alternative therapies play a distinct role in how mental illnesses are managed across different cultural contexts.

Materials and Method

Design

The scoping review design was utilized because it allows for an in-depth, systematic, comprehensive, and rigorous synthesis of the existing literature.[14]

A scoping review typically seeks to encompass a wide range of literature, making a systematic critical appraisal of findings difficult to achieve. Scoping reviews are carried out by researchers in place of systematic reviews when they aim to study research practices, scope a body of literature, discover knowledge gaps, or explain ideas.[15] These reviews are often used to explore the contexts of specific phenomena.[14] In this instance, the focus was on the cultural factors shaping health-seeking attitudes among adults with mental health disorders across various cultural settings.

A scoping review can examine and map existing evidence and inform professional practice using six key steps. These steps involve formulating the research question, conducting the literature search, selecting studies, charting the data to extract relevant information from each selected study, collating and summarizing the findings, and disseminating the results.[15]

Search Methods

Electronic databases, including PubMed, Medline, Scopus, Web of Science, and CINAHL Ultimate, were searched using Boolean phrases coupled with search-strategy recommendations specific to each of the five bibliographic databases. To determine and understand the impact of culture on mental health help-seeking behaviors among adults with psychiatric disorders, the following Boolean phrases were applied: "Help-seeking" OR "help-seeking behavior" OR "self-seeking" AND "mental" OR "psychiatric disorders" OR "mental health disorders" OR "mental health problems" AND "attitude OR behavior" AND "ethnology OR culture." Quotation marks were used to delineate the phrases to ensure that the search results identified peer-reviewed scholarly articles relevant to all the keywords.

The inclusion criteria were studies published between 2014 and 2024, articles written and published in English, peer-reviewed articles indexed in electronic databases including PubMed, Medline, Scopus, Web of Science, and CINAHL Ultimate, and studies focusing on cultural influences on help-

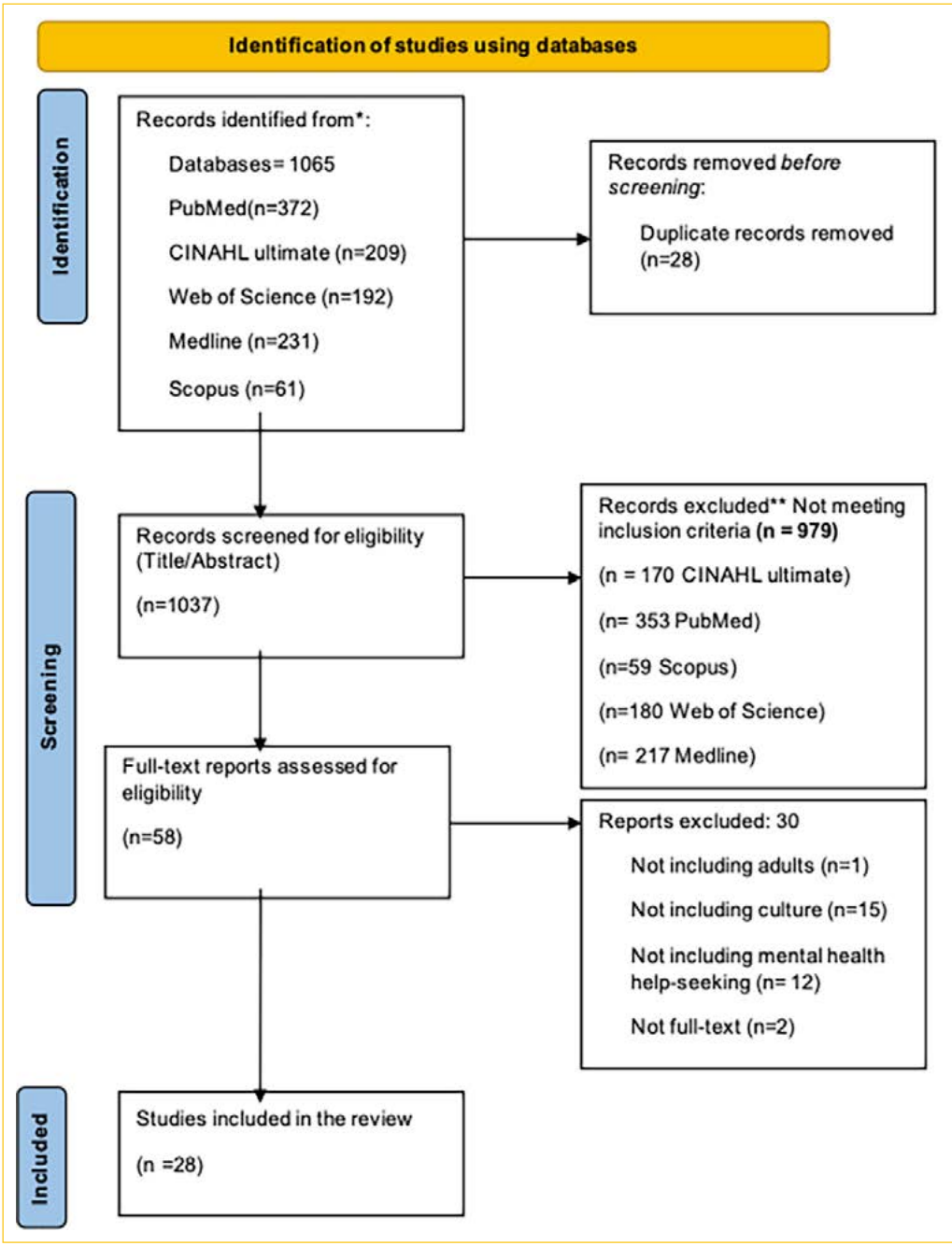


Figure 1. PRISMA diagram.

seeking behaviors or attitudes among adults with mental or psychiatric disorders. Articles published before 2014, articles derived from commentaries or expert opinions, and those that did not include all the main keywords were excluded.

Search Outcomes

The PRISMA tool was used to guide the key processes involved in the identification, screening, and selection of appropriate articles. The PRISMA flow diagram is provided below. The initial search yielded 1,065 articles: 372 from PubMed, 209 from CINAHL Ultimate, 192 from Web of Science, 231 from Medline, and 61 from Scopus. Twenty-eight duplicates were removed, resulting in a total of 1,037 articles. The 1,037 articles were reviewed against the inclusion and exclusion criteria using the abstracts to screen for eligibility, which led to the exclusion of 979 articles. Therefore, a total of 58 full-text articles were selected for full-text assessment; 30 were excluded, and 28 articles ultimately met the inclusion criteria (Fig. 1).

Quality Appraisal

The Critical Appraisal Skills Programme (CASP) checklists were used to assess the quality of the qualitative studies, cross-sec-

tional studies, and systematic reviews. The CASP platform offers a wide array of checklists that can be used to assess the quality of different research designs and eliminate weak, inappropriate, and irrelevant articles. The CASP checklist for qualitative studies had 10 questions and examined whether the studies had a clear statement of purpose and whether the authors selected the appropriate methodology, design, recruitment strategy, and data collection methods. Ethical issues, data analysis, research findings, and the value of the study were also evaluated. The CASP checklist for cross-sectional studies had 11 questions that assessed the validity of the research findings by determining whether the study addressed a clear issue and whether the researchers used an appropriate methodology to address the issue. The recruitment strategies were analyzed to assess potential bias and whether the findings were sufficiently precise to influence decision-making. The CASP checklist for systematic reviews had 10 questions and assessed the validity of the cumulative research findings, reviewed the findings, and examined how the findings could be adapted to the local population. The total scores for each CASP checklist were calculated by awarding one point for elements that were present and assigning zero points to elements that were unavailable or not clearly depicted in the article. Articles with scores of 8 or above were considered high quality. All 28 articles were of high quality (Tables 1-3).

Data Abstraction and Synthesis

Data from the selected articles were extracted into a summary table to allow for interpretation of the key findings (Appendix 1). To answer the research question and identify gaps in the literature, a thematic analysis of the data from the included studies was conducted.[16] The first author included only statistically significant results from the quantitative studies and relevant data from qualitative studies and systematic reviews in the table to allow for adequate comparison of the findings. The extracted data were systematically coded and synthesized into four themes that aligned with the purpose of this scoping review. The first author conducted the initial coding and developed the preliminary themes. To enhance the reliability of the coding process, the second author independently reviewed the coding framework, the summary table, and the preliminary themes. Any discrepancies in coding or theme interpretation were discussed between the first and second authors until consensus was reached. The final themes were then refined and confirmed through mutual agreement, ensuring the accuracy, consistency, and relevance of the thematic synthesis.

Results

Appendix 1 summarizes the included studies. Of the 28 articles reviewed, 39% (n=11) were qualitative studies, 43% (n=12) were cross-sectional studies, and 18% (n=5) were systematic reviews. Eleven of the 28 studies were conducted among immigrant populations in Western countries. The studies were conducted in various regions, including Jordan (n=1), Nigeria (n=1), South Africa (n=1), Equatorial Guinea (n=1), China (n=1), the United States (n=2), the United Kingdom (n=2), and Ireland (n=1). The findings of this scoping review are presented under four themes: (i) cultural beliefs about the etiology of mental illness, (ii) perceptions of mental illness and stigma, (iii) alternative treatments for mental illnesses, and (iv) acculturation.

Theme 1: Cultural Beliefs About the Etiology of Mental Illness

Culture influences beliefs about the etiology of mental illnesses or mental disorders. Arab-Islamic culture has traditionally associated mental illness with supernatural causes, including black magic, jinn (demon) possession, and the evil eye.[4,7,11,17] These beliefs persist among Muslim immigrant populations in other countries, such as Australia and the United States.[10,18] Religious beliefs endorsed by Latin, Māori, Polish, and Asian cultures often link mental disorders to spirits and sorcery.[19] In Haiti[7] and Nigeria,[9] mental illnesses were attributed to angered spirits and to aggravated individuals whom the affected person had wronged or with whom they had failed to maintain positive relationships.[9] People with mental disorders were thought to have offended the gods or spirits by committing serious crimes, failing to adhere to established social norms, or as a result of God's punishment.[9,20]

Different cultures had different explanatory models for mental illness.[19,21] African cultures adopted a bewitchment explanatory model, which attributed mental illnesses to jealousy-induced witchcraft and the evil eye. Most individuals with mental illnesses, along with their caregivers, believed that they had been bewitched.[22] Western cultures adopted a biopsychosocial model, conceptualizing mental illnesses as resulting from stress, the social environment, and genetics.[19] Interestingly, however, African descendants living in the United Kingdom also expressed beliefs that mental illness was caused by demon possession and moral failings.[23]

Theme 2: Perceptions of Mental Illness and Stigma

Cultures dictate how individuals perceive mental illness. In Pakistani[17] and Equatorial Guinean[21] cultures, mental illnesses were associated with aggressive and bizarre behaviors, reinforcing discriminatory attitudes that hinder help-seeking. Asian and Nigerian communities, including those living in Western countries, perceived mental illnesses as abnormalities and individuals with mental illnesses as disordered, leading to social stigma and self-stigma that prevented them from seeking professional care.[9,24] Mental illnesses such as depression were believed to be signs of weakness.[8,24,25,26] Seeking mental healthcare and support was discouraged among Asian, Chi-

Table 1. Quality appraisal of qualitative studies

CASP Questions for qualitative studies	Wright et al.[26]	Alqasir& Ohtsuka [10]	Jidong et al.[9]	Ediz et al. [11]	Firnhaber et al.[8]	Sangar& Howe[24]	Bila& Carbonatto[22]	Jimenez Fernandez et al.[21]	Liu[36]	Mantovani et al.[23]	Ta Park et al.[24]
1. Clear statement of aims	1	1	1	1	1	1	1	1	1	1	1
2. Appropriate methodology	1	1	1	1	1	1	1	1	1	1	1
3. Appropriate research design	1	1	1	1	1	1	1	1	1	1	1
4. Appropriate recruitment strategy	1	1	1	1	1	1	0	1	1	1	1
5. Appropriate data collection methods	1	1	1	1	1	1	1	1	1	1	1
6. Research relationship considered	1	1	1	1	1	1	1	1	1	1	1
7. Ethical issues considered	1	1	1	1	1	1	1	1	1	1	1
8. Data analysis rigorous	1	1	1	1	1	1	1	1	1	1	1
9. Clear statement of findings	1	1	1	1	1	1	1	1	1	1	1
10. Research value	1	1	1	1	1	1	1	1	1	1	1
Total score	10	10	10	10	10	10	9	10	10	10	10

Table 2. Quality appraisal of cross-sectional studies

CASP Questions for cross-sectional studies	Al Ali et al.[29]	Zhou et al.[33]	Galvin et al.[7]	Ahmad& Koncsol[17]	Nohr et al.[37]	Mudryk & Johnson[18]	Tuliao[31]	Abolfotouh et al.[20]	Found[32]	Goyal et al.[30]	Heller et al.[37]	Markova et al.[35]
1. Clear statement of aims	1	1	1	1	1	0	1	1	1	1	1	1
2. Appropriate methodology	1	1	1	1	1	1	1	1	1	1	1	1
3. Appropriate recruitment strategy	1	1	1	1	1	1	1	1	1	1	1	0
4. Accurate measurement to reduce bias	1	1	1	1	1	0	1	1	1	0	1	1
5. Appropriate data collection methods	1	1	1	1	1	1	1	1	1	0	1	1
6. Enough participants to minimize the play of chance	1	1	1	1	1	1	1	1	1	1	1	1
7. Clear presentation of findings	1	1	1	1	1	1	1	1	1	1	1	1
8. Data analysis rigorous	1	1	1	1	1	1	1	1	1	1	1	1
9. Clear statement of findings	1	1	1	1	1	1	1	1	1	1	1	1
10. Application of the findings to local population	1	1	1	1	1	1	0	1	1	1	1	1
11. Research value	1	1	1	1	1	1	1	1	1	1	1	1
Total score	11	11	11	11	11	9	10	11	11	9	11	10

Table 3. Quality appraisal of systematic reviews

CASP questions for systematic reviews	Elshamy et al.[4]	Ghanem et al.[19]	Than et al.[28]	Martinez et al.[13]	Haque& Malebranche[27]
1. Clearly focused question	1	1	1	1	1
2. Correct type of papers	1	1	1	1	1
3. All the important and relevant studies included	1	1	1	1	1
4. Appropriate quality assessment of articles	1	1	0	1	1
5. Reasonable to combine results of review	1	1	1	1	1
6. Overall results	1	1	1	1	1
7. Precision of results	1	1	1	1	1
8. Results applicable to local population	0	1	1	1	1
9. All the important outcomes considered	1	1	1	1	1
10. Benefits worth the harms and costs	1	1	1	1	1
Total score	9	10	9	10	10

nese, Cambodian, Irish, and Syrian communities, both in their countries of origin and among immigrant populations living in Western countries, as it was perceived to bring shame to the family.[24,25,27,28] Some Chinese women living in the United States did not perceive depression as a genuine health issue.[25] Similarly, Bhutanese and Syrian migrant women viewed depression as incompatible with childbirth because they associated childbirth with celebration, and their cultural norms expected women to endure its challenges without complaining.[27]

Cultural values and beliefs that associated mental health help-seeking with inadequacy or weakness led to public and private stigma[29–31] and a significant reduction in mental health help-seeking attitudes and behaviors,[13,32] including among immigrant populations.[33] Cuban, German, Russian, and Norwegian cultures had a positive perception of mental illness and a higher prevalence of mental health help-seeking behaviors.[20,34]

Theme 3: Alternative Treatments for Mental Illnesses

Cultures recommended the use of diverse alternative treatments to manage mental illnesses in alignment with cultural values, beliefs, and practices. Middle Eastern, Indian, Cambodian, Filipino, and Turkish cultures used traditional healers, Buddhist monks, prayers, consultation with family members, herbal remedies, and religious activities such as visiting shrines and wearing amulets to manage mental illnesses rather than seeking professional mental health services.[4,11,13,30] In Haiti, South Africa, Nigeria, and Equatorial Guinea, people preferred seeking mental healthcare from voodoo priests, traditional healers, or Fang traditional healers.[7,9,21,22] These communities used standard psychiatric services when these indigenous practices proved ineffective. In contrast to African cultures, African descendants living in the United Kingdom argued that spiritual and religious interventions alone were insufficient to manage mental illnesses.[23]

Theme 4: Acculturation

Attitudes toward mental health and help-seeking differed across generations and migrant populations. Low levels of acculturation among first-generation Muslim, Somali, and Pakistani immigrants were associated with negative perceptions of mental illness, social stigma, and reduced mental health help-seeking.[18,35] However, despite acculturation, young Chinese girls living and studying overseas[36] and Chinese American women with postpartum depression[25] were still reluctant to seek mental health services because they perceived depression as a sign of weakness. Asian and Latinx students who held strong Asian and Latin cultural beliefs about mental illness had a lower likelihood of seeking professional mental health support compared with students with lower adherence to either Asian or Latino cultures.[33] Interestingly, Asian immigrant students were more likely to use mental healthcare services if they were offered in English rather than in Chinese.[37]

Discussion

This scoping review aims to synthesize the existing literature on cultural factors influencing mental health help-seeking attitudes to understand how different cultural groups perceive mental disorders and how these perceptions influence their mental health help-seeking attitudes and behaviors. The four themes that emerged from this scoping review are cultural beliefs about the etiology of mental illness, perceptions of mental illness and stigma, alternative treatments for mental illnesses, and acculturation.

Several studies included in this review found that culture influences beliefs about the etiology of mental illness, with participants from African, Turkish, Haitian, and Arabic communities attributing mental illnesses to supernatural causes such as demon possession, the evil eye, spirits, sorcery or

witchcraft, black magic, voodoo, and punishment resulting from moral failings.[4,7,9,11,17,21] These beliefs may persist, particularly among Muslim immigrant populations, even after migration to Western countries.[10,18] Asian, Latin, Polish, and Māori cultures[19] had religious worldviews that linked mental illnesses to spirits and God's punishment, whereas the biopsychosocial model attributed mental illness to factors such as stress, genetics, and the individual's social environment.[20,34] These findings are consistent with existing evidence demonstrating that mental illness is attributed to both supernatural explanations within some non-Western contexts and biopsychosocial factors across diverse cultural settings.[38] However, our review found that the biopsychosocial model is not unique to Western countries, as Cuban participants linked mental illness to environmental stressors.[34] The findings demonstrate the complexity of cultural values and beliefs across different regions and how they influence the understanding of mental illness.

The cumulative findings in this review demonstrate the diverse perceptions of mental illness across different cultural groups. In African communities such as those in Nigeria, South Africa, and Equatorial Guinea, mental illness is considered taboo, and individuals refrain from seeking mental healthcare services because of social stigma and self-stigma.[9,21,22] Similarly, Asian communities, including those living in Western countries, associate mental illnesses with weakness and shame.[25,36] These findings suggest that cultural factors are key predictors of social stigma and self-stigma. Thus, across diverse countries and cultural settings, it is crucial to emphasize the importance of understanding cultural nuances to effectively address stigma and promote global mental health awareness.[39] Interestingly, however, some cultures, such as the Cuban context, have a high likelihood of seeking professional mental health support regardless of existing negative attitudes toward mental illness.[34] This shift in perception suggests that increasing public awareness of mental health may help cultural groups reform negative perceptions of mental illness, thereby reducing social stigma and self-stigma.

This review illustrates the role of alternative treatments for mental illnesses. There is widespread preferential use of traditional healing practices, such as Fang healers, voodoo priests, traditional healers, Buddhist monks, herbal therapies, and religious activities such as praying, visiting shrines, and wearing amulets, across different cultural groups.[4,11,13,28,30] Some communities that believe mental illness is a private matter opt to consult family members. This is similar to Gureje et al.,[40] who suggest that traditional healing practices are commonly used by individuals with mental illnesses because they reflect their unique cultural beliefs. Although most studies in this review acknowledged that traditional healing practices were sufficient, African descendants living in the United Kingdom argued that religious interventions alone were insufficient.[23] Therefore, it is important to understand the unique role of alternative therapies and how to integrate these therapies into standard psychiatric care to offer culturally sensitive mental health services that encourage patients with mental illnesses to consider seeking professional mental healthcare.

The review affirms the complex yet interesting relationship between acculturation and mental health help-seeking attitudes and behaviors among migrant populations. Low acculturation rates were associated with negative beliefs about mental illness and limited utilization of mental healthcare services in host countries, and vice versa.[18,25,33,35] Although evidence indicates that the level of acculturation is significantly associated with stigma, this association becomes less apparent when specific dimensions of stigma, such as anticipated consequences, disclosure, concealment, and willingness to provide help, are examined separately.[41] It is evident that cultural factors contribute to stigma toward people with mental illness, their families, and mental health professionals, potentially creating barriers to seeking professional mental healthcare.[42] Therefore, these factors should be taken into consideration in the planning and delivery of mental health services, particularly for immigrant populations, to ensure culturally responsive and accessible care. Notably, Heller et al.[37] noted that immigrants were more likely to utilize professional mental health services if they were offered in English compared with their native language. This review shows that, despite acculturation, some immigrants continue to hold their native beliefs about mental illness, limiting their access to standard mental health services. Mental health practitioners should consider cultural preferences when caring for immigrants to ensure the provision of culturally competent psychiatric care. It is also crucial to consider linguistic preferences to help reduce mental health stigma.

Limitation

This review was limited to studies published in English. As a result, relevant studies published in local languages may have been excluded, which may have affected the comprehensiveness of the synthesized evidence.

Conclusion

This scoping review synthesized the existing literature to discuss how different cultures describe and perceive mental disorders and how these perceptions influence mental health help-seeking attitudes and behaviors. The studies explored the importance of culture in understanding and defining the underlying causes of mental illnesses and the

development of stigma. The review found that cultural beliefs associating mental illness with supernatural powers and feelings of shame or weakness were associated with lower rates of mental health help-seeking behaviors compared with beliefs linking mental illnesses to environmental factors. The review also demonstrated the unique role of alternative therapies in managing mental illnesses across different cultural contexts.

The findings from this scoping review emphasize that a one-size-fits-all treatment approach in psychiatry is unattainable because different cultural groups hold different beliefs and practices regarding mental health. Therefore, psychiatric mental health nurse practitioners should integrate cultural practices into the biomedical approach to provide respectful, dignified, culturally sensitive, and holistic care. In addition, psychiatric mental health nurse practitioners should collaborate with community leaders to organize community health campaigns to raise awareness of mental illness and address myths that hinder individuals from seeking mental healthcare, as this may be effective in combating negative cultural beliefs about mental illness. Such actions are important because they can promote mental health in accordance with SDG 3 by ensuring that individuals with mental illnesses receive appropriate and culturally competent care without social discrimination or stigma. Future studies should examine the safety and efficacy of traditional healing practices to determine whether they can be used as a complement to standard psychiatric care to further enhance the provision of client-centered, respectful, effective, and holistic care. Additionally, future research should examine how cultural factors interact with social determinants of health to shape perceptions of mental disorders and mental health help-seeking attitudes and behaviors. Investigating factors such as socioeconomic conditions, healthcare accessibility, social support networks, migration experiences, and systemic barriers may provide a more nuanced understanding of disparities in mental health service utilization among diverse cultural groups.

Onlie Appendix Files: https://jag.journalagent.com/phd/abs_files/PHD-23316/PHD-23316_(2)_PHD-23316_appendix.docx

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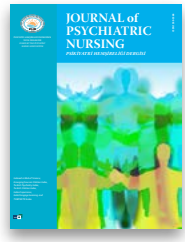
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Review

Concept analysis of help-seeking intention in adolescents in the context of mental health: A conceptual review using the Walker & Avant method

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Abstract

Adolescents' professional help-seeking behavior is significantly influenced by their help-seeking intention (HSI), especially in relation to mental health concerns. Despite being widely used in various studies, the definition, characteristics, antecedents, and consequences of this concept remain varied and inconsistent. To strengthen the foundation for interventions and clarify theoretical understanding, concept analysis is required. Using the Walker and Avant method, this concept analysis seeks to elucidate the concept of adolescents' intention to seek help. This approach explores antecedents, characteristics, and consequences using Walker and Avant's conceptual method through eight analytical steps. It also presents case examples that clarify the conceptual boundaries of help-seeking intention among adolescents in the context of mental health. Help-seeking intention is defined as adolescents' cognitive and affective preparedness to seek professional or non-professional assistance and is influenced by attitudes toward seeking help, subjective norms, perceived behavioral control, and evaluations of help sources. In the context of mental health, stigma, social support, and mental health literacy are antecedents of adolescents' intention to seek help. The characteristics of this concept include problem recognition, attitudes toward seeking help, behavioral intentions, and preferences for trusted sources of help. Adolescent help-seeking intention is a multifaceted concept that includes social, affective, and cognitive components. This work provides a stronger theoretical basis for research on mental health literacy-based interventions and adolescent mental health promotion.

Keywords: Adolescents; humans; intention; mental health; nursing

Along with the rising incidence of psychological disorders among young people, adolescent mental health is a global issue receiving increasing attention.[1] According to a World Health Organization (WHO, 2024) report, approximately 1 in 7 adolescents worldwide experience mental disorders such as depression, anxiety, or behavioral disorders, which typically emerge between the ages of 10 and 19. Despite these psychological problems, the majority of adolescents do not seek professional help.[2] Many adolescents choose not to discuss their problems or are unaware that they need assistance.[3] These conditions affect social interactions, academic performance, emotional well-being, and the likelihood of engaging in risky behaviors, including substance misuse and suicidal ideation.[4] In this context, the intention to seek help becomes a crucial concept that connects awareness and action.[5]

Although this concept is widely discussed in the literature, confusion remains between intention and behavior, creating problems with terminology, measurement, and intervention design. While some studies present help-seeking intention

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(HSI) as a component of mental health literacy, others relate it to attitudes within the Theory of Planned Behavior (TPB). Inconsistencies in the outcomes of programs designed to improve adolescents' help-seeking behavior may also result from variations in terminology and conceptual elements. Nonetheless, conceptual clarity is essential for developing successful interventions.[6]

To ensure appropriate and culturally relevant interventions and assessments, conceptual clarity is essential in nursing practice, particularly in psychiatric and community nursing. Therefore, a concept analysis using the Walker & Avant approach was conducted to clarify the characteristics, antecedents, consequences, and empirical referents of adolescent help-seeking intention within the context of mental health.

Materials and Method

The concept analysis approach was used in this study to examine help-seeking intention in relation to mental health. In the context of mental health, where a concept is examined to gain a deeper understanding, this approach seeks to clarify the concept of help-seeking intention.[7] Walker and Avant's eight-step concept analysis method was applied in this analysis: 1) selecting a concept; 2) determining the aims or purposes of the analysis; 3) identifying all uses of the concept; 4) determining the defining attributes of the concept; 5) identifying a model case; 6) identifying borderline, related, contrary, invented, and illegitimate cases; 7) identifying antecedents and consequences; and 8) defining empirical referents.[8]

A literature search was conducted in the Scopus and ScienceDirect databases from database inception to March 2025 using the keywords "help-seeking intention," "adolescent," and "mental health." The search strategy was applied to titles, abstracts, and keywords and was limited to articles published in English. The inclusion criteria were full-text articles published in English; studies focusing on adolescents aged 10–19 years; articles from psychology, nursing, psychiatry, public health, education, or other health-related disciplines; open-access articles; and studies discussing the definition, attributes, antecedents, consequences, measurement, or conceptual understanding of help-seeking intention in the context of mental health. The exclusion criteria were studies focusing solely on help-seeking behavior without addressing help-seeking intention; studies involving populations other than adolescents; articles unrelated to mental health contexts; conference proceedings, editorials, commentaries, letters to the editor, dissertations, and book chapters; articles without accessible full-text versions; non-English publications; and duplicate records identified across databases.

What is presently known on this subject?

- The definition, characteristics, and conceptual boundaries of help-seeking intention remain diverse and inconsistent across the interdisciplinary literature; however, many studies recognize it as a significant predictor of mental health help-seeking behavior in adolescents.

What does this article add to the existing knowledge?

- Adolescents' intentions to seek help are a major focus of school- and community-based mental health interventions, as recent research has demonstrated that these intentions are influenced by mental health literacy, stigma, and attitudes toward seeking help.

What are the implications for practice?

- By identifying important characteristics, antecedents, consequences, and empirical referents as a theoretical foundation for the development of adolescent mental health nursing interventions and assessment tools, this article provides a systematic conceptual clarification of help-seeking intention in adolescents using the Walker & Avant concept analysis method.

A total of 465 records were identified through database searching. After duplicate records were removed and titles and abstracts were screened for relevance, potentially eligible articles underwent full-text review. Eighteen full-text articles were excluded because they did not specifically address help-seeking intention, involved non-adolescent populations, or lacked sufficient conceptual information related to the attributes, antecedents, consequences, or empirical referents of the concept. Ultimately, 11 articles met all eligibility criteria and were included in the final concept analysis. The article identification and selection process is presented in Figure 1. The flowchart illustrates the process of identifying articles and applying the inclusion criteria (Fig. 1).

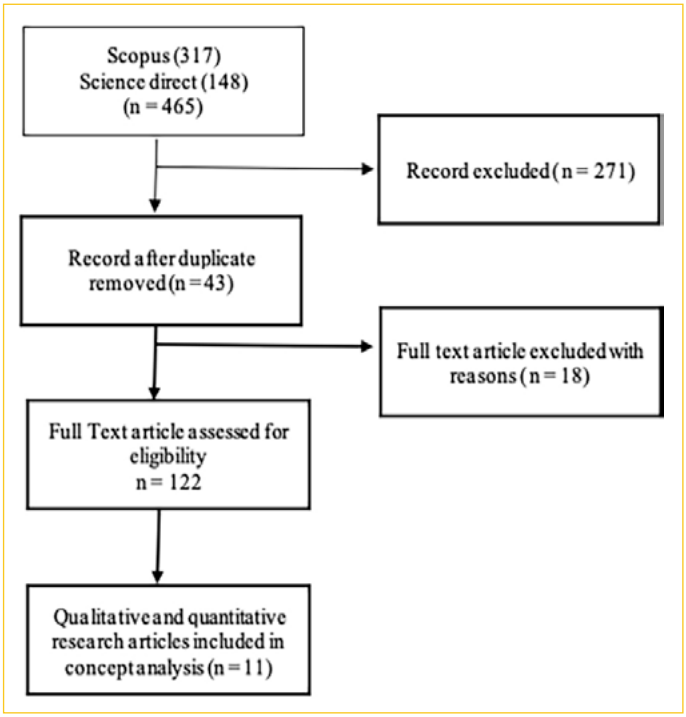


Figure 1. A flowchart detailing the article search and inclusion process.

Results

Concept Analysis of Help-Seeking Intention in Adolescents in the Context of Mental Health

Selecting the Concept

Help-seeking intention is the primary concept examined. As a psychosocial construct, help-seeking intention is essential for understanding help-seeking behavior related to mental health concerns.[9] Drawing on Ajzen's Theory of Planned Behavior, as described by Breslin et al.,[10] intention is regarded as the immediate antecedent of behavior, including help-seeking behavior.

This concept is important in the context of mental health nursing because nurses may help adolescents modify their mental health behaviors, including increasing their willingness to seek professional assistance.[11] By understanding the attributes, antecedents, and consequences of help-seeking intention, nurses can identify barriers and develop effective promotive interventions to encourage help-seeking behavior among adolescents.

Determination of Analysis Objectives

The goal of this concept analysis is to provide a precise, useful, and measurable operational definition of help-seeking intention, which remains unclear in the literature.

Definition and Use of the Concept of Help-Seeking Intention

This concept is frequently used in various fields, including psychology, psychiatry, public health, education, sociology, and nursing, according to a literature search conducted between 2015 and 2025. Each discipline provides a unique perspective that enhances understanding of the concept while also producing variations in meaning that need to be mapped. A detailed explanation of the applications of the concept is provided Table 1.

Use in Social Psychology

Help-seeking intention is a component of the Theory of Planned Behavior (TPB) in social psychology, which holds that intention is the best predictor of actual behavior. It characterizes an individual's inclination to seek professional or non-professional assistance when experiencing difficulties.[12]

This usage highlights that intention is a product of an individual's perceptions of benefits, barriers, and social support rather than merely a willingness to act.

Use in Clinical Psychology and Psychiatry

This concept is used in clinical psychology to explain why many individuals with mental disorders do not seek treatment even when they experience severe symptoms.[13]

In relation to seeking professional assistance from a psychologist, psychiatrist, or counselor, this field examines intention as a mediator between clinical symptoms and behavior.

Use in Public Health

Public health emphasizes formal help-seeking behavior and access to services. Help-seeking intention is used to predict primary healthcare utilization, identify structural and cultural barriers, assess the effectiveness of mental health literacy education initiatives, and evaluate individuals' readiness to use health services.[14]

Use in Nursing and Psychiatric Nursing

According to Meleis' Transition Theory, help-seeking intention can be considered a predictor of self-management behavior, a component of the psychosocial adaptation process, an indicator of adolescent preparedness for developmental transitions, and an outcome of educational interventions, health promotion, and nursing counseling.[15]

Understanding help-seeking intentions helps nurses develop school-based psychiatric nursing interventions, support adolescents in making healthy decisions, reduce stigma in the community, and improve adaptive coping strategies. This concept serves as both a behavioral predictor and an indicator of psychological well-being in nursing practice.[16]

Use in the Education Sector (School Mental Health)

In the field of education, help-seeking intention is used to evaluate students' preparedness to seek assistance from guidance teachers or counselors, the role of the school environment in promoting mental health, the relationship between students' mental health literacy and help-seeking behavior, and psychological barriers such as mistrust of school services or fear of judgment.[17] This concept helps schools develop initiatives such as peer support, counseling, and mental health promotion.

Use in Health Technology (e-Health, m-Health)

In the digital age, help-seeking intention is used to predict the use of chat-based counseling applications, telepsychiatry services, acceptance of digital education platforms, and readiness to use online mental health services.[18]

The Essence of All Uses of the Concept

The fundamental premise underlying all variations of the concept is that help-seeking intention refers to an individual's psychological, cognitive, emotional, and social preparedness to seek help when facing mental health problems, whether from formal or informal sources.

Determining Defining Attributes

Based on a synthesis of the interdisciplinary literature, four main attributes were identified.

Table 1. The concept definition of help seeking intention

No	Title	Author	Scope	Definisi intention help seeking
1	Continuum Beliefs About Mental Illness: Examining Stigma, Help-Seeking Intentions, and Help-Providing Intentions Among Adolescent Males[23]	Fernandez, Deane & Vella [23]	Psychology	The term "Help seeking Intention" refers to an adolescent's propensity or intention to seek assistance while dealing with personal or emotional issues from formal (mental health experts, general practitioners, hotlines, the internet) or informal (friends, family, teachers, coaches) sources.
2	Impact of Changes in Adolescent–Adult Relationships on Help-Seeking Intention Among Japanese Schoolchildren[24]	Rahman et al.[24]	Psychology/ public health	Help-seeking intention is defined as an adolescent's readiness and willingness to seek help when experiencing symptoms of distress or depression, asked through responses to a vignette with a choice of "talk to someone right away" (seek help) versus "don't talk to anyone" (not seek help).
3	Understanding help-seeking intentions in male military cadets: An application of perceptual mapping[25]	Bass et al.[25]	Nursing/psychology	The willingness or propensity of individuals (military cadets) to seek assistance for physical or mental health issues is known as help-seeking intention, and it is impacted by psychological characteristics such self-reliance, emotional control, perceived vulnerability, faith in professionals, and stigma. The belief that asking for assistance entails "losing control" or being viewed as "weak," which leads to poor help-seeking intentions. This essay focuses on this purpose as a mental and emotional preparedness to seek assistance.
4	Help-seeking attitudes and intentions for generalised anxiety disorder in adolescents: the role of anxiety literacy and stigma[26]	Calear et al.[26]	Nursing	The General Help-Seeking Questionnaire (GHSQ) measures an adolescent's intention to seek help while they are suffering anxiety. Here, intention is a subjective evaluation of a person's propensity to seek assistance from a certain source (e.g., mother, father, counselor).
5	Influences on adolescent help-seeking for mental health problems[22]	Pearson & Hyde[22]	Nursing	The definition provided by Rickwood & Thomas (2012) is cited in the article: An adaptive coping strategy that involves trying to get outside help is called "help-seeking." The General Help-Seeking Questionnaire (GHSQ) was used to gauge "the likelihood that adolescents would seek professional or informal help," which is the intention component. Therefore, intention is the cognitive preparedness or intention to seek assistance when dealing with emotional or mental issues.
6	Anxiety Specific Mental Health Stigma and Help-Seeking in Adolescent Males[27]	Clark, et al.[27]	Nursing	Help-seeking is described in the article as an attempt to obtain assistance from official or unofficial sources. The likelihood that a teenager will ask for assistance is predicted by their intention. This idea is consistent with the Theory of Planned Behavior, which holds that the main factor influencing a person's decision to seek assistance is their intention.
7	Help-Seeking Intentions Among Asian American and White American Students in Psychological Distress: Application of the Health Belief Model[9] Cheng, Saad, & Chu, 2012	Jin E. Kim & Nolan Zane[9]	Psychology	Seeking assistance The term "intention" refers to a person's deliberate and logical desire, motivated by their views of the issue, advantages, and obstacles, to seek professional assistance while they are experiencing psychological discomfort. According to the article, stigma barriers and views about the advantages of services have an impact on intention, which is a "approximation of actual help-seeking behavior."
8	Research Review: Help-Seeking Intentions, Behaviors, and Barriers in College Students – A Systematic Review and Meta-analysis[28]	Zhao et al.[28]	Nursing/ Psychology	When a student experiences mental health issues, help-seeking intention is defined as their willingness or desire to think about engaging formal support services, regardless of whether they actually do so. It is stated as "consider using formal help" before to the actual action.
9	Teen Mental Health First Aid (tMHFA) Intervention Study[29] stigma reduction, help-seeking, and suicide prevention program designed for adolescents in Years 10–12 of secondary school (16–18 years)	Hart et al.[29]	Nursing	Adolescents' intentions are linked to what they would do to support someone who is dealing with mental health problems, such as urging them to get professional assistance. This notion refers to behavioral intents to request or encourage help-seeking, even when the focus is on first-aid goals.
10	Concept Analysis of Physical Restraint in Mental Health Nursing [30]	Ye et al.[30]	Nursing	According to the Theory of Reasoned Action (TRA), intention is described as a person's propensity to act in a particular way based on moral obligations, attitudes, and subjective norms. Relevance: The TRA model (behavioral intention as a predictor of action) is frequently used to explain intentions to seek assistance.
11	Attitudes about mental illness and help-seeking amongst adolescent males[31]	Liddle et al.[31]	Psychology	The tendency or willingness of teenagers to seek assistance from formal sources (mental health experts) or informal sources (friends, family) while dealing with psychological issues, as well as the attitudes and beliefs that impact this readiness, is known as help-seeking intention.

Problem Recognition

Problem recognition refers to the ability of adolescents to recognize that they are experiencing emotional or psychological problems that require external help.[19] Indicators include identifying mental health problems that interfere with functioning and acknowledging the need to seek assistance.

Attitude Toward Help-Seeking

This attribute refers to adolescents' cognitive and affective evaluations of the benefits and feasibility of seeking assistance.[20] Indicators include perceiving assistance as beneficial and not feeling embarrassed or fearful of stigma.

Behavioral Intention

Behavioral intention refers to readiness and specific plans to seek assistance in the near future.[21] Indicators include expressing a desire to consult someone and making a specific plan to seek assistance.

Source Preference and Trust

This attribute refers to adolescents' selection of and trust in individuals or professionals whom they consider capable of providing assistance.[22] Indicators include selecting a professional, friend, family member, or guidance counselor and having confidence in the source of help and feeling safe when seeking assistance.

Identifying a Model Case

A model case provides the clearest illustration of a concept because all defining attributes of the concept are present.

Model Case: Wini and the School Counselor

Wini, a 17-year-old eleventh-grade student, has been experiencing more anxiety than usual for the past two months. She frequently has difficulty sleeping, begins to lose interest in studying, and feels unable to control her thoughts. Initially, Wini dismisses these experiences as normal stress, but when her test scores decline and she begins to withdraw from her friends, she realizes that something is wrong (Problem Recognition).

One day, while attending a mental health education program at school offered by the local community health center, Wini learns that her symptoms are similar to those associated with anxiety. She begins to believe that speaking with her guidance counselor could be beneficial. She believes that seeking professional assistance could help her address her problems and that asking for help is nothing to be ashamed of (Positive Attitude Toward Help-Seeking).

Wini then decides to meet with the school counselor and makes a specific plan to visit the counselor's office during the next break. She even expresses her intention to a close friend and asks the friend to accompany her (Behavioral Intention).

Wini chooses the school counselor because she feels comfortable with the counselor, believes that her privacy will be respected, and trusts that she will not be judged (Source Preference and Trust). Wini ultimately visits and speaks with the school counselor. All defining attributes are evident in this case, making it a model case.

Identifying Additional Cases

Borderline Case

As he approaches graduation, 17-year-old Rian experiences considerable stress. He struggles to concentrate on his studies and frequently experiences intense anxiety. He recognizes that his condition is unusual and that he may require assistance (Problem Recognition: present). However, Rian is reluctant to seek professional assistance because he fears being perceived as mentally weak or unable to cope with stress. His attitude toward seeking assistance remains ambivalent (Attitude Toward Help-Seeking: weak/inconsistent).

Occasionally, Rian considers speaking with his teacher, but he repeatedly postpones doing so and tells himself that he can still handle the situation on his own (Behavioral Intention: unclear/insufficient). Rian also does not know whom to approach for help and is uncertain whether the school counselor could genuinely assist him (Source Preference and Trust: absent).

This case contains some of the defining attributes but lacks clear behavioral intention and trust in a source of assistance, making it a borderline case.

Related Case

Hera, a 15-year-old adolescent, recently lost a close family member. She feels sad but chooses to manage her emotions independently. She begins journaling, increases her religious activities, and exercises to relieve the stress she is experiencing. Her friends suggest consulting a school counselor, but Hera believes that she can continue managing her emotions without external assistance and therefore does not feel the need to seek help.

Hera recognizes her problem and uses adaptive coping strategies but has no intention of seeking external assistance. Therefore, this case represents self-help coping rather than help-seeking intention.

The absent attributes include behavioral intention, a positive attitude toward seeking assistance, and a preference for or trust in a source of assistance. This case is considered related because it involves problem recognition but does not demonstrate help-seeking intention.

Contrary Case

Fifteen-year-old Rani experiences severe anxiety. She loses her appetite, frequently screams, and has difficulty falling asleep. When her parents suggest that she speak with a counselor, Rani strongly refuses and insists that she is fine and that her reactions are normal (no problem recognition).

Rani has a negative attitude toward seeking assistance and believes that seeking psychological help is a sign of weakness (no positive attitude toward help-seeking). She has no behavioral intention to seek assistance. Furthermore, she has no preference for or trust in potential sources of assistance, including family members, teachers, or healthcare professionals. Therefore, none of the defining attributes of help-seeking intention are present, making this a contrary case.

Identifying Antecedents and Consequences

Antecedents are events or conditions that must occur before the development of help-seeking intention, whereas consequences are outcomes that occur as a result of the concept. The relationship among the antecedents, defining attributes, and consequences of help-seeking intention is illustrated in Figure 2.

Antecedents → Concept → Consequences

Empirical Referents

Indicators, measurement tools, or observable examples of a concept that can be measured or empirically tested are known as empirical referents.[32] In this context, empirical referents address the question, "How do we know that someone truly has a help-seeking intention?" Therefore, empirical referents extend beyond definitions and provide tangible evidence that the concept exists in the real world through measurable indicators, scales, or behaviors.

Based on the identified characteristics of help-seeking intention in adolescents, the behavioral and cognitive indicators demonstrating the presence of help-seeking intention include the following:

Problem Recognition

This is demonstrated by adolescents' awareness that they need assistance with stress, anxiety, or emotional problems.

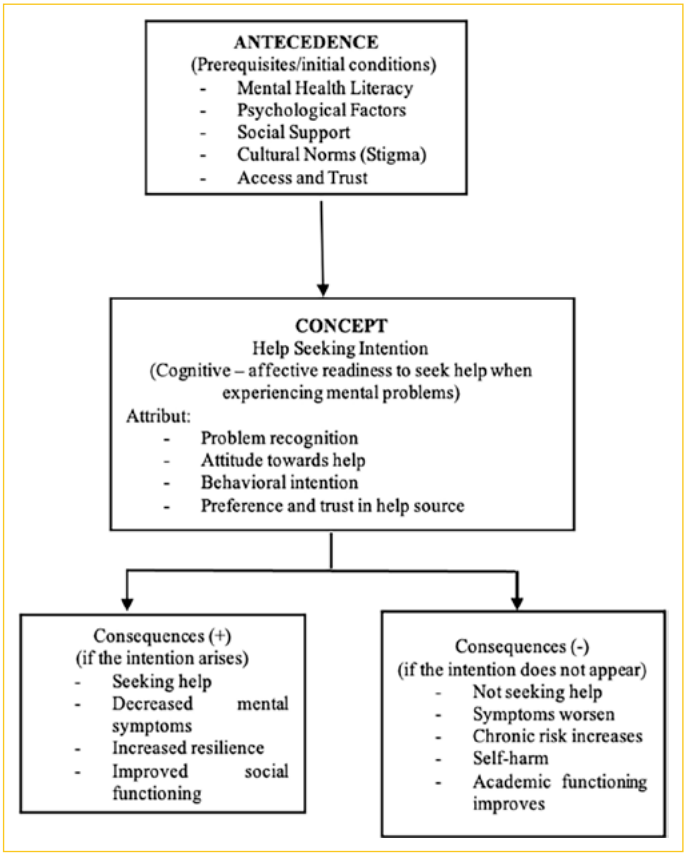


Figure 2. An overview of the antecedent – attribute – consequence model in adolescents' help-seeking intention.

Positive Attitude Toward Help-Seeking

This is demonstrated by the belief that seeking help is beneficial, safe, and not shameful.

Expression of a Desire or Readiness to Seek Help

Examples include statements such as "I intend to meet with the counselor" or "I will talk to the school counselor."

Source Preference and Trust

This is demonstrated by selecting specific individuals who are perceived as capable of providing assistance, such as parents, friends, teachers, counselors, or psychologists.

The instruments used as empirical referents for assessing help-seeking intention and its related attributes are presented in Table 2.

Table 2. Instruments serving as empirical referents

Attribute	Empirical Instruments
Problem Recognition	Mental Health Literacy Scale (MHLS)
Attitude	Attitudes Toward Seeking Professional Psychological Help (ATSPPH
Behavioral Intention	General Help-Seeking Questionnaire (GHSQ); Intentions to Seek Counseling Inventory (ISCI)

Relevant additional instruments include:

- SSOSH (Self-Stigma of Seeking Help)
- IASMHS (Inventory of Attitudes Toward Mental Health Services)

These instruments represent measurable forms of the defining attributes and can therefore serve as empirical referents for assessing the presence of help-seeking intention among adolescents.

Discussion

This concept analysis clarified the meaning and conceptual boundaries of help-seeking intention among adolescents in the context of mental health. Using Walker and Avant's method, four defining attributes were identified: problem recognition, attitude toward help-seeking, behavioral intention, and source preference and trust. These findings suggest that help-seeking intention is not merely an individual's willingness to seek support but rather a multidimensional construct encompassing cognitive, emotional, and social processes.[25]

The identification of problem recognition as a defining attribute highlights the importance of adolescents' ability to recognize emotional distress and mental health problems.[33] This finding is consistent with previous research by Sokolova (2024), which showed that mental health literacy is a prerequisite for help-seeking intention, as adolescents must first recognize symptoms before considering professional help.[34] Adolescents who fail to identify psychological distress often normalize their symptoms or rely on maladaptive coping strategies, thus reducing their likelihood of seeking help.[35]

Attitudes toward help-seeking emerged as another key attribute. This finding aligns with the Theory of Planned Behavior,[36] which suggests that positive attitudes significantly influence behavioral intentions. Previous studies have shown that adolescents who perceive mental health services as beneficial, safe, and non-stigmatizing are more likely to express intentions to seek professional support.[37] Conversely, negative beliefs and stigma remain major barriers that discourage help-seeking behavior despite the presence of psychological distress.[27]

Behavioral intention itself was identified as a distinct attribute rather than merely an outcome. This finding reinforces the theoretical assumption that intention represents the most proximal determinant of behavior.[36] The present analysis supports previous evidence indicating that adolescents who formulate specific plans and express readiness to seek help are more likely to engage in actual help-seeking behavior.[38] Therefore, interventions should not only improve knowledge but also facilitate concrete behavioral planning and decision-making processes.

Another important attribute identified in this analysis was source preference and trust. Adolescents frequently evaluate the credibility, accessibility, confidentiality, and emotional safety of potential sources of support before deciding to seek help.[39] Previous studies have reported that adolescents often prefer informal sources, such as family members and friends, before approaching mental health professionals.[40] This preference may be influenced by cultural values, perceived stigma, and concerns regarding confidentiality. Consequently, help-seeking intention should be understood within the broader social and cultural context in which adolescents live.

The antecedents identified in this analysis—mental health literacy, stigma, social support, and subjective norms—further support the existing literature on adolescent mental health help-seeking. Mental health literacy facilitates symptom recognition and awareness of available resources, whereas stigma functions as a major barrier that weakens help-seeking intentions.[27] Social support and positive subjective norms may encourage adolescents to view help-seeking as acceptable and beneficial. Together, these antecedents demonstrate that help-seeking intention develops through interactions among individual, interpersonal, and sociocultural factors.

From a nursing perspective, the findings have important implications for mental health promotion and psychiatric nursing interventions. Nurses working in schools, communities, and primary healthcare settings play a critical role in strengthening adolescents' help-seeking intentions through mental health education, stigma-reduction programs, peer-support initiatives, and counseling services. Interventions should target each defining attribute identified in this analysis, particularly problem recognition, positive attitudes toward help-seeking, and trust in available sources of support.

The present concept analysis also contributes to theory development by providing a clearer operational definition of help-seeking intention in adolescents. The findings may guide future instrument development and assist researchers in selecting appropriate indicators for measuring help-seeking intention. Furthermore, a clearer conceptual understanding may improve the design and evaluation of interventions aimed at increasing adolescents' use of mental health services.

Limitation

When interpreting the results of this concept analysis, several limitations should be considered. First, only English-language publications were included in the analysis, which may have excluded relevant studies published in other languages. Second, the literature review may not have been comprehensive because only publications indexed in the Scopus and ScienceDirect databases were included. Third, adolescents from all populations may not be adequately represented by

the defining attributes identified in this study, as the concept of help-seeking intention may vary across cultural and social contexts. Finally, because this study is a concept analysis, it provides theoretical clarification rather than empirical validation of the concept. Future research is needed to test the proposed attributes, antecedents, and consequences across diverse adolescent populations and cultural contexts.

Conclusion

Help-seeking intention is a key concept in efforts to improve adolescents' mental health help-seeking behavior. Four fundamental attributes were identified, together with their antecedents, consequences, and empirical indicators: problem recognition, attitude toward help-seeking, behavioral intention, and source preference and trust.

This study clarifies the conceptual boundaries of help-seeking intention and provides a solid theoretical basis for nursing interventions, instrument development, and future research. A more precise and structured understanding of this concept may contribute to improving adolescent mental health and strengthening school- and community-based psychiatric nursing services.

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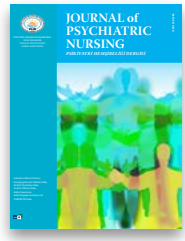
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Education

Auditory hallucination-based voice hearing simulation: Development process and implementation guide

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Auditory hallucinations are experiences perceived by individuals as different from their own thoughts and occurring in the absence of any external stimulus.[1] These voices, which are not actually heard, are generally associated with an individual's own inner speech and may occur in approximately 10% of the general population over the course of a lifetime.[2,3] Although auditory hallucinations may occur in various conditions such as psychiatric disorders, neurodegenerative diseases, substance use/withdrawal, and sleep disorders, they are considered among the main symptoms of schizophrenia.[4]

Although the content of auditory hallucinations varies among individuals, approximately 60% of these experiences have been reported to be negative and hostile in nature.[5] Experiencing such voices may lead to intense emotional reactions in individuals, such as confusion, fear, distress, anxiety, and anger.[6] However, the subjective and internal nature of these experiences makes them difficult for patients' relatives and society to understand; this may create a basis for the development of negative attitudes and behaviors such as stigma, discrimination, prejudice, and social exclusion.[7,8] At this point, efforts aimed at understanding what individuals with auditory hallucinations feel and the difficulties they experience may provide guidance for better understanding and acceptance of this symptom and for developing the most appropriate attitudes and behaviors toward the individual.[9]

The difficulty in understanding auditory hallucinations is not limited to patients, their relatives, and society. Health professionals and students studying in health-related fields may also have difficulty fully comprehending the subjective and internal nature of this experience.[10] When the nature of these symptoms is not sufficiently understood, inadequacies may arise in establishing effective communication, developing an empathic approach, and creating an appropriate individualized care plan.[11] This may negatively affect both the effectiveness of the treatment process and patient safety.[12] Therefore, there is a need for experiential and educational tools that enable health professionals and students to better understand the experience of auditory hallucinations.[9]

Voice hearing simulations that enable an understanding of the experience of auditory hallucinations are innovative practices developed in response to this need. These simulations have been reported to increase empathy, improve awareness and knowledge, and reduce prejudice and stigma.[12–14] Studies in the international literature have reported that these practices are particularly effective educational tools for health professionals and students in health-related fields, facilitate understanding of individuals with auditory hallucinations, and strengthen therapeutic communication.[10,11,15,16]

The international literature shows that simulation practices that enable individuals to experience auditory hallucinations are increasingly being used.[10,11,15,16] In contrast, the absence of a simulation practice in the national (Turkish) literature that can provide an auditory hallucination experience represents an important gap. Based on this gap, the Auditory Hallucination-Based Voice Hearing Simulation (AHVHS) was developed to facilitate understanding of the auditory hallucination ex-

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perience.[17] The aim of this study is to systematically present the development process of the AHVHS, its implementation stages, and the key principles that should be considered during implementation. This study is an application-oriented guide presenting the development process and implementation principles of the AHVHS.

What is presently known on this subject?

- Voice hearing simulations are used to increase empathy and raise awareness.
- Simulation practices with different content and durations are available in the literature.
- However, structured guideline studies on how these simulations can be implemented safely, consistently, and systematically are limited.

What does this article add to the existing knowledge?

- It systematically describes the development process of a voice hearing simulation developed using three-dimensional (binaural) sound technology.
- It presents the preparation, implementation, and termination stages of the simulation within a detailed and standardized framework.
- It provides guidance on the points that should be considered during the implementation of the simulation.

What are the implications for practice?

- The simulation can be implemented safely in psychiatric nursing education and clinical practice.
- It contributes to the standardization of interventions based on experiential learning.
- It provides a methodological model for similar simulation studies to be developed in the field of mental health.

Voice Hearing Simulations and AHVHS

Voice hearing simulation practices are educational interventions that aim to facilitate an understanding of the difficulties experienced by individuals who hear voices by simulating exposure to unreal auditory stimuli.[12] Historically, the first example of a voice hearing simulation was developed by psychologist Patricia Deegan. Having herself been diagnosed with schizophrenia and experienced auditory hallucinations, Deegan prepared a 45-minute audio recording and developed a simulation entitled "Hearing Voices that are Distressing" in order to make visible the difficulty of managing these symptoms.[11,18] This approach, developed under Deegan's leadership, subsequently became widespread as an educational intervention for health professionals and students.[19] The literature indicates that voice hearing simulations are implemented in three main forms: (i) listening through headphones to recordings prepared using an audio recording device, (ii) practices involving short-term whispering by real individuals, and (iii) digital simulations conducted through mobile phone applications.[16,18] In these practices, participants are asked to perform everyday functions such as completing a form, solving problems, or making a telephone call while listening to the voices.[12,20]

Similarly, the AHVHS is an intervention that aims to facilitate a better understanding of the subjective experience of individuals who hear voices that are not actually present by simulating this experience.[17] Unlike existing practices, this simulation was designed using three-dimensional (binaural) sound technology,[21] providing participants with a realistic auditory experience and enabling them to understand the cognitive, emotional, and functional effects of auditory hallucinations in a more comprehensive manner. In this way, caregivers can experience auditory hallucinations in a deeper and more realistic manner. In addition, while most existing international voice hearing simulations have been developed for health professionals and health sciences students, the AHVHS was also designed to be suitable for use by patients' relatives and healthy individuals.[2,10,11,12,13,16]

In a study conducted among caregivers of individuals diagnosed with schizophrenia, the AHVHS was found to significantly reduce caregivers' levels of expressed emotion and perceived family burden. Detailed findings regarding the effects of the AHVHS on expressed emotion and perceived family burden are comprehensively presented in the relevant doctoral dissertation.[17] In addition, the AHVHS implementation protocol presented in this article constitutes one of the methodological components of the aforementioned doctoral dissertation. These findings indicate that the AHVHS can be used not only as an educational tool but also as an intervention with therapeutic potential. In this respect, the AHVHS stands out as an original and applicable tool that can be used in clinical education, support programs for caregivers, and awareness activities conducted in the field of mental health.[17]

Development Process of the AHVHS

The AHVHS is not merely an audio recording project; it is a comprehensive implementation ecosystem. To ensure that the platform is implemented in a standardized and sustainable manner, the development process includes four basic components: (i) Auditory Hallucination-Based Audio Recording, (ii) audio recording device, (iii) information brochure, and (iv) implementation manual.

Auditory Hallucination-Based Audio Recording

During the development of the AHVHS, information regarding the types and characteristics of voices heard by individuals experiencing auditory hallucinations was first comprehensively examined and compiled based on the relevant literature.[21–23] Relevant documentaries were also reviewed (Schizophrenia—Discovery Channel Documentary; We, You, Them, Bilgi Açık Kapı—Friends of Schizophrenia; Bilgi Açık Kapı—Stigma in Mental Health; Prejudice Against Schizophrenia; Disorganized Schizophrenia—Take Good Care of Yourself; Butterfly Effect

Schizophrenia Documentary). Based on the data obtained, a script was developed to reflect the content of auditory hallucinations. The prepared text was evaluated by a psychiatrist to ensure the appropriateness of its content, and the final version of the text was prepared.

The revised text was recorded by a professional voice and music company in a specially prepared recording environment using real human voices and a three-dimensional (binaural) sound format. Three-dimensional sound recording enables heard voices to be perceived more realistically.[21] Thus, the aim was to enable participants to perceive auditory hallucinations more realistically. During the recording process, various sounds representing environmental stimuli, such as female, male, and child voices, as well as dog barking, airplane sounds, and doorbell sounds, were used. In addition, short pauses between sounds were included to create a realistic auditory experience. As a result of recording all the sounds included in the text, a total audio recording of 14 minutes was obtained. To ensure content validity, the demo version was presented for evaluation by five experts in psychiatric nursing. All experts were professionals with academic and/or clinical experience in the field of mental health. During the expert evaluation process, the appropriateness, comprehensibility, content, and overall quality of the audio recordings were evaluated through open-ended questions; necessary revisions were made based on the feedback, and the audio recording was finalized. Expert opinions were analyzed qualitatively, and the recommendations were combined under common themes and incorporated into the content. It is recommended that the audio recording be presented to participants at 60 decibels, which corresponds to a normal conversational speech level (five out of 10).[24,25]

Audio Recording Device

The audio recording device is used to play the auditory hallucination-based audio recording. During the simulation, the prepared sounds are stored on this device, and participants listen to the recorded sounds using headphones. Before and after each implementation, it is recommended that the audio recording device and headphones be disinfected using alcohol-based disinfectant wipes containing 70% isopropyl alcohol.

Information Brochure

The information brochure was prepared by the researcher based on information from the literature.[22,26] It was designed to provide participants with basic knowledge about schizophrenia and auditory hallucinations and thereby facilitate the more effective implementation of the AHVHS. The brochure contains information about what schizophrenia is, the definition of auditory hallucinations, the types of voices individuals may hear during auditory hallucinations, the emotions these voices may evoke in individuals, and how auditory hallucinations may affect individuals' daily lives. In addition, the brochure includes the necessary contact information (full name, telephone number, and e-mail address) to enable participants to contact the researcher if needed, as well as the date and time of the next meeting.

Auditory Hallucination-Based Voice Hearing Simulation Implementation Manual

The implementation manual was prepared based on information from the literature.[10,11,13] It was designed to standardize the implementation process of the simulation and ensure that it is conducted in a more systematic manner. The manual aims to ensure that the procedures are conducted systematically. It consists of three main stages—preparation, implementation, and termination—which describe the procedures for conducting the AHVHS, as well as an additional section for planning the next meeting.

Implementation of the AHVHS

The AHVHS implementation consists of three main sections: the preparation process, the implementation stage, and the termination stage.

During the preparation process, the environment in which the implementation will take place is first arranged according to the task to be performed. The researcher introduces themselves, facilitates introductions among the participants, and provides information about the purpose, duration, and content of the implementation. At this stage, participants are provided with an information brochure containing basic information about schizophrenia and auditory hallucinations. If data collection is planned as part of the research, data collection instruments may be administered at this stage.

The recording devices and headphones to be used during the implementation are introduced to the participants. While listening to the audio recording prepared using three-dimensional (binaural) sound technology, participants are asked to simultaneously perform predetermined tasks. These tasks are selected to represent routine daily activities and include activities such as completing an address form, watching television, reading a book, having a conversation, and calculating change. A predetermined duration is defined for each task. Two tasks were assigned in this study. These tasks were (i) watching a city promotional film and answering verbal questions about the film and (ii) reading a story and answering questions about the story in writing. The duration of each task was set at 10 minutes. Even if participants complete the task in less than the specified time, they continue listening to the

audio recording; participants who cannot complete the task within the specified time are asked to terminate the task. If the audio recording ends, it is restarted from the beginning to ensure that the simulation continues without interruption. Participants are informed that they must wear both headphones to effectively perceive the three-dimensional sound experience. They are asked not to remove their headphones during the implementation and are instructed to stop the device and inform the researcher if they experience any discomfort.

During the termination stage, a debriefing session is conducted with the participants. During this session, participants are encouraged to express the experiences and emotions they had during the simulation. Their perceptions of the auditory hallucination experience, the difficulties they noticed, and the contribution of this experience to understanding the lives of individuals diagnosed with schizophrenia are discussed. Any negative emotional reactions that may arise in participants are assessed, and appropriate referrals for psychological support are made when necessary. Following the debriefing process, participants are thanked for their participation. If planned, participants are informed of the date and time of the next meeting, and the process is briefly concluded. A flowchart showing the development process and implementation stages of the AHVHS is presented in Figure 1.

Points to Consider During AHVHS Implementation

Because the AHVHS aims to artificially induce a psychotic-like experience in participants, it may cause short-term psychological, cognitive, and physical reactions.[12] The literature reports that such simulations may produce effects such as distress, fear, anxiety, agitation, confusion, difficulty concentrating, emotional and physical fatigue, headache, and sleep disturbances.[10,11] Similar simulations have been reported to cause short-term emotional distress but not to result in persistent negative effects.[10,11,12] Therefore, it is of great importance to provide participants with detailed information before implementation, increase their awareness of possible effects, and ensure that participation is voluntary. Participants should be clearly informed that they may withdraw from the implementation at any time and that doing so will not negatively affect their position in the research process.

Considering the characteristics of the sample, it is considered appropriate to include mental health professionals, patients' relatives, and healthy individuals in the study. The age range should be determined in accordance with the characteristics of the target implementation group and ethical requirements. Individuals with clinically active psychiatric disorders should be excluded from the study due to potential risks.

However, there is insufficient scientific evidence regarding the safe and effective listening duration of the simulation. Examination of the studies shows that implementation durations vary considerably. For example, Skoy et al.[19] implemented the simulation for 45 minutes, whereas Sideras et al.[27] used an experience period of 60 minutes. In contrast, Mawson et al.[28] implemented a five-minute simulation, while McEnteggart et al.[29] conducted short-term simulations lasting two minutes. In this study, the simulation duration was set at 20 minutes.[17] These differences indicate that there is not yet a consensus regarding the optimal implementation duration for voice hearing simulations. Accordingly, it is recommended that AHVHS implementations initially be planned for short periods, that participants' responses be closely monitored during and after the implementation, and that the implementation be terminated early if necessary. In addition, adopting flexible implementation models in which the simulation duration is gradually increased and participant feedback is considered at each stage is regarded as a more appropriate approach both ethically and in terms of participant safety.[17]

To increase the safety of the implementation, it is recommended that the simulation be conducted under the supervision of a health professional, preferably a psychiatric nurse. It is important to inform participants in advance about support resources they can access if they experience distress, such as emergency medical services (112), crisis counseling lines, or mental health support services. In addition, it is recommended that the simulation not be administered to individuals diagnosed with chronic mental disorders and that participants' mental status be assessed before implementation using valid and reliable screening instruments such as the General Health Questionnaire-12 (GHQ-12).

If negative psychological effects occur during the implementation, the simulation should be terminated immediately, the participant should be moved to a safe environment, and a brief assessment and emotional support should be provided. If symptoms persist, the participant should be referred to appropriate mental health services, and when necessary, emergency health services should be contacted. In addition, after the implementation, participants should be provided both verbally and in writing with contact information for mental health services, crisis counseling lines, and emergency support resources, and they should be encouraged to seek professional support when necessary. The flowchart including the assessment of participant eligibility before AHVHS implementation, the management of possible psychological reactions that may occur during the implementation, and the referral steps to be followed after the implementation is presented in Figure 2.

Limitations

The study is an implementation guide and focuses on standardizing the simulation and describing the implementation

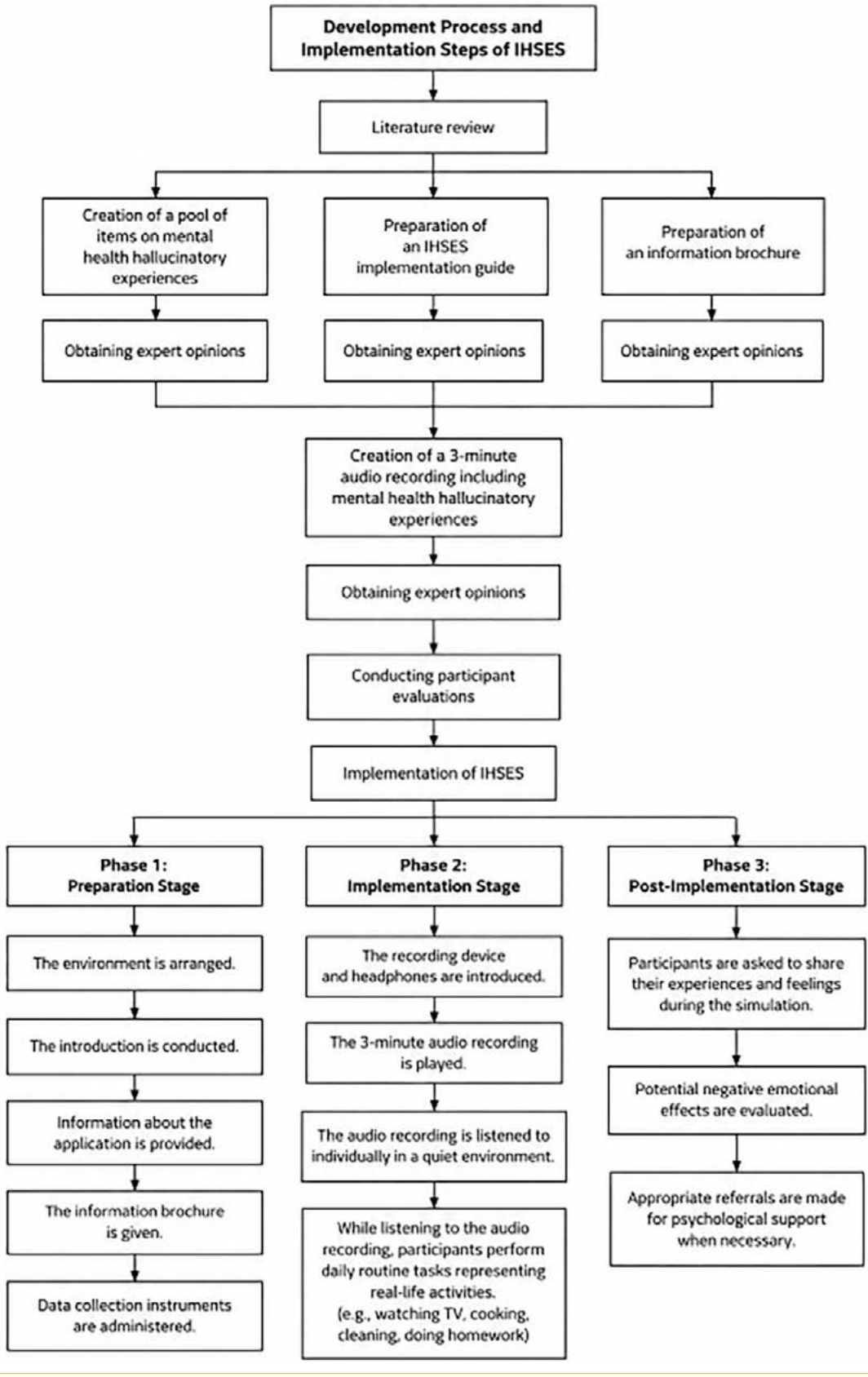


Figure 1. Development process and implementation stages of the AHVHS.

AHVHS: Auditory Hallucination-Based Voice Hearing Simulation.

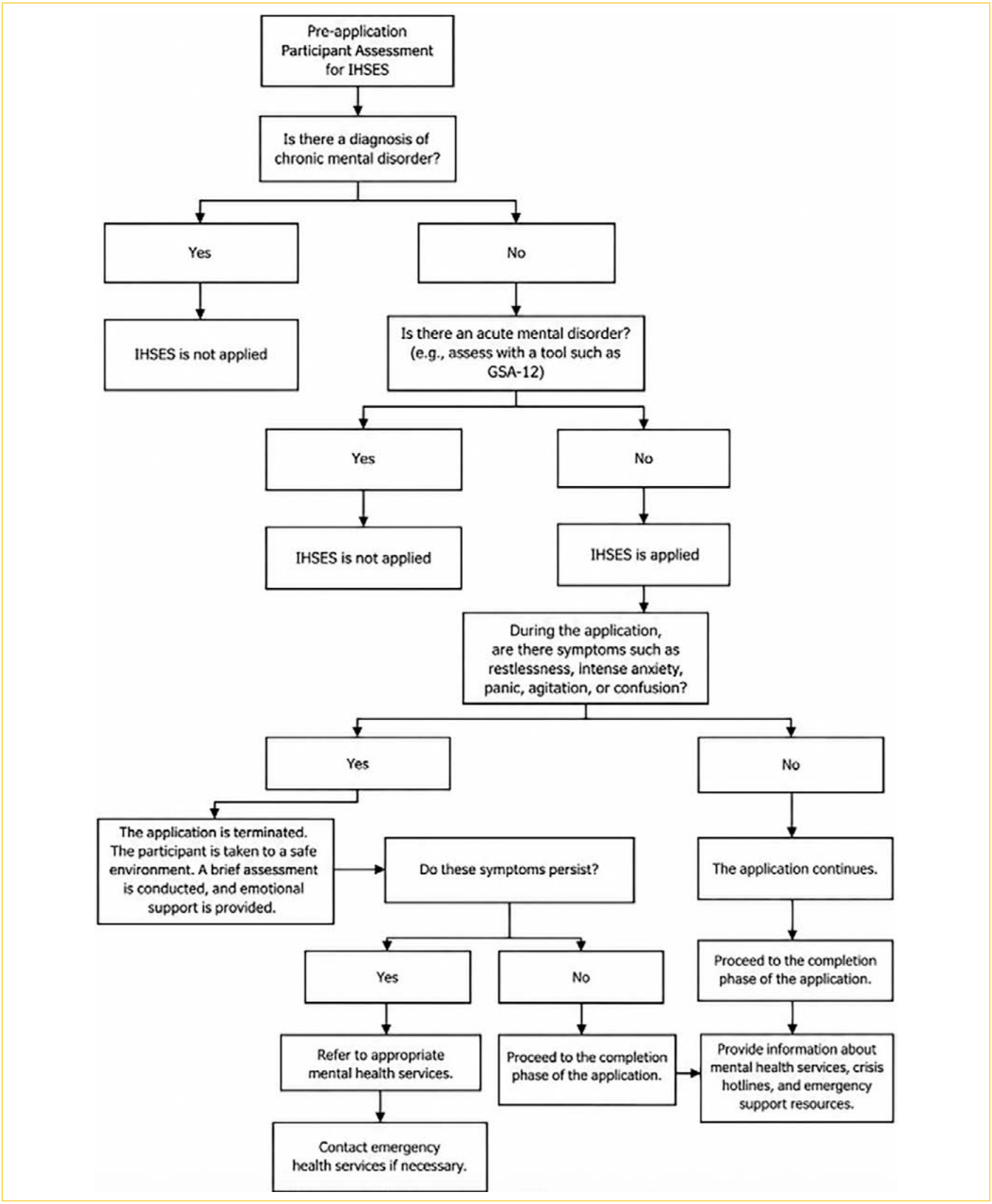


Figure 2. Flowchart for participant assessment before AHVHS implementation.

AHVHS: Auditory Hallucination-Based Voice Hearing Simulation.

process. Therefore, the effectiveness of the simulation was not comparatively evaluated in terms of different variables.

Conclusion and Recommendations

This study fills an important gap in the literature by providing a comprehensive guide for the safe, repeatable, and controlled implementation of the AHVHS, which was developed to facilitate an experiential understanding of the auditory hallucination experience in clinical and educational settings. The proposed framework is expected to guide future research and practice and to provide a methodological basis for similar simulation studies developed in different fields. In addition, the developed implementation guide may be used as a standardized practice resource supporting experiential learning in psychiatric nursing education, caregiver education, in-service training for mental health professionals, and interdisciplinary mental health education.

Although evaluating the effectiveness of the AHVHS was beyond the scope of this study, future effectiveness studies are recommended to select appropriate measurement instruments according to the outcome variables under investigation. In this context, valid and reliable measurement instruments assessing psychosocial variables such as empathy levels, awareness of mental illness, attitudes toward stigma, perceived family burden among caregivers, expressed emotion levels, and similar variables may be used. In addition, owing to its structure based on binaural sound technology, the AHVHS has the potential to be implemented online through digital platforms. This feature may increase the accessibility of the simulation and facilitate its use in different geographical regions and among different target groups. Accordingly, future studies are recommended to evaluate the adaptation of the AHVHS to an online environment and its integration into digital platforms.

It is recommended that similar simulation approaches not be limited to schizophrenia but also be developed for different psychiatric disorders. Within this scope, simulation scenarios based on the specific symptoms of different clinical conditions, such as depression, anxiety disorders, and trauma- and stressor-related disorders, can be designed. Such studies are expected to contribute to a better understanding of the subjective experiences of mental illnesses and support education, awareness, and care practices in the field of mental health.

To determine the effect of the AHVHS on empathy, experimental research designs are recommended for future studies. Accordingly, intervention- and control-group pretest-posttest designs are recommended, with empathy levels assessed before and after the simulation using valid and reliable measurement instruments.

Informed Consent: Informed consent was obtained from the patients as part of the study.

Conflict of Interest Statement: The authors declare that there is no conflict of interest.

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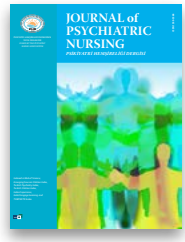
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Letter to the Editor

Probation: An overlooked field for psychiatric nursing

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Dear Editor,

Probation is a practice with roots dating back to the 19th century, initially based on suspending a court-imposed sentence under certain conditions while allowing the individual to remain in the community. Its historical development was shaped particularly by various practices concerning the suspension of sentence enforcement in England and the United States.[1] In England, the legal foundations of the modern probation system were strengthened by the *Probation of Offenders Act* of 1907. Over time, probation evolved into an institutionalized field of service aimed at supervising and rehabilitating individuals in the community and reducing the risk of reoffending.[2,3] In Europe, probation practices became increasingly widespread throughout the 20th century, becoming integrated into the criminal justice systems of different countries and emerging as an important component of community-based sanctions, rehabilitation, and social reintegration policies.[4,5] According to the Council of Europe's 2025 *Annual Penal Statistics Report*, approximately 1.4 million people are under probation supervision across Europe.[6] Although probation has a history spanning more than a century internationally, its development in Türkiye is relatively recent, with its place in the modern criminal justice system established by Law No. 5402 on Probation Services, which entered into force on July 20, 2005.[7] According to data as of April 30, 2026, there are 140 Probation Directorates operating across Türkiye, with a total of 494,692 individuals subject to probation measures.[8] Taken together, its historical development, institutional structure, and the number of individuals currently receiving probation services indicate that probation has become an increasingly extensive component of the criminal justice system and an important area of practice for forensic mental health services.

Although individuals under probation do not constitute a homogeneous group, they represent a vulnerable population that experiences higher rates of health problems than the general population and faces mental disorders and substance use disorders alongside adverse social determinants of health, such as social exclusion, deprivation, unemployment, and homelessness.[9] Accordingly, the World Health Organization recommends that community-based, person-centered, and human rights-based mental health services be made accessible, particularly to such vulnerable groups.[10] In line with this approach, probation is implemented not merely as a mechanism for monitoring individuals in the community and ensuring compliance with legal obligations but also as a comprehensive system that supports rehabilitation, the prevention of reoffending, and social reintegration. In England and Wales, which have made important historical and institutional contributions to the development of probation systems in many countries, including Türkiye, probation services encompass multidimensional interventions such as individual counseling, psychosocial support, rehabilitation programs, referral to treatment services for substance use, and coordination with community-based health services.[11] However, studies indicate that interventions aimed at promoting mental health and rehabilitation among individuals under probation remain limited and are often restricted to short-term, one-off interventions.[9] This situation highlights the need for mental health support interventions within probation to be planned in a more systematic and sustainable manner.

The effectiveness of probation services depends on a multidisciplinary approach in which individuals' legal, psychosocial, and health needs are addressed together.[4] Internationally, these services are delivered through collaboration among

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probation officers, mental health professionals, social workers, substance use treatment teams, and other healthcare professionals and are structured to facilitate referrals based on individuals' risks and needs and to ensure continuity of care.[3] In Türkiye, probation directorates primarily employ probation personnel, psychologists, and social workers, while treatment and rehabilitation processes for individuals with substance use disorders are conducted in collaboration with healthcare institutions.[7,12] However, the roles and responsibilities of psychiatric nurses within this system have not yet been systematically structured in a manner that adequately reflects their competencies in mental health assessment, psychosocial interventions, care coordination, and rehabilitation. Given the complex mental health needs of individuals under probation and their ongoing need for monitoring, this gap represents an important area requiring attention. Within this multidisciplinary structure, forensic psychiatric nursing is of particular importance because of its potential to make distinctive contributions to addressing mental health needs.

The community-based nature of probation, which aims to support individuals within their living environments while maintaining their connections with existing social resources and health services, substantially overlaps with the core practice areas of forensic psychiatric nursing. Forensic psychiatric nursing aims to strengthen continuity between health and justice services by assessing the mental and psychosocial needs of individuals in contact with the criminal justice system, identifying risks, supporting treatment and rehabilitation processes, and contributing to individuals' ability to maintain safe and functional lives in the community.[13,14] In this regard, probation can be considered an important community-based practice setting in which forensic psychiatric nurses can make substantial contributions to mental health assessment, risk management, psychosocial support, and rehabilitation processes. Nevertheless, the role and visibility of psychiatric nurses within this system remain insufficiently defined in relation to their clinical competencies. This situation highlights the need to reconsider the place of forensic psychiatric nursing within probation services.

In conclusion, probation is not merely a criminal justice practice but a multidimensional field at the intersection of mental health, substance use treatment, and community-based rehabilitation. To adequately address individuals' complex mental health and psychosocial needs, probation services should extend beyond judicial supervision and the monitoring of legal obligations and adopt a comprehensive approach that encompasses social reintegration. Within this framework, developing education and specialization opportunities in forensic psychiatric nursing in Türkiye, defining the roles and responsibilities of psychiatric nurses within multidisciplinary teams, and expanding evidence-based practices in this field are important priorities. Such a structure could facilitate the systematic recognition of psychiatric nurses' contributions to probation services and strengthen the capacity for practice and research in this area. Therefore, probation represents an important community-based field that warrants further development in psychiatric nursing, particularly forensic psychiatric nursing.

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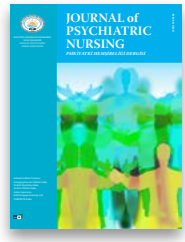
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Corrigendum

Worry and hope levels of nursing students about climate change: A cross-sectional study

Seda Tuğba Baykara Mat, Behice Belkıs Çalışkan, Çisem Baştarcan

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In the article entitled "*Worry and Hope Levels of Nursing Students about Climate Change: A Cross-Sectional Study*" (Article Code: PHD-00187), published in the *Journal of Psychiatric Nursing (JPN)*, 2024; Issue 1, an error was identified in the description of the data collection period.

The sentence:

"Data were collected between March and April in the Spring semester of the 2021–2022 Academic Year in a foundation university in Türkiye."

should be corrected as follows:

"Data were collected in October 2022 at a foundation university in Türkiye."

This correction applies only to the *Place and Date* section of the article. It does not affect the scientific content, findings, or conclusions of the study.