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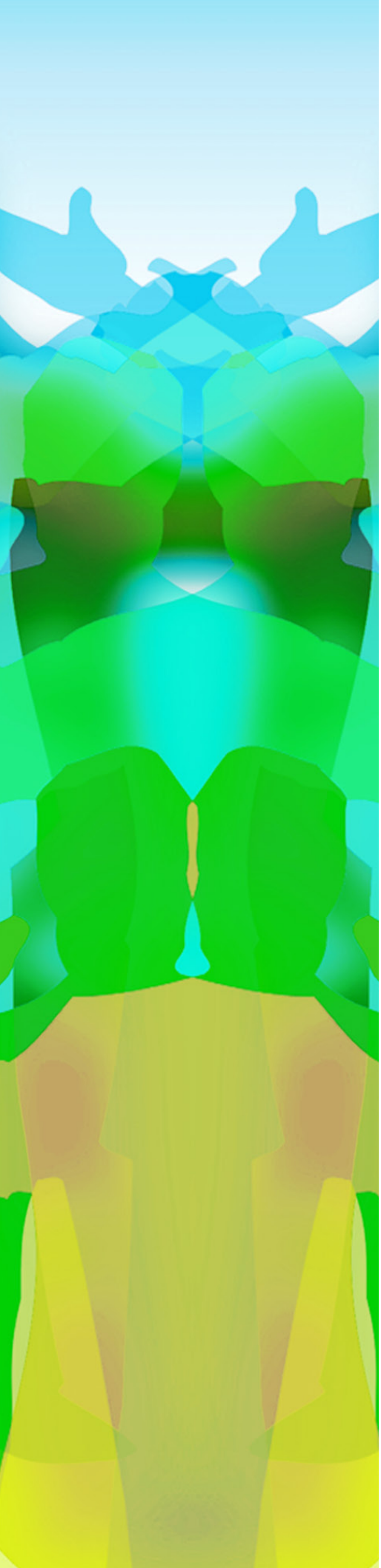

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EDITORIAL

Dear Colleagues,

As digitalization rapidly transforms the delivery of healthcare services, mental health has become one of the fields most profoundly affected by this transformation. Telepsychiatry services, mobile mental health applications, online psychoeducational programs, and digital monitoring systems are increasingly being adopted due to their potential to improve access to mental health care, ensure continuity of services, and support care processes.[1] Especially following the COVID-19 pandemic, digital mental health interventions have moved beyond being temporary solutions and have become permanent components of mental health services in many countries.[2] This rapid transformation necessitates a re-evaluation of the roles, responsibilities, and professional boundaries of psychiatric nursing.

Psychiatric nursing is a discipline grounded in the therapeutic relationship, continuous observation, and a holistic approach to care. Digital mental health applications offer significant opportunities within this field. The reduction of geographical barriers, increased access for individuals who avoid face-to-face services due to stigma, and improved continuity of follow-up are among the most prominent contributions of digital tools.[1,3] In this context, psychiatric nurses assume distinctive roles, including assessing the appropriateness of digital applications for individuals, educating patients on safe use, integrating data obtained from digital monitoring into clinical observation, and ensuring early intervention in situations of increased risk. Symptom monitoring, tracking treatment adherence, and identifying early warning signs through mobile applications and online platforms can strengthen the preventive and monitoring roles of psychiatric nurses. Moreover, delivering psychoeducational content through digital media can support individuals in recognizing their mental health conditions and developing self-management skills, thereby encouraging active participation in the care process.[2]

However, the opportunities offered by digital mental health applications are accompanied by significant limitations and risks. The therapeutic relationship that forms the foundation of psychiatric nursing, along with empathy and nonverbal communication, may be weakened in digital environments.[4] Reduced face-to-face interaction can lead to missed emotional cues and the mechanization of care. This issue becomes particularly critical when working with individuals with severe mental disorders, as it may negatively affect the quality of clinical assessments.

Ethical and legal dimensions represent another highly debated aspect of digital mental health applications. Data security, confidentiality, informed consent, and the commercial development of digital tools constitute increasing responsibilities for psychiatric nurses.[1,3] Nurses must be adequately informed about how patient data shared on digital platforms are collected, stored, and used, and they must adopt an approach that prioritizes patient safety and ethical principles. In this regard, critically evaluating digital mental health applications should not be interpreted as resistance to innovation but rather as a prerequisite for safe, ethical, and person-centered integration.

Another important limitation is digital inequality. Not all individuals have equal access to technology, digital literacy, or the capacity to use online services. The unplanned and uniform dissemination of digital mental health applications carries the risk of deepening existing health inequalities.[1] In Türkiye, regional and socioeconomic disparities in access to mental health services further highlight both the potential contributions and the limitations of digital interventions. Psychiatric nursing bears the responsibility of making the needs of disadvantaged groups visible and continuing to advocate for equitable mental health services in this process.

At this point, the fundamental question is whether digital mental health applications will replace psychiatric care or function as tools that support it. From the perspective of psychiatric nursing, digital applications cannot replace person-centered care. However, when implemented with respect for ethical principles, professional boundaries, and the therapeutic relationship, these applications can become tools that support and strengthen nursing care.[2,4] Digitalization should therefore be considered not as an alternative to the human connection that lies at the core of psychiatric nursing but as a complementary element.

In conclusion, in the face of rapid developments in digital mental health, psychiatric nursing should not adopt a passive stance of adaptation; rather, it should act as an active agent in defining the clinical, ethical, and professional boundaries of this transformation. Accordingly, psychiatric nursing education, clinical practice guidelines, and mental health policies should be updated to incorporate digital mental health competencies, ethical standards, and a therapeutic relationship-centered approach. A digital transformation guided by a commitment to person-centered care offers an important and sustainable opportunity for the future of psychiatric nursing.

Prof. Dr. Meral Kelleci

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EDİTORDEN

Değerli Meslektaşlarım,

Dijitalleşme, sağlık hizmetlerinin sunum biçimini hızla dönüştürürken, ruh sağlığı alanı bu dönüşümden en fazla etkilenen alanlardan biri hâline gelmiştir. Tele-psikiyatri uygulamaları, mobil ruh sağlığı yazılımları, çevrim içi psikoeğitim programları ve dijital izlem sistemleri; ruhsal hizmetlere erişimi artırma, sürekliliği sağlama ve bakım süreçlerini destekleme potansiyeli nedeniyle giderek yaygınlaşmaktadır.[1] Özellikle COVID-19 pandemisi sonrasında dijital ruh sağlığı uygulamaları, geçici bir çözüm olmanın ötesine geçmiş ve birçok ülkede ruh sağlığı hizmetlerinin kalıcı bir bileşeni hâline gelmiştir.[2] Bu hızlı dönüşüm, psikiyatri hemşireliğinin rolünü, sorumluluk alanlarını ve mesleki sınırlarını yeniden değerlendirmeyi gerekli kılmaktadır.

Psikiyatri hemşireliği, terapötik ilişki, sürekli gözlem ve bütüncül bakım anlayışı üzerine temellenmiş bir disiplindir. Dijital ruh sağlığı uygulamaları bu alan için önemli fırsatlar sunmaktadır. Coğrafi engellerin azalması, damgalanma nedeniyle yüz yüze hizmet almaktan kaçınan bireylerin destek alabilmesi ve izlem süreçlerinin süreklilik kazanması, dijital araçların öne çıkan katkıları arasında yer almaktadır[1,3] Bu süreçte psikiyatri hemşireleri; dijital uygulamaların bireye uygunluğunu değerlendirme, hastayı güvenli kullanım konusunda bilgilendirme, dijital izlemden elde edilen verileri klinik gözlemle bütünleştirme ve risk durumlarında erken müdahaleyi sağlama gibi özgün roller üstlenmektedir. Mobil uygulamalar ve çevrim içi platformlar aracılığıyla semptom takibi, tedaviye uyumun izlenmesi ve erken risk belirtilerinin fark edilmesi, psikiyatri hemşirelerinin koruyucu ve izleyici rollerini güçlendirebilmektedir. Ayrıca psikoeğitim içeriklerinin dijital ortamda sunulması, bireylerin ruhsal hastalıklarını tanımalarını ve öz-yönetim becerilerini geliştirmelerini destekleyerek bakım sürecine aktif katılımı teşvik edebilir.[2]

Bununla birlikte, dijital ruh sağlığı uygulamalarının sunduğu bu olanaklar önemli sınırlılıkları ve riskleri de beraberinde getirmektedir. Psikiyatri hemşireliğinin temelini oluşturan terapötik ilişki, empati ve sözel olmayan iletişim unsurları dijital ortamlarda zayıflama riski taşımaktadır.[4] Yüz yüze etkileşimin azalması, duygusal ipuçlarının gözden kaçmasına ve bakımın mekanikleşmesine yol açabilir. Özellikle ağır ruhsal bozukluğu olan bireylerle çalışırken bu durum, klinik değerlendirmelerin niteliğini olumsuz etkileyebilecek önemli bir sorun alanı olarak karşımıza çıkmaktadır.

Etik ve hukuki boyutlar, dijital ruh sağlığı uygulamalarının en tartışmalı yönlerinden biridir. Veri güvenliği, gizlilik, bilgilendirilmiş onam ve dijital uygulamaların ticari amaçlarla geliştirilmesi, psikiyatri hemşirelerinin artan sorumlulukları arasında yer almaktadır.[1,3] Hemşireler, hastaların dijital platformlarda paylaştığı bilgilerin nasıl toplandığı, saklandığı ve kullanıldığı konusunda yeterli bilgiye sahip olmalı; hasta güvenliğini ve etik ilkeleri önceleyen bir yaklaşım sergilemelidir. Bu bağlamda dijital ruh sağlığı uygulamalarına yönelik eleştirel değerlendirme, yeniliklere direnç değil; güvenli, etik ve insan merkezli entegrasyonun bir gereğidir.

Bir diğer önemli sınırlılık alanı dijital eşitsizliktir. Her bireyin teknolojiye erişimi, dijital okuryazarlık düzeyi ve çevrim içi hizmetleri kullanabilme kapasitesi aynı değildir. Dijital ruh sağlığı uygulamalarının plansız ve tek tip biçimde yaygınlaştırılması, mevcut sağlık eşitsizliklerini derinleştirme riskini beraberinde getirmektedir.[1] Türkiye'de ruh sağlığı hizmetlerine erişimde yaşanan bölgesel ve sosyoekonomik farklılıklar, dijital uygulamaların potansiyel katkılarını ve sınırlılıklarını daha da görünür kılmaktadır. Psikiyatri hemşireliği, bu süreçte dezavantajlı grupların ihtiyaçlarını görünür kılma ve eşitlikçi ruh sağlığı hizmetlerinin savunuculuğunu sürdürme sorumluluğunu taşımaktadır.

Bu noktada temel soru, dijital ruh sağlığı uygulamalarının psikiyatrik bakımın yerini mi alacağı yoksa bakımı destekleyen bir araç olarak mı konumlanacağıdır. Psikiyatri hemşireliği perspektifinden bakıldığında, dijital uygulamaların insan merkezli bakımın yerini alması mümkün değildir. Ancak etik ilkeler, mesleki sınırlar ve terapötik ilişki korunarak kullanıldığında bu uygulamalar, hemşirelik bakımını destekleyen ve güçlendiren araçlar hâline gelebilir.[2,4] Dijitalleşme, psikiyatri hemşireliğinin özünü oluşturan insani temasın alternatifi değil; onu tamamlayan bir unsur olarak ele alınmalıdır.

Sonuç olarak, dijital ruh sağlığı alanındaki hızlı gelişmeler karşısında psikiyatri hemşireliği pasif bir uyum sürecine girmemeli; bu dönüşümün klinik, etik ve mesleki sınırlarını belirleyen aktif bir aktör olmalıdır. Bu doğrultuda psikiyatri hemşireliği eğitimi, klinik uygulama rehberleri ve ruh sağlığı politikaları; dijital ruh sağlığı yeterliliklerini, etik standartları ve terapötik ilişkiyi merkeze alan bir yaklaşımla güncellenmelidir. İnsan merkezli bakım anlayışı korunarak yürütülen bir dijital dönüşüm, psikiyatri hemşireliğinin geleceği için önemli ve sürdürülebilir bir fırsat sunmaktadır.

Prof. Dr. Meral Kelleci

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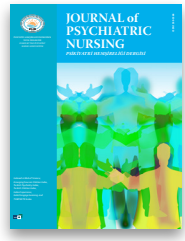

Qualitative Research

Clinical practice of psychiatric nursing from the perspective of senior nursing students: A qualitative study

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Abstract

Objectives: This study aims to explore senior nursing students' feelings, thoughts, and experiences regarding the clinical practice of the psychiatric nursing course.

Methods: A phenomenological approach was used in the research carried out in a qualitative design. The research sample consisted of 15 students who took a mental health and psychiatric nursing course at a private university and performed their clinical practice in a mental health and diseases training and research hospital. The data were collected using a semi-structured interview form and focus group interview method at the end of the fall semester, and the grades were finalized. The data analysis was carried out based on the content analysis method developed by Lundman and Graneheim. The COREQ checklist was followed during the reporting of the qualitative research.

Results: Two main themes were identified in the research: (1) Conditions Specific to the Psychiatry Clinic: Characteristics that Distinguish It from Other Clinical Practices, and (2) Transition from Theory to Practice: Growth as a Nurse and as a Person.

Conclusion: Students experience stress and fear during clinical practice due to their prejudices against individuals with mental disorders and the physical characteristics of the clinical environment they have entered. To reduce the stress experienced by students in clinical practice and achieve clinical practice learning goals, it is recommended to conduct stakeholder studies involving students and clinical psychiatric nurses by the lecturers of the course.

Keywords: Clinical practice; experiences; nursing student; psychiatric nursing; qualitative study

Clinical practice, which is an essential part of nursing education, contributes significantly to the preparation of students for the nursing profession.[1,2] An important feature of clinical practice is that it gives students the chance to apply the knowledge and skills they have learned theoretically by caring for a patient in the clinical field and observing the results of care.[3] The clinical practice of psychiatric nursing course is aimed at gaining skills in managing the care process of individuals with mental disorders. At the beginning of the clinical practice of psychiatric nursing, students may have difficulty understanding the complex structure and comorbidity of mental disorders and may not feel prepared.[4] Furthermore, the attitude of the community towards mental disorders also affects the nursing students' perspective on the clinical practice of psychiatric nursing.[5]

Reasons such as not knowing how to respond to patients in clinical practice, fear of saying the wrong information and being harmed, concerns about spending time in a locked ward, and prejudices cause students to experience high levels of stress, fear, and anxiety during clinical practice.[6–10] The stress experienced in the clinical environment causes students to

The study was presented as an oral presentation at the 7th International 11th National Psychiatric Nursing Congress (October 18-20, 2023).

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have difficulties in communicating with patients and achieving clinical targets, and their academic performance may decrease.[11] The support of students in clinical practice by faculty members and psychiatric nurses is of great significance both in learning practical skills and selecting or choosing psychiatric nursing as a career as a result of positive experiences.[12]

Psychiatric nursing clinical practice has very crucial effects on students' views of individuals with mental disorders and psychiatric nurses.[13] The negative experiences of the students in the psychiatric clinic affect their attitudes toward the disorders and their future career plans.[14] According to one study, participants stated their opinions and sentiments about psychiatric nursing as a "dangerous profession" with a perceived degree of violence connected with dealing with persons having mental health disorders.[15] The negative experiences of the students in the clinical practice process are reflected both in patient care and in their views about the profession.[16] Therefore, nursing students should be supported in terms of a positive and productive clinical practice experience, and possible negative attitudes and prejudices should be identified and eliminated.[17]

There are few studies examining nursing students' psychiatric nursing clinical practice experiences, the characteristics that distinguish the clinical environment from other clinics, and psychiatric nursing career intentions.[9,18–20] This study aims to explore senior nursing students' feelings, thoughts, and experiences regarding the clinical practice of psychiatric nursing. To achieve this objective, this study addressed the following research question: What are the feelings, thoughts, and experiences of senior nursing students following psychiatric nursing clinical practice?

What is presently known on this subject?

- Students' experiences in mental health and psychiatric nursing clinical practice significantly affect their attitudes toward individuals with mental disorders and their intention to choose psychiatric nursing as a profession in the future.

What does this article add to the existing knowledge?

- In order to reduce the stress experienced by students in clinical practice and to achieve the learning objectives of clinical practice, it is thought that it would be useful to conduct stakeholder studies involving students and clinical psychiatric nurses by the instructors of the course.

What are the implications for practice?

- This study, which focuses on students' experiences of psychiatric nursing clinical practice and their needs to make these experiences more positive, is thought to provide important information to course instructors and clinical psychiatric nurses about the approach to students.

Materials and Method

Study Design

This qualitative study was conducted to determine the experiences of senior nursing students' feelings, thoughts, and experiences regarding the clinical practice of psychiatric nursing. Descriptive phenomenology was used in the study to better understand each nursing student's experiences in their own terms.[21] The manuscript was prepared according to COREQ guidelines.[22]

Study Setting and Recruitment

This study was conducted at a private university located in Istanbul, Türkiye in February 2023. In the literature, it's suggested that 2–3 focus groups should be formed to achieve more than 80% efficiency, including 3–21 people in focus groups for satisfactory results.[23,24] Purposive sampling was used in this study. The sample consisted of 15 students who completed their clinical practice in a mental health hospital and voluntarily participated in the study. The hospital where the clinical practice was conducted is one of the largest mental health hospitals in Türkiye. Of the participants, 86% (n=13) were female, and the age range was between 20 and 23 years.

Data Collection

In the university where the data were collected, the psychiatric nursing course is given in the 4th year fall semester. Senior students attended 3 hours of theoretical, 4 hours of laboratory, and 8 hours of clinical practice weekly. Students are obliged to participate in 80% of clinical practice. Clinical orientation training was given in the first week at the beginning of the semester, and students continued their clinical practice in the remaining 13 weeks.

The data were collected using the focus group interview method with the semi-structured interview form developed based on the literature and guidelines.[20,25] In addition, experts' opinions were taken to ensure the content validity of the questions (Table 1). Before the interviews, the purpose and methods of the study were explained to the participants, and their informed consent was obtained.

Qualitative interviews were conducted face-to-face in February 2023, after the fall semester ended and grades were finalized. One of the main researchers (LK), who is a professor in the psychiatric nursing department of another university and trained in qualitative research, conducted all face-to-face interviews after the fall term ended. Interviews were conducted with two groups of 7 and 8 participants (n=15). The interviews lasted approximately 50–60 minutes per group. The interviews were audio-recorded with the permission of the participants and transcribed after the interview. While transcribing these data, they were conveyed exactly as the participants expressed them. In both audio recordings and analysis and reporting, the real identities of the individuals were not specified, and pseudonyms were used.

During the interviews, the participants were informed that the interviews would be conducted by the principles of confidentiality, that the recordings would not be shared with any third party or institution. It was stated that pseudonyms should be

Table 1. Semi-structured interview questions

• What did you feel when you first saw the psychiatry clinic where you did your clinical practice?
• What were your first impressions when you entered the psychiatric clinic where you did your clinical practice?
• How did you experience this clinic environment compared to previous clinical practice?
• How would you feel if you had to be treated in this clinic? What would your expectations be?
• When you think about psychiatric nursing clinical practice, who started the interaction in your first encounter with the patient? How did you feel?
• What did you experience while caring for individuals with mental disorders?
• What did you experience while putting the theoretical knowledge into practice?
• How would you evaluate the learning environment in the psychiatry clinic (suitability of the environment for learning, attitudes of staff towards students, presence of role model nurses, etc.)?
• What are your opinions about psychiatric nursing clinical practice? Would you like to work in this field in the future?

used during the interviews. At the end of each interview, the interview was evaluated with the participants, and participant confirmation was obtained. Data analysis was conducted by three authors (DSK, SE, TD), who are Ph.D. students in psychiatric nursing and trained in qualitative research.

Data Analysis

Content analysis, which was carried out based on the method suggested by Graneheim and Lundman, was used to analyze the data.[21] During the analysis, similarities and differences in the data were sought using an inductive approach. During the preparation phase, the interview transcripts were read several times to identify meaning units. In the organization phase, the meaning units were classified into codes and then categories. Finally, the research team generated the final themes.

Ethical Considerations

Institutional permissions and ethics committee approval were obtained (Date: 25.11.2022, No: 2022-18/16). The purpose and methods of the study were explained to the participants, and their informed consent was obtained. The study was conducted in accordance with the principles of the Declaration of Helsinki.

Rigor and Reflexivity

The trustworthiness of this study was realized based on the four criteria of credibility, transferability, dependability, and confirmability.[26] Credibility was established by conducting frequent researcher meetings to review the study process and analyzing participant interviews at the end of each interview. To ensure transferability, the audio recordings of all interviews were listened to again to confirm transcribing correctness. Intertextual participant utterances were explicitly cited, and comprehensive definitions were constructed between the investigated environment and the study itself. Dependability was accomplished by inter-coder consistency and by transferring all data collecting tools, raw data, and encodings created during the analysis phase, and derived conclusions to a professional who was not involved in the research. Confirmability was achieved by taking into account each researcher's reflecting comments, and the codes and themes were established individually by the researchers.

Results

Characteristics of Participants

The sample consisted of 15 students who completed their clinical practice in a mental health hospital and voluntarily participated in the study. The hospital where the clinical practice was conducted is one of the largest mental health hospitals in Türkiye. Of the participants, 86% (n=13) were female, and the age range was between 20 and 23 years.

Themes

As a result of the data analysis based on the questions in the semi-structured interview form, 2 main themes emerged. These main themes are as follows: (1) Conditions Specific to the Psychiatric Clinic: Characteristics that Distinguish It from Other Clinical Practices and (2) Transition from Theory to Practice: Growing as a Nurse and a Person. In the following section, the categories and subcategories created under each theme are shown (Table 2).

Theme 1: Conditions Specific to the Psychiatric Clinic: Characteristics that Distinguish It from Other Clinical Practices

Unlike other clinical practices, students mentioned that they started the psychiatric clinic with prejudice and the importance of a therapeutic environment and communication in the psychiatric clinic.

Category 1: Perceptions Formed on the First Day of Clinical Practice

All interviewed students stated that they experienced negative emotions on the first day of clinical practice. The underlying reasons for experiencing negative emotions were divided into two categories as follows.

Table 2. Themes, categories and sub-categories of the interviews with the senior-year nursing student

Theme	Category	Sub-category
Conditions specific to the psychiatric clinic: Characteristics that distinguish it from other clinical practices	Perceptions formed on the first day of clinical practice. Therapeutic environment and communication.	Perceptions Caused by Prejudice. Perceptions of the therapeutic environment and physical environment. The gap between student and the clinical psychiatric nurse. Assessing care and the therapeutic environment from the patient's perspective.
Transition from theory to practice: Growing as a nurse and a person	Interaction process between student-patient. Desire to be a nurse in a psychiatric clinic	Look beyond the label. Feeling professional satisfaction. Uniqueness of Communication. Motivating factors to choose psychiatric nursing as a career in the future. Barriers to choose psychiatric nursing as a career in the future.

Perceptions Caused by Prejudice

The majority of the students stated that they started their internship in the psychiatry clinic with prejudice because of the discourses they had heard about individuals with mental disorders from movies, social media, and their environment. They stated that the belief that "individuals with mental disorders are dangerous people" created this prejudice in them. Therefore, they experienced stress and fear on the first day of the clinical practice:

> *" … I was a little scared of the patients. Actually, I didn't think they would harm me, but I felt that way because I had never encountered such a group of patients. We only saw the patients in the movies… I felt in danger. I had a feeling that I should never be alone without a nurse by my side because I thought patients might hurt me…"* (P13)

Perceptions of the Therapeutic Environment and Physical Environment

Apart from the patients, the students stated that being under locked doors and high-security precautions in the psychiatric clinic also constituted a stress factor for them:

> *"… I was scared the first time I went. When I saw the two steel doors, I was suddenly afraid of what would happen to me. Later, when we moved forward, I saw bars on the windows. Everything was closed…"* (P15)

Category 2: Therapeutic Environment and Communication

In the psychiatric nursing course, student nurses learned to communicate with individuals with mental disorders, providing nursing care to these individuals, and the elements of the therapeutic environment in psychiatric clinics. They stated that, in clinical practice, they needed the support of the nurses working in the psychiatric clinic to implement the skills they learned. They expressed the aspects that need to be improved in this process as follows:

The Gap Between Student and the Clinical Psychiatric Nurse

Students stated that when they started to practice in the psychiatric clinic, they expected the psychiatric nurses in the clinic to take on a supportive role that included adapting themselves to the physical and social environment of the clinic and psychiatric nursing practice:

> *"… It was our first time in the service, and we were worried because there was no one to guide us. We had just started classes, so the first day was very tense for me.…"* (P6)

Assessing Care and the Therapeutic Environment from the Patient's Perspective

Students stated that they thought that communication between health professionals and patients should be strengthened, individualized care practices should be developed, and the number of structured environment activities implemented in the wards should be increased during the treatment process of patients:

> *"… If I were a patient, I would want to feel cared for. I would have asked them to listen to me when I voiced my complaint and find a solution. As my friend says, communication. I would have liked more communication and activities…"* (P13)

Theme 2: Transition from Theory to Practice: Growing as a Nurse and a Person

During clinical practice, students stated that their professional commitment and professional satisfaction increased thanks to the communication they established with the patient while putting their theoretical knowledge into practice.

Category 3: Interaction Process between Student-Patient

Student nurses stated that, from the first moment they came into contact with the patient in clinical practice, the prejudices they brought from the past were replaced by positive emotions.

Look Beyond the Label

The students stated that they started the clinical practice of psychiatric nursing with prejudice against patients in line with their beliefs from the past. However, they stated that their prejudices were replaced by positive feelings after the communication they established with the patients:

"… A patient who had been receiving treatment there for a long time said, "We will not harm you. You don't need to stand in the corner. You can have a conversation with us.". I was embarrassed by this sentence from the patient. Because I was not like this in my other internships. I would go and communicate with the patients. I couldn't get too close to the patients because I was scared… I was relieved after what that patient said and I went and started communicating. …" (P11)

Feeling Professional Satisfaction

In the clinical practice of psychiatric nursing, it was observed that students' sense of belonging to the nursing profession and professional satisfaction increased as a result of being valued by their patients as nurses and their satisfaction with the communication they established with the patient:

"… Compared to other internships, I observed that therapeutic communication was more at the forefront and patients were more sincere. It made me very happy that they really saw us as nurses because in other internships we were seen more as interns. In this way, I liked it more because of the patients…" (P4)

"… In this internship, unlike other internships, for the first time, a patient said "See you next week. We will talk about this next week. Have a good vacation" created a reason for me to go to the internship. I remember that I used my right of absence to the fullest in other internships. But in this internship, I came to the internship feeling that it was good to communicate with those patients and listen to them…" (P6)

Uniqueness of Communication

During their clinical practice, students were able to observe the healing process of patients and realized that their interaction with the patient and the care they provided contributed to the patient's healing process. Each of them stated that they realized that their communication with patients was unique. Students who received professional satisfaction from this process stated that communication made both sides feel better:

"… In this clinical field, I think it is specific to the individual, I reflect what I know there, or my other friend reflects what he knows. That's also what the patients expect. They expect us to go there every Friday. They're watching our way. This is not something that happens in other clinical areas. When I was in other clinical areas, there were patients and I was giving care. But in the psychiatric nursing internship, we had a completely different communication with the patients…" (P7)

Category 4: Desire to be a Nurse in a Psychiatric Clinic

During the interviews with the student nurses, it was observed that they were divided into two groups: those who wanted to work in this field and those who did not want to work in this field in line with their personal characteristics and their experiences in psychiatric clinical practice. They expressed the reasons that motivated them to work in this field and the reasons why they did not want to work in this field as follows:

Motivating Factors to Choose Psychiatric Nursing as a Career in the Future

Students stated that the theoretical and laboratory courses and simulation practices carried out in line with the psychiatric nursing course contributed to their learning and that they felt competent in this field. They also stated that being useful to the patient and observing their recovery motivated them to work in this field:

"… When I talked to patients and applied that theoretical knowledge to practice, I actually enjoyed it and realized that the knowledge stayed in my mind. It's the first time I've felt like this in four years. That's why I would love to be a psychiatric nurse…" (P13)

"… The scenarios we did at school made my approaches easier. Since we had a debriefing session afterward, I had the opportunity to consolidate my knowledge. Now I can apply it more comfortably. Both therapeutic communication and theoretical knowledge." (P15)

Barriers to Choose Psychiatric Nursing as a Career in the Future

In parallel with the reasons mentioned in the previous items, students stated that they did not want to work in this field due to the physical structure of the environment, insufficiencies in communication with the healthcare team, and the lack of nurses they could see as role models during clinical practice:

"… My problem is not with the patients, I definitely get along very well with the patients. My problem is the hospital environment, the physical environment…" (P3)

Discussion

This study was conducted to examine the feelings, thoughts, and experiences of senior nursing students regarding the clinical practice of the psychiatric nursing course. The results of the study showed that the students experienced stress and

fear on the first day in the psychiatric clinic due to their past beliefs about individuals with mental disorders and the physical characteristics of the clinical environment they entered. Many studies in the literature have shown results that support these findings.[9,10,27] In their study, Shaygan et al.[28] emphasized the importance of explaining to students the psychiatric clinic environment they will encounter for the first time and the characteristics that distinguish this environment from other clinics (such as security precautions), the equipment found in this environment, and the conditions under which this equipment is used.

Beliefs and attitudes towards patients with mental disorders are influenced by individuals' level of education about mental disorders, contact with individuals with mental disorders, interactions established during nursing care, and feelings of being able to help the patient.[2,29] It was observed that negative attitudes towards individuals with mental disorders and working in the field of psychiatric nursing decreased after the theoretical and practical courses given in undergraduate education and clinical practices.[19,30–32] Similarly, the students who participated in our study reported that the information learned in the theoretical courses, the role-plays, and especially the simulation practices carried out with standardized patients during the semester were factors that made them feel competent in communicating with patients and reduced their prejudices. In support of the study's findings, simulation practices conducted with students in psychiatric nursing courses improve therapeutic communication and diagnostic skills, increase student satisfaction with the learning experience, and reduce anxiety during clinical practice.[11] Also, in Shaygan et al.'s[28] study, students recommended that theoretical lectures should be supported with examples from videos and films, that role-play and simulation exercises should be conducted, and that phone-based training sessions should be planned to reinforce learning before clinical practice.[28] In addition, to reduce negative attitudes towards psychiatric patients and psychiatric nursing in students, it is recommended to increase educational activities to prevent stigma, to assign students to take part in these activities, and to increase interaction and communication between groups through contact-based activities.[17,30]

To successfully complete the transition from student to nurse, students need role models who can carry out their profession professionally and transfer their knowledge and skills.[33] Students stated that they needed to be adapted to the physical structure, rules, and psychiatric nursing care practices of the field by clinical psychiatric nurses during their clinical practice. In this context, clinical psychiatric nurses should take on a guidance role by observing students, transferring their knowledge and skills, and providing feedback for the students' improvement. In the literature, it is recommended that clinical psychiatric nurses should be given a mentor nursing role after the certification program to be given about education to students.[4,34] To strengthen the clinical practice of psychiatric nursing in our country, it is recommended that training be organized by nurse academicians to support clinical psychiatric nurses in their educational roles and qualitative research involving stakeholders such as nurses and students.

Therapeutic environment practices in psychiatric clinics aim to ensure safety in the service while the patient continues the treatment process and to strengthen interpersonal relationships by supporting the patient to take responsibility and participate in group activities.[35] In other words, the therapeutic environment aims to provide an optimal care environment to support the patient's return to social life. In the Scope and Standards of Psychiatric Nursing Practice published by the American Nurses Association, "providing and maintaining a therapeutic environment" is included as a skill that must be practiced, and the American Association of Colleges of Nursing has stated that "therapeutic environment" is a competency that must be acquired in undergraduate education.[36,37] In our study, students made suggestions regarding the therapeutic environment in psychiatric clinics, strengthening one-to-one communication between nurses and patients, and increasing the number of structured group activities to support the patient's healing process. Similarly, in some studies conducted in our country, it has been suggested that morning groups, psychoeducation, social skills training, and occupational therapies conducted by nurses in psychiatric wards are insufficient and these areas should be supported.[35,38]

The students stated that the negative feelings experienced as a result of prejudices on the first day of clinical practice completely disappeared after contact with the patient. Studies in the literature also support this finding.[19,27] In Ketola and Stein's study (2013), students stated that their negative feelings towards patients disappeared as a result of clinical practice, and 48% of them stated that "they are just like me except for some minor differences," 28% stated that "they should not be judged, they should be seen as human beings," 22% stated that "they can be helped," and 13% stated that "they need compassion, love, attention, and listening."[39] The students stated that the depth of the communication with the patients, as a result of the trust relationship they established with the patients during clinical practice, and the positive feedback given by the patients, increased their belonging to the profession and professional satisfaction.

Students' experiences in clinical practice significantly affect their thoughts about working as psychiatric nurses in the future.[40,41] A review of the literature reveals that psychiatric nursing is considered a dangerous profession and is one of the least preferred fields among nursing students.[16,42] In our study, while some of the students stated that they would be happy to work in this field with the professional satisfaction

of the therapeutic relationship they established with patients, some students stated that they did not think of working in this field due to reasons such as the physical environment and the attitude of the healthcare team. Similar to our findings, in Jansen and Venter's study (2015), students stated that they did not plan to choose this field in the future due to personal factors, working environment, unprofessional behaviors of the healthcare team, and insufficient learning environment during clinical practice.[43] In addition, according to the report published by the World Health Organization in 2021, the average number of nurses per 100,000 psychiatric patients worldwide is 13, which proves that this field needs support.[44] Therefore, there is a need for randomized controlled studies that can affect nursing students' prejudices and attitudes toward psychiatric nursing more positively.[41,43]

Limitations and Strengths

This study has certain limitations. Our findings generally reflect the experience of nursing students in a private university in Istanbul. Therefore, conducting stakeholder studies involving different university students may strengthen the generalizability of the results.

Despite the limitations, this study has several strengths. The findings of this study include the clinical practice experiences of nursing students from a metropolitan city in one of the largest mental health hospitals in Türkiye. The uniqueness of this study lies in its comprehensive examination of educational methods that prepare senior nursing students for clinical practice, as well as students' relationships with nurses in the clinic and their future intentions to become psychiatric nurses. It also offers recommendations for enhancing these aspects.

The findings of the study are thought to contribute to the literature as they shed light on students' experiences from different perspectives, such as the characteristics that distinguish the clinical environment from other clinics, the therapeutic environment, and the intention to choose psychiatric nursing as a career. The results of the study can be used in meetings such as workshops to be held at the national level regarding the nursing curriculum. Similarly, the findings of the study may give ideas to research teams that will work in programs such as clinical practice orientation programs to be carried out in universities and hospitals.

Conclusion

Understanding students' feelings, thoughts, and experiences during clinical practice is important for eliminating prejudices. The findings of the study emphasize that students experienced stress and fear during clinical practice due to their beliefs about individuals with mental disorders and the physical characteristics of the clinical environment.

It is recommended that course instructors, clinical psychiatric nurses, and students come together periodically to share therapeutic communication and care processes with patients, experiences, and emotions during clinical practice. It is thought that these meetings will have a positive effect on reducing students' stress and experiencing positive clinical practice. Stakeholder studies are recommended to strengthen the bond between students and clinical psychiatric nurses, to reduce the stress experienced by students, to structure the therapeutic environment, to realize clinical practice learning objectives, and to develop the professional identity of psychiatric nursing.

In addition, the findings show that students perceived the clinical environment related to the psychiatric nursing course as different from other clinical practice environments and that there is a relationship between their intention to choose psychiatric nursing as a career and their clinical practice experiences.

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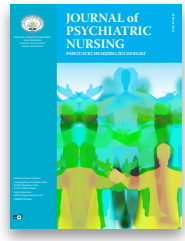

Original Article

Validity and reliability of the abbreviated technology anxiety scale in Turkish: A cultural adaptation study on nursing students

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Abstract

Objectives: The integration of technology into healthcare has accelerated, encompassing all healthcare services worldwide. If anxiety toward technology can be identified during the student period and appropriate measures can be taken, the use of health-related technologies in professional life may be facilitated and service quality improved. From this perspective, it is necessary to directly measure students' technology-related anxiety before their professional careers. This study aims to adapt the Abbreviated Technology Anxiety Scale to Turkish culture among nursing students.

Methods: This methodological study was conducted with 274 nursing students. Language, content, construct, and criterion-related validity analyses were performed. Reliability was assessed using internal consistency coefficients, item–total correlations, lower–upper 27% group analyses, and test–retest reliability (n=184).

Results: Exploratory factor analysis revealed a two-factor structure, differing from the original scale, explaining 55.67% of the total variance across 11 items. The Cronbach's alpha coefficient for the scale was 0.87. Differences between the lower and upper 27% groups were significant for all items. High and positive correlations were found between subscale totals and total scale scores obtained from the first and second administrations. Confirmatory factor analysis indicated a good model fit.

Conclusion: The 11-item, two-factor Abbreviated Technology Anxiety Scale obtained through this adaptation study is a valid and reliable measurement tool for use in Turkish culture.

Keywords: Nursing students; reliability; technology anxiety; validity

Technology plays an important role in health services, and with the acceleration of innovations in the healthcare field, the ability of students in health professions to adapt to technology is becoming increasingly important.[1] Nursing education continues to evolve with this technological transformation, aiming to equip students with practical skills through the use of modern technological tools in patient care.[2,3]

It is argued that the use of technology in nursing education can bridge the gap between the rapidly developing and changing world, theoretical knowledge, and clinical practice.[4–6] Innovative techniques such as artificial intelligence, simulation, and virtual reality—among the technologies used in nursing education—are applied by many educators, and their use in real-life settings is recommended, as evidence suggests that they can enhance students' learning outcomes.[7–11] Despite the positive contributions of these technological developments, nursing students' ability to keep pace with such changes and prepare for rapid technological transformation in healthcare services plays a crucial role in the quality of the profession.

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However, the inability to keep up with technological developments and anxiety related to technology use can pose significant obstacles for some students.[12,13] These concerns may lead students to develop negative attitudes toward technological tools, avoid using technology, or experience decreased performance during technology use.[14,15] In a qualitative study conducted by Karaveli Çakır with fifteen students, it was reported that students used many medical devices in hospital settings and experienced fear and stress due to foreign language use and the complexity of technological devices in clinical practice, resulting in difficulties in their use.[13] Additionally, some studies suggest that the use of ChatGPT—one of today's innovative technologies—in nursing education may create technology-related fear among students.[16,17] There is also evidence that the rapid integration of artificial intelligence into professions may generate anxiety and reservations regarding technology use.[18]

Anxiety leads individuals to avoid uncomfortable situations and learn avoidance behaviors. Avoidance makes it more difficult to confront similar situations in the future and results in a loss of confidence. It involves cognitive avoidance of distressing thoughts and avoidance of tasks, leading to decreased activity and performance.[19] This process contributes to self-limitation and may help explain why technology anxiety reduces technology use. Avoidance behaviors prevent success experiences, thereby diminishing confidence and making tasks that were previously manageable more difficult. Considering that nursing is a profession that evolves continuously, anxiety toward technology should be recognized as a potential barrier to keeping pace with technological innovations aimed at improving care quality.

Preventing the nursing profession from lagging behind technological advancements requires understanding students' concerns about technology during their education and developing appropriate strategies to reduce these concerns. Such efforts can enhance the effectiveness of educational programs and enable students to engage with technology more confidently.[20] In this context, the present study aimed to adapt and validate the Abbreviated Technology Anxiety Scale (ATAS) for Turkish culture, as no existing scale is available to measure nursing students' technology-related anxiety. The adapted scale may contribute to nursing education programs by informing educational strategies related to technology use and reducing students' sensitivity to technology. It is anticipated that the findings will guide future research and support initiatives aimed at advancing the nursing profession in an increasingly technology-integrated world.

What is presently known on this subject?

- Nursing education continues to evolve daily with ongoing technological transformation.
- Difficulty in keeping up with technological developments and anxiety about using technology can pose obstacles for students.
- To prevent nursing education from lagging behind technological advancements, it is important to understand students' concerns about technology.

What does this article add to the existing knowledge?

- Assessing students' concerns is important for improving the effectiveness of educational programs.
- The ATAS is a valid and reliable scale that can be used to determine nursing students' technology-related anxiety.

What are the implications for practice?

- Identifying nursing students' anxiety toward technology and their negative attitudes toward its use is essential for contemporary nursing education.
- The Turkish-adapted and validated ATAS is expected to contribute to the assessment, monitoring, and reduction of technology anxiety among students.
- Developing educational approaches that align with technological innovations and meet international standards is crucial for shaping the future of the nursing profession.

Materials and Method

Type and Purpose

The purpose of this methodological study was to adapt the ATAS for use among Turkish nursing students. Accordingly, the study sought to answer the following main question: Is the ATAS a measurement tool suitable for the culture of Turkish nursing students?

Study Group

The study group consisted of undergraduate students enrolled in the nursing department of a university located in the Aegean Region of Türkiye. In determining an adequate sample size, the commonly accepted approach of including at least five participants per item was considered. However, although a participant-to-item ratio of 10:1 has been suggested, it has been stated that using at least 20 participants per item provides more robust results for factor analysis.[21] The original ATAS consists of 11 items. Accordingly, the target sample size for this methodological study was set at a minimum of 220 students (20×11 items), and the study was completed with 274 students.

Data Collection

Sociodemographic Data Form: This form consisted of 11 questions designed to collect information on students' age, gender, grade level, marital status, income status, maternal and paternal education levels, place of residence, daily internet use, technology follow-up status, and technology use status.

Abbreviated Technology Anxiety Scale (ATAS): The original scale, developed by Wilson et al.,[22] was designed to measure individuals' levels of technology anxiety and consists of 11 items in a single dimension. It is a 5-point Likert-type scale ranging from "strongly disagree" to "strongly agree." The items aim to capture individuals' personal feelings and emotional responses toward information and communication technologies, including technological tools that support work and education sectors and their development. The minimum possible

score on the ATAS is 11, indicating the lowest level of technology anxiety, while the maximum score is 55, indicating the highest level of anxiety. In the original scale, the Cronbach's alpha coefficient (α) was reported as 0.91. In the present study, factor analysis conducted with data obtained from nursing students revealed a two-factor structure: negative impact (NI) and negative bias (NB). Higher scores indicate higher levels of technology anxiety. In this study, α values were calculated as 0.84 for NI, 0.74 for NB, and 0.87 for the total ATAS.

Data Collection Process

After the initial translation procedures, a pilot application was conducted with 35 nursing students who were not included in the study sample, and they were asked whether the items were understandable. A preliminary application was carried out to finalize the measurement tool by eliminating identified deficiencies and errors and to revise the items accordingly. In scale adaptation studies, it is recommended to conduct a pilot application with 30–40 individuals to assess the comprehensibility of the items.[23] As no negative feedback or suggestions were received, it was decided to administer the scale to a sample of sufficient size for adaptation studies. During the reliability assessment phase, 274 volunteer nursing students were included. For the test–retest analysis, the scale was administered to 184 nursing students. In accordance with psychometric guidelines, a two- to three-week interval—commonly recommended to minimize memory effects while preventing true change in the underlying construct—was selected between the two administrations. After this interval, the scale was re-administered to 184 nursing students who were available and agreed to participate in the retest phase. Both administrations were conducted using the same instructions, measurement environment, and data collection procedures to ensure methodological consistency. The research data were collected face-to-face from students enrolled in the nursing department of Muğla Sıtkı Koçman University. This study was prepared in accordance with the GRRAS checklist.

Validity and Reliability Evaluation Stages of the Scale

Validity Stages

a. **Language validity:** The translation and cross-cultural adaptation of the scale into Turkish were carried out in accordance with international standards.[24] To ensure linguistic equivalence, the original English version of the scale was translated into Turkish by five individuals, including one expert with a degree in English education, the researchers, and two field experts proficient in both English and Turkish. The Turkish version was then back-translated into English by two bilingual individuals who had not seen the original scale. The back-translated English versions were reviewed and compared by a native English speaker, and necessary revisions were made. All translation versions were reviewed item by item by the researchers, and the Turkish wording that best represented each item was finalized.
b. **Content validity:** The Davis technique was used for the Turkish version of the scale, and five experts holding doctoral degrees in Psychiatric Nursing were consulted. Based on expert evaluations, the content validity index (CVI) for each item was found to be >0.80, and no items required removal. The final version of the scale was established after minor revisions were made in line with expert suggestions to enhance item clarity.
c. **Construct validity:** To determine the construct validity of the ATAS, exploratory factor analysis (EFA) was performed using the Direct Oblimin rotation method, followed by confirmatory factor analysis (CFA).

Reliability Stages

a. **Internal consistency:** The α coefficients of the ATAS and its subdimensions were calculated.
b. **Item–total score reliability:** The relationship between each item and both the construct measured and the total scale score was examined.
c. **Item analysis–based reliability:** Reliability was evaluated using lower and upper 27% group analyses.
d. **Pearson correlation analysis:** The relationships between the total scale score and subdimension total scores were assessed using correlation analysis.
e. **Invariance over time:** Test–retest reliability analysis was conducted to evaluate the temporal stability of the scale. In the test–retest procedure, the ATAS was re-administered (n=184) three weeks later. Correlation analysis revealed a strong relationship between the subdimension scores obtained from the first and second administrations ($r=0.82;p<0.001$).

Statistical Analysis

In the Turkish adaptation study of the ATAS, SPSS v25.0 was used for exploratory factor analysis (EFA), and AMOS v24.0 was used for confirmatory factor analysis (CFA). In factor analysis, the Kaiser–Meyer–Olkin (KMO) coefficient was used to assess the suitability of the data for factor analysis, and the Bartlett sphericity test was used to examine whether the correlation matrix was an identity matrix. The number of factors was determined by considering eigenvalues and the scree plot. Principal component analysis was selected as the factor extraction method, and the Direct Oblimin method was chosen as the rotation technique to explain the factor structure. Subsequently, CFA was performed to test the adequacy of the factor structure in explaining the model, and fit indices were calculated by constructing a path diagram.

For reliability analysis, Cronbach's alpha (α) coefficient was calculated. Item–total score correlations, lower–upper 27% group analyses, t-test, and Pearson correlation analysis were performed for the test–retest procedure. Descriptive statistics were analyzed using arithmetic mean and standard deviation values. The level of statistical significance was accepted as $p<0.05$ and $p<0.001$.

Ethical Aspects of the Research

Permission for the cultural adaptation of the ATAS was obtained from Dr. Matthew L. Wilson, the corresponding author, via e-mail in June 2023. Subsequently, ethical approval was obtained from the Medical and Health Sciences Ethics Committee-2 (Sports, Health) of Muğla Sıtkı Koçman University, with the decision dated 31.10.2023 and numbered 131. Institutional permission was also obtained from the faculty where the study was conducted. Students who agreed to participate in the study were informed about the research, and their informed consent was obtained. All stages of the research were conducted in accordance with the Declaration of Helsinki.

Results

This study aimed to test the cultural adaptation of the ATAS. The sociodemographic characteristics of nursing students, findings related to the construct validity of the ATAS, findings related to the reliability of the ATAS, and findings regarding the relationships between the scores obtained from the scales were presented separately.

Sociodemographic Data of Nursing Students

It was found that 81.4% of the nursing students included in the study were aged 18–22 years, and the mean age was 21.16±1.86. Of the students, 59.9% were female, 35.8% were in the third year of study, nearly all (99.3%) were single, and 51.82% reported that their income was equal to their expenses. It was determined that 54% lived in dormitories. Regarding technology-related questions, 74.1% reported using the internet for more than 3 hours per day, 83.9% reported following technological developments, and 58.4% described their level of technology use as moderate (Table 1).

Table 1. Sociodemographic variables of nursing students (n=274)

Variables	Group	n	%
Age (mean±SD: 21.16±1.86)	18–22	223	81.4
	23 and over	51	18.6
Gender	Female	164	59.9
	Male	110	40.1
Class	1	55	20.1
	2	53	19.3
	3	98	35.8
	4	68	24.8
Marital status	Single	272	99.3
	Married	2	0.7
Income status	Income<outcome	113	41.2
	Income=outcome	142	51.8
	Income>outcome	19	6.9
Place of residence	Family	73	26.6
	Friend	53	19.3
	Dormitory	148	54.0
Daily internet use	< 1 hour	9	3.3
	1–3 hours	62	22.6
	>3 hours	203	74.1
Following the technology	Yes	230	83.9
	No	44	16.1
Level of technology use	Low	8	2.9
	Medium	160	58.4
	High	106	38.7

SD: Standard deviation.

Findings Regarding the Construct Validity of the ATAS

Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were conducted to test the construct validity of the ATAS. The suitability of the data for factor analysis was examined using the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's test of sphericity. The results indicated that the sample size and correlations among variables were adequate for factor analysis (KMO=0.89; χ^2=1202.61; $p<0.001$).

Principal component analysis was used as the extraction method in the EFA, and the Direct Oblimin rotation method was applied. The EFA revealed two factors with eigenvalues greater than 1, explaining 55.67% of the total variance. The first factor explained 46.03% of the variance, and the second factor explained 9.6%. Factor loadings ranged from 0.581 to 0.838 (Table 2). As shown in the scree plot (Fig. 1), the ATAS demonstrated a two-factor structure.

In the subsequent validity and reliability phase, CFA was performed. Based on the EFA results, the scale consisted of 11 items loading on two factors. The standardized values obtained from the CFA are presented in Table 3. Model fit was evaluated using goodness-of-fit indices. The fit indices were χ^2=60.22; sd=37; CMIN/df=1.62; AGFI=0.93; GFI=0.96; NFI=0.95; CFI=0.98; IFI=0.98; TLI=0.97; RMSEA=0.48 ($p<0.01$) (Table 3). The path diagram obtained after CFA is shown in Figure 2. The factor loadings of the ATAS items ranged from 0.40 to 0.80.

Findings Regarding the Reliability of the ATAS

To assess internal consistency, Cronbach's alpha coefficients and item–total correlation analyses were conducted, and item discrimination was evaluated using lower and upper 27%

Table 2. ATAS factor loadings and factor variance distributions

Items		Factor	
		1	2
3.	I am uncomfortable using technology	0.83	
4.	Technology does not improve my quality of life	0.67	
5.	I feel out of control using technology	0.67	
6.	I feel uneasy using technology	0.66	
7.	I feel technology complicates simple tasks	0.65	
10.	Using technology makes me nervous	0.63	
11.	I am often annoyed when using technology	0.58	
1.	I am not a technology person		0.83
2.	I am reluctant to learn new features of technology		0.70
8.	Keeping up with the newest technology is impossible		0.60
9.	I am inefficient with technology		0.58
	Eigenvalues	5.064	1.06
	Variance	46.03	9.63
	Cumulative variance	46.03	55.67

Table 3. The ATAS goodness of fit values

Fit index	Value	Goodness-of-fit value	Acceptable goodness-of-fit value	Assessment
Chi-square (χ^2)	60.22	$0 \leq \chi^2 \leq 2df$	$2df < \chi^2 \leq 3df$	Good fit
Degree of freedom (df)	37	–	–	–
CMIN/df (χ^2/df)	1.628	$0 \leq \chi^2/df \leq 2$	$2 <$ AGFI ≤ 3	Good fit
AGFI	0.93	$0.90 \leq$ AGFI ≤ 1.00	$0.85 \leq$ GFI ≤ 0.90	Good fit
GFI	0.96	$0.95 \leq$ GFI ≤ 1.00	$0.95 \leq$ GFI ≤ 0.97	Good fit
NFI	0.95	$0.95 \leq$ NFI ≤ 1.00	$0.90 \leq$ NFI ≤ 0.95	Good fit
CFI	0.98	$0.97 \leq$ NFI ≤ 1.00	$0.95 \leq$ CFI ≤ 0.97	Good fit
IFI	0.98	$0.95 \leq$ IFI ≤ 1.00	$0.94 \leq$ IFI ≤ 0.90	Good fit
TLI	0.97	$0.95 \leq$ TLI ≤ 0.97	$0.94 \leq$ TLI ≤ 0.90	Good fit
RMSEA	0.04	$0 \leq$ RMSEA ≤ 0.05	$0.05 <$ RMSEA ≤ 0.08	Good fit
p	0.009			

ATAS: Abbreviated technology anxiety scale; CMIN/df: Chi-square/degrees of freedom; AGFI: Adjusted goodness-of-fit index; GFI: Goodness-of-fit index; NFI: Normed fit index; CFI: Comparative fit index; IFI: Incremental fit index; TLI: Tucker-lewis index; RMSEA: Root mean square error of approximationc.

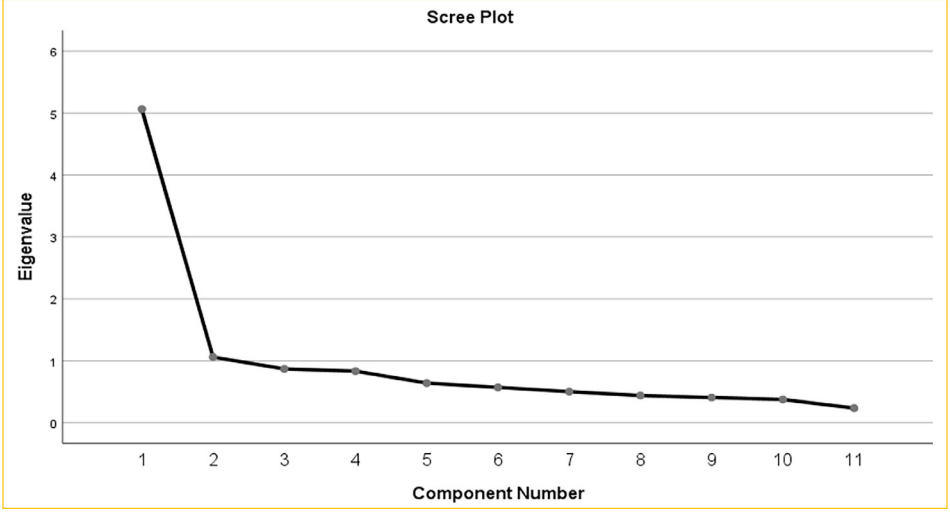

Figure 1. Scree plot.

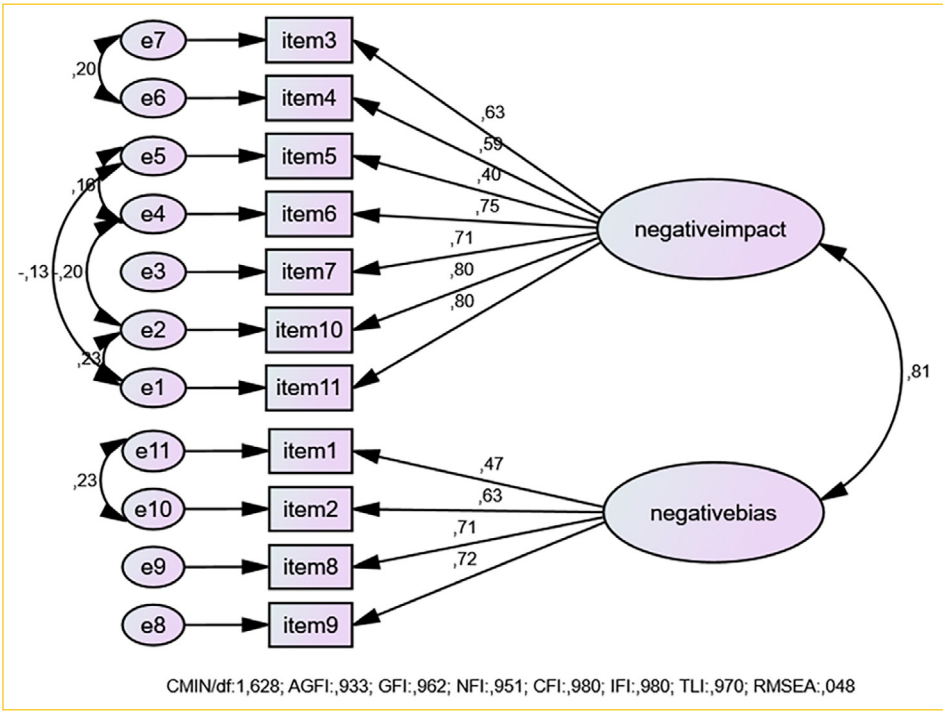

Figure 2. Path diagram.

group comparisons. The α values were 0.84 for the negative impact (NI) subdimension, 0.74 for the negative bias (NB) subdimension, and 0.87 for the total ATAS. Item–total correlation coefficients ranged from 0.38 to 0.71. Differences between the lower and upper 27% groups were significant for all items (p<0.001) (Table 4).

Pearson correlation analysis was performed to examine the relationships between the total scale score and subdimension scores. Strong positive correlations were found between the total ATAS score and the NI subdimension (r=0.95) and the NB subdimension (r=0.84), while a moderate positive correlation was observed between NI and NB (r=0.63) (p<0.001) (Table 5).

To evaluate the stability of the ATAS over time, the scale was re-administered to 184 participants three weeks after the initial administration. As shown in Table 5, high and positive correlations were found between the subdimension scores and total scores obtained from the first and second administrations (p<0.001).

In this adaptation study, a structural difference was observed compared with the original structure of the ATAS. The emerg-

Table 4. Item-total correlations and cronbach's alpha reliability coefficients of the items and lower-upper group analyses

Factors	Item	Corrected item-total correlation	Cronbach's Alpha if item deleted	Lower 27% group (n=74) mean±SD	Upper 27% group (n=74) mean±SD	t	p
Factor 1: Negative impact (α: 0.84)	Item 3	0.59	0.86	1.02±0.16	2.71±1.06	-13.46	0.000
	Item 4	0.57	0.86	1.29±0.78	3.17±0.95	-13.03	0.000
	Item 5	0.38	0.88	1.68±0.96	3.16±0.99	-9.15	0.000
	Item 6	0.66	0.85	1.18±0.39	3.17±0.91	-17.19	0.000
	Item 7	0.62	0.86	1.06±0.25	2.85±0.90	-16.38	0.000
	Item 10	0.71	0.85	1.04±0.19	2.97±0.95	-17.12	0.000
	Item 11	0.71	0.85	1.06±0.30	2.89±0.95	-15.60	0.000
Factor 2: Negative bias (α: 0.74)	Item 1	0.42	0.87	1.41±0.75	2.78±0.83	-10.42	0.000
	Item 2	0.57	0.86	1.13±0.34	2.81±1.04	-13.12	0.000
	Item 8	0.58	0.86	1.22±0.51	2.95±1.02	-12.97	0.000
	Item 9	0.59	0.86	1.32±0.68	3.13±0.95	-13.25	0.000
ATAS (α: 0.87)							

ATAS: Abbreviated technology anxiety scale; SD: Standard deviation; α: Cronbach's alpha.

Table 5. Initial measurement and test-retest measurement correlations of ATAS total and subscale scores

	Initial			Test-retest		
	Total	NI	NB	Total	NI	NB
Initial						
Total	1					
NI	0.95**	1				
NB	0.84**	0.63**	1			
Test-retest						
Total	0.82**	0.77**	0.69**	1		
NI	0.79**	0.82**	0.52**	0.94**	1	
NB	0.66**	0.48**	0.78**	0.84**	0.60**	1

**: p<.001. ATAS: Abbreviated technology anxiety scale; NI: Negative impact; NB: Negative bias.

ing factors were named by the researchers based on the content of the items. The NI subdimension consisted of seven items (items 3, 4, 5, 6, 7, 10, and 11) describing the negative impacts of technology on individuals, whereas the NB subdimension consisted of four items (items 1, 2, 8, and 9) reflecting negative bias toward technology. No reverse-scored items were included in the scale.

Discussion

In this study, the cultural adaptation of the ATAS was examined. The findings of this adaptation study, which evaluated the ATAS consisting of 11 items and two subdimensions for measuring technology anxiety in nursing students, demonstrated that the scale meets the required criteria in terms of language, content, construct validity, and reliability and can be confidently used with nursing students. As a result of the analyses, the original form of the scale was preserved, and no modifications to the scale items were required.

When the literature on content validity is reviewed, it is reported that the content validity index (CVI) should be at least 0.80.[25,26] In the present study, content validity analysis conducted using the Davis technique indicated that expert agreement met the minimum required level for the content validity of the ATAS (CVI>0.80).

Previous studies providing recommendations for scale adaptation have emphasized that the results of the Kaiser–Meyer–Olkin (KMO) coefficient and Bartlett's test of sphericity should be considered to evaluate construct validity.[27] It is recommended that the KMO value be above 0.60 and preferably close to 1. Furthermore, a KMO value between 0.70–0.80 indicates moderate sampling adequacy, a value between 0.80–0.90 indicates good sampling adequacy, and a value above 0.90 indicates excellent sampling adequacy.[28,29] Consistent with these criteria, the present study found that the KMO value was 0.89, which is considered close to an excellent level, and Bartlett's test was statistically significant. These findings indicate that the sample size was adequate for factor analysis and that factor analysis could be appropriately applied to the ATAS.

The literature suggests that the total variance explained should be at least 0.50 for items to sufficiently contribute to the measured construct.[30] As shown in Table 2, the total variance explained by the scale (55.67%) meets this criterion, indicating that the two-factor structure explains more than half of the total variance and has strong representativeness.[26] Additionally, the Direct Oblimin rotation method was employed under the assumption that the factors were correlated.[30] The moderate positive correlation observed between the factors supports the appropriateness of this rotation method. Moreover, the distribution of factor loadings across scale items can be considered satisfactory.[26,31]

When item–total correlations, Cronbach's alpha coefficients, and differences between the lower and upper 27% groups were examined to assess item discrimination, item–total correlation coefficients ranged from 0.38 to 0.71, and the differences between the lower and upper 27% groups were statistically significant. Item–total correlation coefficients are influenced by sample size, and when the sample size is less than 400, these values are expected to be at least 0.30.[32] According to Büyüköztürk,[27] a statistically significant difference between the mean scores of the lower and upper 27% groups is an indicator of internal consistency. The values obtained in this study indicate that the items have a high discrimination index and support the internal consistency of the ATAS.[26]

Cronbach Alpha reliability coefficients indicated that the α value for the total scale was 0.87, the α value for the negative impact factor was 0.84, and the α value for the negative bias factor was 0.74. In the literature, it is reported that α values range between 0.0 and 1.0, and that values between 0.60–0.79 indicate high reliability, whereas values of 0.80 and above indicate very high reliability.[33,34] From this perspective, the α values calculated in the present study demonstrate that the scale is highly reliable in accordance with the literature and that adequate internal consistency has been achieved.

To evaluate the temporal invariance of the scale, a test–retest analysis was performed three weeks after the first administration.[26] As a result of paired correlation analyses, the correlation coefficients were r=0.82 for the total scale, r=0.82 for the NI subdimension, and r=0.78 for the NB subdimension (p<0.001). To establish temporal stability, it is recommended that test–retest applications be conducted at least twice, with correlation coefficients of at least 0.50 for subjective tests, and at least r=0.70, preferably r=0.80, for attitude scales.[26] Evaluation of the correlation coefficients showed that the measurements obtained from the two administrations were highly similar, indicating strong stability of the scale over time.

The most commonly used statistics in confirmatory factor analysis include chi-square statistics (χ^2 and χ^2/df), AGFI, GFI, NFI, CFI, IFI, TLI, and RMSEA.[35] When the goodness-of-fit indices were evaluated according to reference values, all indices indicated good model fit (Table 3). These findings suggest that the distribution of the items constituting the scale is highly appropriate for the two-factor structure obtained through CFA. In the CFA, the factor loadings of the scale items ranged between 0.40 and 0.80. According to Alpar,[32] factor loadings between 0.30 and 0.40 represent the minimum acceptable level, loadings of 0.50 and above indicate practical significance, and loadings of 0.70 and above indicate strong explanatory power. Within the scale, two items were at the acceptable level, three items demonstrated practical significance, and six items showed strong explanatory capacity for the construct.

Considering that anxiety related to technological devices—exposure to which is increasing due to rapid technological development—may negatively affect nursing students' education, hinder adaptation to innovative developments, and ultimately impair the quality of healthcare services, identifying technology-related anxiety and planning appropriate interventions are essential.[16–18] As nursing education in the country where this study was conducted becomes increasingly technologically advanced, technology-related anxiety may become more apparent, and its impact on technology use may increase. However, this situation is likely to differ across countries with varying levels of technological integration in educational curricula. Therefore, comparative studies examining the current situation in different countries are needed.

Strengths and Limitations of The Study

The scale adapted in this study is unique in that it directly measures technology-related anxiety, which constitutes a major strength of the study. Despite these strengths, several limitations should be noted. The participants consisted solely of undergraduate nursing students from a university located in a metropolitan city in Türkiye; therefore, the findings may not represent all nursing students across the country. Nevertheless, although this is a national-level scale adaptation study, the successful validation of a tool that directly measures future nurses' anxiety toward technology—rather than general anxiety in today's technological environment—may provide an opportunity for other countries to initiate similar research. The measurement power of the scale may be enhanced by applying it to different sample groups. Another limitation is that the scale could not be tested using simultaneous criterion-related validity measures. Despite these limitations, the findings indicate that the ATAS is a valid and reliable instrument for assessing technology-related anxiety among undergraduate nursing students. Expanding the sample size and ensuring balanced sociodemographic characteristics are recommended to obtain a more representative sample.

Importance for Practice

As nursing is a constantly evolving field, it is essential for students to adapt to and effectively use technology. The integration of technological tools such as digital patient monitoring systems, medical devices, and simulation-based training in nursing education enables students to enhance clinical experience, simulate real-world scenarios, and provide more effective and efficient patient care.[36] However, anxiety related to technology adaptation may hinder these benefits.[22] Technology anxiety may lead students to experience fear, uncertainty, or distress when using new technological tools, negatively affecting their educational performance and, consequently, the delivery of effective healthcare services.[37,38] To prevent the nursing profession from lagging behind technological advancements, it is important to identify students' technology-related concerns during their education and to develop appropriate strategies to reduce these concerns, thereby enhancing educational effectiveness and promoting confident interaction with technology. For these reasons, identifying students' technology-related anxiety, as well as negative impacts and biases toward technology, is critical. The ATAS assesses specific negative effects—such as emotional distress, tension, feelings of inadequacy, and perceived loss of control—experienced during technology use, along with negative preconceptions about technology, rather than general technology anxiety. Thus, the scale specifically targets the emotional and cognitive dimensions of technology-related anxiety. The Turkish-adapted ATAS is expected to contribute to the literature and practice by facilitating the identification, adaptation, and reduction of technology anxiety in nursing education. Keeping pace with technological innovations within a high-quality and internationally valid educational framework has become a key factor shaping the future of the nursing profession. From this perspective, defining and measuring technology anxiety in nursing students and planning appropriate interventions when necessary are essential for future healthcare professionals.

Conclusion and Recommendations

The results of the adaptation of the Abbreviated Technology Anxiety Scale to Turkish culture among nursing students indicate that the final version of the scale demonstrates good fit with the original model. The ATAS consists of 11 items scored on a 1–5 Likert scale, with total scores ranging from 11 to 55, where higher scores indicate higher levels of technology anxiety. The scale includes no reverse-scored items. Factor analysis revealed two subdimensions: Negative Impact (Items 3, 4, 5, 6, 7, 10, and 11), which reflects emotional and cognitive discomfort and other adverse effects experienced during technology use, and Negative Bias (Items 1, 2, 8, and 9), which represents individuals' negative attitudes and biases toward technology.

The Turkish version of the ATAS can be considered a valid and reliable measurement tool for assessing nursing students' technology-related anxiety. It is recommended that the scale be applied and tested in larger and more diverse sample groups. The findings may contribute to improving and enhancing current and future educational and professional practices in nursing.

Ethics Committee Approval: The study was approved by the Muğla Sıtkı Koçman University Ethics Committee (no: 131, date: 31/10/2023).

Informed Consent: After the participants were informed in detail about the purpose of the study, their voluntary consent was obtained.

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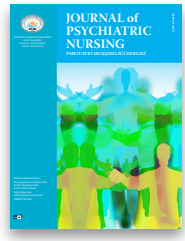

Original Article

Social distance and related factors of nurses working in non-psychiatric clinics toward individuals diagnosed with mental disorders

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Abstract

Objectives: The aim of this study is to determine the level of social distancing among nurses working in non-psychiatric clinics toward individuals diagnosed with mental disorders and the associated factors.

Methods: The study was conducted using a descriptive and correlational research design. Data were obtained from 217 nurses working in non-psychiatric clinics. Data were collected using an individual information form and the 'social distance scale,' which includes two separate scenarios regarding anxiety and schizophrenia diagnoses. The SPSS (Statistical Package for Social Sciences for Windows 22.0) and AMOS programs were used in the data analysis.

Results: The social distance score was found to be 3.86±1.75 for the anxiety disorder case and 5.98±1.36 for the schizophrenia case. In both cases, the statement "Suppose that you have a sister. Would it bother you if your sister wanted to marry this person?" had the highest mean score. It was found that nurses most frequently reported the emotion of 'compassion' toward the anxiety disorder case and 'unhealthiness and fear' toward the schizophrenia case.

Conclusion: According to the study findings, it can be stated that nurses working in non-psychiatric clinics have higher levels of social distance toward people diagnosed with schizophrenia compared to those diagnosed with anxiety disorder. Therefore, training programs aimed at reducing social distance can be organized for nurses who also provide care to people with mental disorders in the clinics where they work.

Keywords: Anxiety disorder; schizophrenia; social distancing

Studies on mental disorders show that people with mental disorders are judged as irrational, unpredictable, unreliable, dangerous, and hostile in almost every culture.[1–5] This situation leads to negative evaluations toward these individuals in addition to the mental disorder itself. These negative evaluations cause various negative attitudes and behaviours, particularly social distance.

Social distance is a concept that describes the relationships of closeness–distance and familiarity–unfamiliarity between social groups, and determines the extent to which people perceive other people or groups as close or distant to themselves.[6] Social distance also contributes to making sense of the level of interaction, the degree of acceptance, and the boundaries of intimacy within which relationships can be established between different social groups.[7] In the determination of social distance, in addition to its cognitive and behavioral dimensions, the emotional component, which includes how members of a group feel about the 'other', plays an important role.[6]

Social distance is one of the concepts that significantly affects how an individual with a mental disorder is accepted or rejected by others and their position in society;[2,8–10] and it is 'a degree to which people accept the participation of indi-

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viduals with mental disorders in their social relationships'.[11] In general, it is stated that people labeled as "mentally ill" are avoided in intimate settings, while they are approached more acceptingly in general and impersonal social environments.[12] The tendency of society to avoid close contact with individuals with mental disorders is seen as one of the fundamental factors in the emergence of social distance.[11,13]

Social distance, which can negatively affect people with a mental disorder label, is a form of stigma that leads to social othering and reduced life opportunities. This situation results in patients receiving less social support. It manifests itself in many negative ways, such as the risk of not finding a job, loss of social status, lack of social acceptance, social isolation, and the perception of a tainted identity.[14,15] Increasing distance toward individuals with mental disorders feeds prejudice and reinforces discrimination and stigma.[16] The levels of stigma and social distance behaviours vary depending on factors such as the visibility or concealability of the illness, its course over time, the tension it creates in interpersonal relationships, its aesthetic characteristics, its cause, and the perceived risk or dangerousness toward others.[12,16] Social distance impedes help-seeking behaviors and reduces the willingness to provide support to them.[17]

In reducing social distance to mental disorders in society, the group that should play the most critical role in raising public awareness with accurate and scientific information is healthcare professionals. However, research shows that healthcare professionals, similar to individuals in the general population, often display negative attitudes and behaviours, such as social distance, toward mental disorders.[18–20] Among healthcare professionals who first encounter individuals with mental illness outside psychiatric clinics, nurses hold an important position and play a decisive role in the care, guidance, and treatment processes of these individuals. Therefore, understanding the social distance tendencies of nurses working in non-psychiatric clinics toward mental disorders is considered important for improving the quality of care and developing strategies to reduce stigma.

The aim of this study is to determine the level of social distance and related factors toward individuals diagnosed with mental disorders among nurses working in non-psychiatric clinics.

Research Questions

- What are the levels of social distance of nurses working in non-psychiatric clinics toward individuals diagnosed with anxiety and schizophrenia?
- What are the factors related to the levels of social distance of nurses working in non-psychiatric clinics toward individuals diagnosed with anxiety and schizophrenia?

What is presently known on this subject?

- Social distance, stigma, and prejudice toward people with mental disorders negatively affect help-seeking, access to care, and reintegration into society, leading to exclusion and social isolation.
- In the literature, stigma has generally been examined, and studies investigating social distance behaviors are limited.
- Although nurses working in non-psychiatric clinical settings frequently interact with individuals with mental disorders within the healthcare system, their attitudes on this issue have not been sufficiently investigated.

What does this article add to the existing knowledge?

- This study reveals the social distance levels of nurses working in non-psychiatric clinics toward individuals with mental disorders, addressing both the behavioral and emotional dimensions of stigma.
- The findings indicate that the lack of knowledge, fear, and negative attitudes of nurses increase social distance, which conflicts with the humanistic and holistic care principles that form the foundation of the nursing profession.

What are the implications for practice?

- These findings highlight the need for educational programs that increase nurses' awareness and knowledge of mental disorders, beginning in their nursing education.
- Identifying misconceptions and fears about severe mental disorders, such as schizophrenia, among nurses working in non-psychiatric clinics will contribute to planning training aimed at this issue. This will support the development of a more empathic, inclusive, and non-stigmatizing approach to care. It will strengthen nurses' interactions with people with mental disorders and support holistic and humanistic care. It will also increase participation in treatment and improve social integration.

Materials and Method

Type of Research

This study was descriptive and cross-sectional.

Variables of the Study

The independent variables of the study are the individual characteristics of the participants, and the dependent variable is the Social Distance Scale score.

Place and Time of the Study

The study was limited to the Marmara region to form a homogeneous sample with similar regional conditions and was conducted between August and October 2025.

Sample

The study population consisted of nurses working in non-psychiatric clinics. The sample size was calculated using the formula used when the population is unknown ($n=\sigma^2\times Z^2/d^2$),[21] accepting a 95% confidence level and deviation (d)=2 (n=209), and the data of the social distance scale (SD=14.77) from the Ceylan and Özcan study[22] were used in the sample calculation. The inclusion criteria were actively working in a non-psychiatric clinic; the exclusion criteria were having previously worked in a psychiatric clinic and having received special training in the field of psychiatric nursing. Data were obtained from 217 participants. The snowball technique was used to determine the participants.

Data Collection Process

Data were collected from nurses working in non-psychiatric clinics in the provinces located in the Marmara region through an online questionnaire form prepared via Google Forms, and participants were reached through social media platforms. Online data were obtained according to the 'The Checklist to Report Results of Internet E-Surveys (CHERRIES).' Consequently, the CHERRIES guideline is a checklist based on web-based surveys that allows a better understanding of sample selection and possible differences between the 'selected sample' and the 'representative' sample. The checklist consists of 8 categories, including 'Design', 'Ethics', 'Development and Form evaluation', 'Recruitment process and description of the sample participating in the survey', 'Survey administration', 'Response rates', 'Preventing Multiple entries from the same individual', and 'Analysis'.[23] In this study, to prevent participants from making more than one data entry, a restriction was applied to prevent participants from making more than one response submission. Before starting the survey, participants were informed about the purpose of the investigation, the principles of confidentiality, and that participation was voluntary. Furthermore, no incentive or reward was given for the study. To avoid missing data entries, all questions were arranged as mandatory questions, and since submission was not accepted when the form was completed incompletely, there are no missing data. No personal data containing identifying information about the participants were collected, and the data were stored in an encrypted virtual environment accessible only to researchers. Completing the survey took an average of 5–10 minutes.

Data Collection Tools

Individual Information Form: It consisted of 11 questions evaluating age, gender, marital status, family structure, the place where the participant lived the longest, whether there was an individual with a mental illness in their close environment, their status of receiving or considering psychiatric support, whether they had previously obtained information about mental disorders, what they felt towards individuals with mental disorders, the unit they worked in and their years of work experience.

Social Distance Scale (SDS): The scale developed by Arkar [11] includes two sample cases of paranoid schizophrenia and anxiety disorder and 14 questions developed to measure the preferred social distance from an individual with a mental disorder. The scale is a 7-point Likert-type scale scored as: Definitely does not disturb: 1, Does not disturb: 2, Slightly does not disturb: 3, No difference: 4, Slightly disturbs: 5, Disturbs: 6, Definitely disturbs: 7. Higher scores on the scale indicate greater social distance.[11,22] The Cronbach's Alpha coefficient of the original scale was reported as .88. In this study, the Cronbach's Alpha value of the scale was 0.93 for the anxiety case and .96 for the schizophrenia case.

Ethical Considerations

Ethical approval for the study was obtained from the Scientific Research and Publication Ethics Committee of Bahçeşehir University (date 01.08.2024 and number 2024/07). Individuals who met the inclusion criteria and agreed to participate were informed via Google Forms in accordance with the Declaration of Helsinki, and their consent was obtained.

Statistical Analysis

The data obtained in the study were analysed using SPSS (Statistical Package for Social Sciences) for Windows 22.0 and the AMOS program. In the descriptive data, numbers, percentages, means, standard deviations, and min–max values were used. Normality analysis of the data set was performed to evaluate whether the distribution statistically conformed to a normal distribution. In the analyses performed, both visual methods (histogram, QQ plot) and parametric tests (Kolmogorov–Smirnov, Shapiro–Wilk) were examined together. The results obtained showed that the data set met the assumption of normal distribution. Data related to the research questions were analysed using Paired Samples t-test, Independent Samples t-test, and One-way ANOVA, and in cases where significant differences were found, the Tukey HSD post hoc test was applied to determine from which groups the differences originated. All findings were accepted as significant at the $p<0.05$ level.

Results

The mean age of the participants was 32.66±8.54; 89.4% were women, 53.5% were single, 87.6% had a nuclear family structure, and 88.9% had lived the longest in a city/metropolis area. Furthermore, 59.9% worked in inpatient clinics and 35.9% had more than 10 years of work experience. 67.7% of the participants were determined not to have a person with a mental disorder in their close environment, 52.5% had received or considered receiving psychiatric support, 89.9% had knowledge of mental disorders, and 36.9% reported that the emotion they felt the most about mental disorders was uneasiness and fear (Table 1).

In the study, the mean SDS score of nurses for the anxiety disorder case was 3.86±1.747, and the mean SDS score for the schizophrenia case was 5.98±1.356 (Table 2). In both cases related to disorders, the statements with the highest mean scores were: 'If you knew this person, would you share your daily problems with them and confide in them?', 'Assume you work at the same workplace as this person.' 'Would sharing the same room with them disturb you?' and 'Assume that you have

Table 1. Individual characteristics of nurses (n=217)

	Mean±SD (min–max)	
Age	32.66±8.546 (22–57)	
	n	**%**
Gender		
Female	194	89.4
Male	23	10.6
Marital status		
Single	116	53.5
Married	101	46.5
Family structure		
Nuclear	190	87.6
Extended	27	12.4
Place lived longest		
Village/Town	24	11.1
City/Metropolitan	193	88.9
Presence of a person with mental disorder in close environment		
Yes	70	32.3
No	147	67.7
Receiving/considering psychiatric support		
Yes	114	52.5
No	103	47.5
Knowledge of mental disorders		
Yes	195	89.9
No	22	10.1
Working unit		
Inpatient clinics	130	59.9
Other (FHC,OR, outpatient clinic, administrative, etc)	87	40.1
Years of professional experience		
Less than 1 year	25	11.5
1–5 years	75	34.6
6–10 years	39	18.0
More than 10 years	78	35.9
Most frequently felt emotion toward mental disorders		
Uneasiness and fear	80	36.9
Curiosity	43	19.8
Compassion	68	31.3
Pity	26	12.0

SD: Standard deviation; FHC: Family health center; OR: Operating room.

a sister. Would it bother you if your sister wanted to marry this person?' Similarly, in both cases related to the disorders, the statements with the lowest mean scores were: 'Would sitting next to this person on a municipal bus disturb you?', 'Would buying groceries from a store operated by this person on your street disturb you?', and 'Assume that you work at the same workplace as this person but in different rooms. Would being under the same roof with this person disturb you?' When the mean scores of the SDS items were compared between the anxiety and schizophrenia cases, a significant difference was found in all items and in the total scale score, the schizophrenia case having higher mean SDS item scores ($p<0.001$) (Table 2).

When the mean social distance scores of nurses were compared according to their individual characteristics in the anxiety case, a significant difference was found between those who knew about mental disorders and those who did not in terms of the mean SDS scores ($t=-2.340$, $p=0.027$), while no significant differences were found in the mean SDS scores for gender, marital status, family structure, the place lived the longest, receiving/considering psychiatric support, having an

Table 2. Comparison of social distance item mean scores in anxiety and schizophrenia cases (n=217)

	Anxiety case				Schizophrenia case				Test	
	Mean	SD	Min	Max	Mean	SD	Min	Max	t	p
Would sitting next to this person on a municipal bus disturb you?	2.17	1.510	1	7	5.59	1.727	1	7	-24.593	**<0.001**
Would being together with this person during a seven-hour intercity trip disturb you?	3.36	1.955	1	7	6.06	1.349	1	7	-19.393	**<0.001**
Would buying groceries from the small shop operated by this person on your street disturb you?	2.30	1.679	1	7	5.49	1.821	1	7	-21.962	**<0.001**
Assume you live in an apartment building. Would it disturb you if this person worked as the building superintendent?	3.29	1.988	1	7	5.94	1.478	1	7	-19.242	**<0.001**
Assume you have a house you want to rent out. Would you rent it to this person?	3.92	2.151	1	7	6.18	1.315	1	7	-15.249	**<0.001**
Would attending a family gathering after learning that this person will be present disturb you?	3.12	1.806	1	7	5.76	1.545	1	7	-20.405	**<0.001**
If you met this person at a family gathering, would you play a game such as cards, rummikub, bingo, or a similar game with them?	3.58	2.033	1	7	5.95	1.498	1	7	-17.368	**<0.001**
If you met this person at a family gathering, would you talk with them about general issues?	3.97	2.143	1	7	6.04	1.478	1	7	-14.628	**<0.001**
If you knew this person, would you share your daily problems with them and confide in them?	4.29	2.105	1	7	6.10	1.404	1	7	-13.237	**<0.001**
Would it disturb you if this person moved next door and became your immediate neighbor?	3.72	2.032	1	7	6.15	1.249	1	7	-17.056	**<0.001**
If this person were a hairdresser/barber, would you get your hair cut by them?	3.80	2.202	1	7	5.95	1.556	1	7	-14.390	**<0.001**
Assume you work in the same workplace as this person. Would sharing the same office with them disturb you?	4.55	2.011	1	7	6.28	1.252	1	7	-13.236	**<0.001**
Assume you work in the same workplace but in different rooms. Would being under the same roof with this person disturb you?	2.91	1.862	1	7	5.71	1.658	1	7	-20.007	**<0.001**
Assume you have a sister. Would it disturb you if your sister wanted to marry this person	5.44	1.797	1	7	6.60	0.980	1	7	-10.084	**<0.001**
Total	3.86	1.747	1.00	7.00	5.98	1.356	1.00	7.00	-17.203	**<0.001**

SD: Standard deviation; t: Paired sample t-test.

individual with a mental illness in the close environment, the unit worked in, and years of work experience (p>0.05). In the case of schizophrenia, when the mean social distance scores of the nurses were compared according to their individual characteristics, significant differences were found in SDS scores for gender (t=4.399, p<0.001), marital status (t=-3.238, p=0.003), family structure (t=-3.223, p=0.006), having knowledge of mental disorders (t=-2.837, p=0.009), the unit worked in (t=-2.530, p=0.018), and years of work experience (F=24.830, p<0.001) (p<0.05), while no significant difference was found for receiving/considering psychiatric support and having an individual with a mental disorder in the close environment (p>0.05) (Table 3).

It was found that the most frequently reported emotion of the nurses was compassion in the anxiety case, and uneasiness and fear in the schizophrenia case (p<0.05) (Table 3).

Discussion

Mental disorders are among the groups toward which social distance behaviours are most commonly developed. Social distance is especially observed in areas such as employment, education, health support, and interpersonal relationships.[8,13,24,25] Such misconceptions and prejudices about mental disorders may lead to the exclusion and isolation of individuals from social life. Therefore, people with mental disorders often lack social support because the people around them tend to behave distantly toward them.[26]

In this study, the mean social distance score of nurses working in non-psychiatric clinics for people diagnosed with schizophrenia (5.98±1.36) was found to be higher than the mean score toward individuals diagnosed with anxiety (3.86±1.75). The fact that schizophrenia is one of the most well-known mental disorders in society due to its symptoms and that individuals diagnosed with schizophrenia are thought to be dangerous and unpredictable[2,27,28] is considered to be a reason for the higher mean SDS score for the schizophrenia case. Angermeyer and Matschinger[28] reported that accepting the stereotype that people with schizophrenia are "dangerous" was significantly associated with the desire to maintain social distance from them. Similarly, in their study examining the forms of stigma toward mental disorders

Table 3. Comparison of social distance scores by nurses' individual characteristics (n=217)

	Anxiety case		Schizophrenia case	
	Mean	SD	Mean	SD
Gender				
Female	3.65	0.866	6.05	0.287
Male	3.31	0.873	5.47	0.395
Test	t=1.040 p=0.308		t=4.399 p<0.001*	
Marital status				
Single	3.41	0.862	5.82	0.324
Married	3.85	0.867	6.18	0.259
Test	t=-1.372 p=0.182		t=-3.238 p=0.003*	
Family structure				
Nuclear	3.58	0.84917	5.94	0.300
Extended	3.90	0.98330	6.27	0.277
Test	t=-0.920 p=0.366		t=-3.023 p=0.006*	
Place lived longest				
Village/Town	3.59	0.85938	5.96	0.299
City/Metropolitan	3.78	0.92278	6.16	0.288
Test	t=-0.538 p=0.595		t=-1.800 p=0.083	
Presence of a person with mental disorder in close environment				
Yes	3.67	0.82398	6.02	0.255
No	3.59	0.88703	5.97	0.313
Test	t=0.238 p=0.813		t=0.436 p=0.666	
Receiving/considering psychiatric support				
Yes	3.64	0.85839	6.05	0.298
No	3.58	0.87327	5.91	0.294
Test	t=0.175 p=0.863		t=1.266 p=0.217	
Knowledge of mental disorders				
Yes	3.53	0.857	5.95	0.296
No	4.33	0.930	6.26	0.274
Test	t=-2.340 p=0.027*		t=-2.837 p=0.009*	
Working unit				
Inpatient Clinics	3.42	0.840	5.87	0.323
Other (FHC,OR, outpatient clinic, administrative, etc)	3.90	0.907	6.15	0.260
Test	t=-1.455 p=0.158		t=-2.530 p=0.018*	
Years of professional experience				
Less than 1 year	3.18	0.669	5.22	0.356
1-5 years	3.58	0.879	6.03	0.276
6-10 years	3.85	0.994	6.08	0.363
More than 10 years	3.67	0.890	6.14	0.295
Test	F=1.530 p=0.218		F=24.830 p<0.001*	
Most frequently felt emotion toward mental disorders				
Uneasiness and fear	3.42	0.549	6.27	0.233
Curiosity	3.55	0.817	5.68	0.304
Compassion	3.83	0.944	5.76	0.396
Pity	3.61	0.880	6.19	0.315
Test	F=7.622 p<0.001*		F=12.391 p<0.001*	

*: p<0.05 was considered statistically significant. SD: Standard deviation; FHC: Family health center; OR: Operating room.

among people living in rural areas, Kuzmickus and Balzarini [26] found that participants described schizophrenia and psychotic disorders as 'dangerous' and "unpredictable." This perception caused fear-based avoidance behaviors and increased social distance. They also noted that beliefs about people with schizophrenia posing a 'potential risk to the environment" reduced the willingness to form close relationships with them. The large-scale review by Angermeyer and Dietrich[29] also

supports these findings. They reported that community participants evaluated schizophrenia symptoms as indicators of mental illness at much higher rates compared to depression and anxiety disorders and attributed "unpredictable" and 'dangerous' characteristics to these individuals. In the study by Dündar et al.[30] with 165 participants, it was found that anxiety disorder was defined as an illness by only one-fourth of the participants, and the reactions shown in such situations were considered normal. Ociskova et al.,[8] in their study evaluating stigma and internalized stigma in patients with anxiety disorder, reported that stigma is seen more frequently in severe mental disorders, while internalized stigma is more pronounced in anxiety disorders. This situation may lead individuals to withdraw from society and increase social distance. Lucas and Phelan[31] stated that negative social distance is stronger in schizophrenia than in diagnoses of panic disorder and depression. Mathias et al.[5] reported that patients diagnosed with psychosis preferred to be kept at a greater social distance than patients diagnosed with depression. The lower social distance scores of the nurses in the anxiety case may be due to the difference in the social perception of this disorder. In the literature, anxiety disorders are generally defined as understandable, related to daily stress, and treatable conditions; therefore, these individuals are not viewed as 'dangerous' or 'uncontrollable.'[29,32] This perception contributes to nurses developing a compassionate, understanding, and protection-orientated attitude towards people with anxiety, and therefore reduces the social distance. Schizophrenia is reported to be one of the most stigmatised mental disorders among mental health professionals.[18] These results support the finding in the current study that nurses show a greater social distance from schizophrenia cases. Beliefs about dangerousness and unpredictability regarding schizophrenia create a fear-based tendency to withdraw, and this may affect the level of establishing a professional relationship.

In this study, in both the cases of anxiety and schizophrenia, the item "Assume that you have a sister. Would it bother you if your sister wanted to marry this person?" had the highest mean score (Table 2). This finding indicates that nurses tend to maintain distance at the level of forming a close family bond with people with mental disorders. Although stigma toward mental disorders is often expressed at an abstract level, it is known that when personal or family closeness is involved, these attitudes may appear more rigid and exclusionary.[33]

Kuzmickus and Balzarini[26] reported in their study that participants showed a marked unwillingness to engage in relationships that require close contact, such as friendship, neighbourhood, or kinship, with individuals with a mental disorder. They stated that the tendency to keep distance increased especially in situations involving the perceived possibility of 'posing a danger' or "causing harm," while the desire for distance decreased in more superficial social interactions. Alpan et al.[34] in their study evaluating the attitudes of health science faculty students toward schizophrenia disorder, concluded that nearly half of the students did not want people with schizophrenia in their lives in matters such as marriage, being a neighbour, or working together.[34] Corrigan and Nieweglowski[33] in their study examining the relationship between stigma toward mental disorders and familiarity, reported that increasing familiarity does not always reduce stigma; they noted that stigmatising attitudes can even increase among individuals with high levels of familiarity, such as siblings, spouses, or parents. They stated that family members may develop feelings of anxiety, anger, or guilt due to the economic, emotional, and social difficulties of living with an individual who has a mental disorder, and that this may increase the internalisation of social stigma and relational withdrawal.

In the anxiety case, the social distance scores were higher among nurses who did not have knowledge about mental disorders. This result shows that lack of knowledge increases social distance by reinforcing prejudice, fear, and avoidance behaviours. In the literature, various studies show that the level of knowledge about mental disorders is inversely related to stigmatising attitudes, meaning that as knowledge increases, prejudices decrease.[1,32,35,36] In the study conducted by Wang et al.[32] with nurses, it was also reported that the level of knowledge about mental disorders reduced stigma, and that stigma indirectly affected social distance. In the systematic review of Çam and Bilge,[1] it was emphasised that lack of knowledge about mental disorders is one of the most important factors that increases stigma in society and among healthcare professionals. Corrigan and Watson,[35] by drawing attention to the triadic structure between knowledge, emotional response, and behavioural tendencies, emphasised that cognitive awareness is the main determinant of social distance.

When examined in terms of the sociodemographic characteristics of nurses, it was found that the level of social distance to the schizophrenia case was higher among women, those who were married, those with an extended family structure, and those who had been working in the profession for more than 10 years. This finding shows that social distance is shaped not only by individual prejudices but also by the interaction of demographic and sociocultural characteristics. In the literature, it is emphasised that beliefs and attitudes toward mental disorders are multidimensional, and variables such as sociodemographic characteristics (e.g., age, gender, education), level of knowledge about mental health, personal contact experience, the mental disorder label, the type of psychopathology, and the individual characteristics of the patient are determinants of these attitudes.[1] In particular, these variables shape whether individuals perceive a mental disorder as 'understandable,' 'dangerous,' or 'unpredictable,' and this is

directly reflected in attitudes toward social distance. In the literature, it is seen that the demographic factors that affect social distance vary between societies, although there are some common tendencies. In the study by Jorm and Oh,[37] in which they examined more than 30 community studies, it was stated that age, level of education, cultural values, and experience of personal contact significantly affected social distance. Researchers reported that social distance tended to increase in older age groups as adherence to social norms and traditional values became stronger. In the literature, older generations (Generation X) are reported to have higher levels of concern about social pressure and labelling and may be less tolerant of mental disorders. This situation may explain the high levels of social distance observed in nurses who have been working in the profession for a long time.[38] Outside inpatient units, such as family health centres, operating rooms, outpatient clinics, and administrative units, the higher social distance found among nurses may be the result of limited contact with individuals with mental disorders. Limited contact is not considered sufficient to reduce stigma and social distance behaviours or to develop positive attitudes.

One of the most notable findings of this study is that nurses expressed compassion more frequently in the anxiety case, whereas they expressed fear and uneasiness in the schizophrenia case. This finding shows that different types of mental disorders evoke different perceptual and emotional responses. Similarly, the literature reports that people diagnosed with schizophrenia are the group most affected by stigma and are generally perceived by society and healthcare professionals as 'unpredictable,' 'dangerous,' and 'uncontrolled.'[39,40] Giandinoto et al.[41] reported in their study that the majority of healthcare professionals evaluated people diagnosed with schizophrenia as 'dangerous,' and that this perception strengthened fear and avoidance behaviours. Similarly, Lee and Seo[4] stated that direct or indirect contact reduced the perception of danger towards individuals with schizophrenia, but that in the absence of contact, fear and the tendency toward social withdrawal remained high. These findings are consistent with the nurse's reports of fear and uneasiness towards people with schizophrenia in the present study. Angermeyer and Dietrich[29] reported that emotions such as uneasiness, uncertainty, and fear were most frequently associated with people with schizophrenia, while such negative emotions were observed at much lower levels in depression and anxiety disorders.

On the contrary, anxiety disorders are generally seen in society as mental conditions that are 'related to everyday stress,' 'understandable,' and 'treatable.'[29,32] Therefore, individuals experiencing anxiety are not perceived as "dangerous," but rather as vulnerable and in need of help. This perception strengthens the tendency to show compassion, protection, and support, thus contributing to a reduction in social distance. In their study conducted with nurses, Wang et al.[32] showed that there is an inverse relationship between the level of knowledge about mental disorders and stigmatising attitudes; as the level of knowledge increases, fear and prejudice decrease and social distance is reduced.

It has been stated that in efforts to reduce negative attitudes and behaviours toward individuals with mental disorders (such as social distance and stigma), the fundamental components are providing information about the illnesses, ensuring contact with individuals who have mental disorders, and working with the media on this issue.[1,2,42–44]

Strengths and Limitations of the Study

This study is the first to examine the level of social distance toward mental disorders among nurses working in non-psychiatric clinics. The presence of separate scenarios for schizophrenia and anxiety diagnoses allows for the identification of different dimensions of stigma based on diagnosis. Through the use of the scale and a scenario-based approach, the levels of social distance of nurses were addressed together with emotional expressions such as compassion, fear, unease, and pity.

The study data was collected from nurses working in the Marmara Region; therefore, the findings cannot be generalised. Additionally, although the study was conducted online, the sample size remained limited due to the aim of forming a homogeneous sample, and this situation restricts the generalisability of the findings. Since the data were collected on a voluntary basis, social desirability bias may have occurred. As the scale includes scenarios for people diagnosed with anxiety and schizophrenia, the results of the study cannot be generalised to all mental disorders.

Conclusion and Recommendations

In this study, it was found that the level of social distance towards individuals diagnosed with schizophrenia was significantly higher among nurses working in non-psychiatric clinics compared to those diagnosed with anxiety. The findings show that nurses' perceptions and attitudes toward mental disorders vary depending on the type of illness; fear and uneasiness were more prominent in schizophrenia cases, while compassion was more evident in anxiety cases.

It was found that the level of knowledge of mental disorders significantly affected social distance, with nurses who lacked knowledge showing a greater tendency toward distance. Additionally, sociodemographic factors such as age, gender, family structure, professional experience, and living environment were also found to be determinants of social distance.

Based on these results, it is recommended that training programmes aimed at positively influencing nurses' attitudes toward mental disorders be integrated into the curriculum, that

education and contact-based programmes designed to reduce stigma and social distance are implemented, and that the positive influence of the media is used. Therefore, implementing interventions aimed at preventing social distance and the accompanying emotions toward people with mental disorders will be effective. Future research may reveal the impact of sociocultural variables on social distance on a larger scale by including diverse cultural and geographical contexts. Comparative studies may also be planned to determine attitudes among nurses working in psychiatric and non-psychiatric clinics, as well as among different healthcare professionals. Experimental studies demonstrating the effectiveness of contact-based training programmes can reveal their impact on reducing social distance toward individuals with mental disorders. Qualitative studies can provide an in-depth examination of nurses' attitudes and other healthcare professionals' emotions related to social distance.

Ethics Committee Approval: The study was approved by the Bahçeşehir University Ethics Committee (no: 2024/07, date: 01/08/2024).

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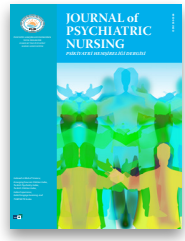

Original Article

Adversity quotient level and its relationship with nurse burnout

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Abstract

Objectives: This study aimed to determine the relationship between adversity quotient (AQ) and nurse burnout in a clinical setting, addressing the need for psychological resilience strategies in nursing practice.

Methods: A cross-sectional analytical study was conducted among 102 nurses working in inpatient wards at a public hospital in Central Java, Indonesia. Data were collected using the Adversity Response Profile (ARP) to assess AQ and the Burnout Syndrome Assessment Scale for Nurses to measure burnout levels. Spearman rank correlation analysis was used to examine the relationship between the two variables.

Results: The majority of nurses had low AQ levels (43.1%) and experienced severe burnout (41.2%). A significant negative correlation was found between AQ and burnout ($r=-0.775$, $p<0.0001$), indicating that higher AQ was associated with lower levels of nurse burnout.

Conclusion: AQ plays a protective role against nurse burnout. Enhancing AQ through structured interventions may help reduce emotional exhaustion and improve psychological well-being in demanding healthcare environments. Further research is needed to evaluate the effectiveness of AQ-based training in clinical settings.

Keywords: Adversity quotient; nurse burnout; psychological well-being; resilience; nursing

Nurse burnout is a condition of physical, mental, and emotional exhaustion experienced by nurses due to a heavy and prolonged workload. It can occur as they continually face pressure, high work demands, and lack of support, causing profound exhaustion and loss of motivation.[1] Its prevalence varies across different countries. Globally, it is around 30.0% [95% CI: 26.0%–34.0%], but several studies report that its prevalence reaches more than 40%.[2–4]

Factors contributing to burnout include high workload, overtime, inadequate resources, lack of social support, poor organizational management,[5–8] and other problems such as role conflict and coping strategies.[9,10] Burnout negatively impacts the quality of life of nurses both physically and emotionally.[11] If not immediately addressed, it can potentially disrupt performance, service quality, and patient care safety.[12]

The adversity quotient (AQ) is a person's ability to overcome and adapt to challenges or problems in life. AQ reflects the extent to which a person can remain resilient, positive, and productive in complex or uncertain situations. The higher a person's AQ, the better he/she can adapt and thrive amidst change and adversity.[13] It is essential to understand that it is not a measurement of intelligence but rather a reflection of the extent to which a person can face and learn from life's challenges. The AQ concept can be applied in various contexts, including work, education, and personal life.

Recent research has begun to emphasize the importance of AQ in supporting mental health and professional functioning among healthcare professionals, including nurses. AQ, which comprises four core components—control, ownership, reach, and endurance—has been shown to correlate significantly

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with professional quality of life (ProQOL), anxiety, depression, and burnout.[14] A systematic review of 23 studies highlighted that healthcare workers with high AQ demonstrate better well-being and lower susceptibility to psychological distress in high-pressure environments.[15]

Several studies have specifically explored AQ in the nursing context. Luo et al.[16] found that AQ was negatively associated with work stress and positively associated with professional identity among Chinese hospital nurses. Another study identified a significant correlation between AQ and resilience in critical care nurses in Indonesia.[17] Li et al.[18] reported a strong positive relationship between AQ and job engagement. Additionally, Li et al.[19] confirmed that AQ mediated the relationship between organizational climate and work engagement among ICU nurses. These findings underscore AQ as a central psychological capacity that helps nurses cope with adversity, maintain engagement, and sustain resilience in demanding healthcare environments.

Research on the relationship between AQ levels and the incidence of nurse burnout has not been studied before. Such studies are primarily undertaken in education to assess students' success during their studies.[20,21] AQ has significant relevance for nurses, considering they work in a healthcare environment with challenges, pressure, and rapid changes in procedures, technology, and policies. Their tasks also frequently involve stressful and urgent situations, high workloads, and varied tasks, all of which can impact the incidence of nurse burnout.[22] Against the existing gaps, it is necessary to understand the relationship between AQ levels and the incidence of nurse burnout. It is hypothesized that the higher the AQ level in nurses, the lower the potential incidence of nurse burnout.

What is presently known on this subject?

- Adversity quotient (AQ) is a person's ability to overcome and adapt to challenges or trials in life. AQ has significant relevance for nurses, considering that nurses work in a healthcare environment often full of challenges and pressure. Nurses' duties also usually involve stressful and urgent situations, high workloads, and varied tasks, which can impact the incidence of nurse burnout.

What does this article add to the existing knowledge?

- This research reveals that nurses with low AQ levels are more susceptible to experiencing severe nurse burnout compared to nurses with high AQ levels.

What are the implications for practice?

- The importance of training and developing nurses' AQ through education and training programs to minimize the occurrence of severe nurse burnout.

Materials and Method

Study Design and Setting

This study employed an analytical observational approach with a cross-sectional design. It aimed to observe the natural relationship between AQ and burnout levels among nurses.[23] It was conducted at the Regional Public Hospital Dr. R. Goeteng Taroenadibrata, Purbalingga, Central Java, Indonesia, from November 2022 to July 2023.

Participants and Sampling

The study population comprised nurses working in inpatient wards. A total of 102 nurses were selected through simple random sampling. Inclusion criteria were: male or female nurses; diploma or bachelor's degree in nursing; permanent or contractual employment status; and willingness to participate. Nurses on leave or occupying managerial roles (e.g., head nurse) were excluded.

Variables and Instruments

The independent variable was AQ, measured using the Adversity Response Profile (ARP), developed by Stoltz.[14] This instrument consists of 40 items covering four dimensions: control, ownership, reach, and endurance. Each item is rated on a 5-point Likert scale. The total score ranges from 40 to 200, with higher scores indicating greater resilience. The ARP has been validated in various international studies and showed good reliability (Cronbach's α=0.87 in this study).

The dependent variable was nurse burnout, assessed using the Burnout Syndrome Assessment Scale for Nurses. This instrument contains 25 items rated on a 5-point scale, covering three dimensions: emotional exhaustion, depersonalization, and reduced personal accomplishment. The scale was adapted to the nursing context and demonstrated strong internal consistency (Cronbach's α=0.91).[24]

Data Collection Procedure

Data were collected through structured self-administered questionnaires. Research assistants distributed the questionnaires during nurse shift changes to avoid disrupting work schedules. Participants completed the questionnaires in a private setting, and confidentiality was ensured. The researchers had no managerial or supervisory relationship with the participants to minimize bias.

Ethical Consideration

Ethical clearance was obtained from the Health Research Ethics Committee of Universitas Muhammadiyah Purwokerto (Approval Number: KEPK/UMP/72/VI/2023), in accordance with the principles of the Helsinki Declaration. All participants provided informed consent prior to participation, and data confidentiality was strictly maintained.

Statistical Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 21, IBM. Descriptive statistics were used

Table 1. Characteristics of respondents (n=102)

Characteristics	n	%
Gender		
Male	45	44.1
Female	57	55.9
Age		
<36 years	34	33.3
36–45 years	37	36.3
>45 years	31	30.4
Education		
Diploma of Nursing	49	48.0
Bachelor of Nursing	53	52.0
Working experience		
<10 years	33	32.4
10–20 years	39	38.2
>20 years	30	29.4
Employment status		
Governmental worker	46	45.1
Non-governmental worker	56	54.9

to summarize respondent characteristics and variable distributions. The Spearman rank correlation test was used to assess the relationship between AQ and burnout, considering the ordinal nature of the data. Statistical significance was set at $p<0.05$.

Results

Table 1 presents the demographic characteristics of the respondents. The majority were female, aged between 36 and 45 years, and held a bachelor's degree in nursing. Most had 10–20 years of work experience and were employed as either civil servants or non-civil servants. Table 2 shows that the majority of nurses had low AQ levels (43.1%) and experienced severe levels of burnout (41.2%).

As shown in Table 3, a large proportion of nurses with low AQ levels experienced severe burnout, whereas those with high AQ levels predominantly reported mild burnout. Spearman's rank correlation test revealed a strong negative correlation between AQ levels and nurse burnout ($r=-0.775$, $p<0.0001$), indicating that higher AQ levels are associated with a lower risk of experiencing burnout.

Table 2. Adversity quotient level and nurse burnout

Variable	n	%
Adversity quotient level		
Low	44	43.1
Medium	28	27.5
High	30	29.4
Nurse Burnout		
Mild	26	25.5
Medium	34	33.3
Severe	42	41.2

Discussion

This study confirmed a significant negative correlation between nurses' AQ and their level of burnout ($r=-0.775$, $p<0.0001$), supporting the hypothesis that higher AQ is associated with a lower risk of burnout. These findings emphasize the role of AQ as a psychological resilience factor that can protect nurses from emotional exhaustion and mental fatigue in demanding clinical settings.

The mechanisms underlying this relationship can be explained through the four dimensions of AQ—Control, Ownership, Reach, and Endurance (CORE). Nurses with a strong sense of control perceive that they can influence challenging situations, which reduces feelings of helplessness. Those with high ownership take responsibility for resolving difficulties rather than blaming external circumstances, fostering proactive coping. Reach reflects the extent to which adversity spills over into other life areas; high-AQ nurses are better at compartmentalizing stress. Lastly, endurance shapes one's belief that adversity is temporary, which supports long-term persistence and emotional balance.[13,14,25,26]

These mechanisms are supported by findings from Saxena and Rathore, whose systematic review of healthcare professionals

Table 3. Relationship adversity quotient level and nurse burnout

Variable	Nurse Burnout						Total		rho (R)	p
	Mild		Medium		Severe					
	n	%	n	%	n	%	n	%		
AQ level										
Low	0	0.0	12	27.3	32	72.7	44	43.1	-0.775	0.0001
Medium	1	3.6	17	60.7	10	35.7	28	27.5		
High	25	83.3	5	16.7	0	0.0	30	29.4		
Total	26	25.5	34	33.3	42	41.2	102	100		

AQ: Adversity quotient.

revealed that high AQ is associated with lower burnout, better professional quality of life, and reduced anxiety.[15] Similarly, Luo et al.[16] found that AQ reduces work-related stress among nurses by enhancing their professional identity, while Dewi et al.[17] demonstrated a significant relationship between AQ and resilience in Indonesian ICU nurses.[15,17] Li et al.[18] and Li et al.[19] further confirmed that AQ contributes to increased job engagement, even under high workload pressures.

Our findings are especially relevant in the Indonesian healthcare context, where nurses often face staff shortages, high patient loads, limited resources, and frequent organizational change. Nurses with low AQ may find such adversities overwhelming and unmanageable, increasing their risk of depersonalization and burnout. In contrast, those with high AQ are more likely to remain focused, solution-oriented, and emotionally grounded, which supports both personal well-being and quality patient care.

These results highlight the importance of integrating AQ development into nursing professional training and workforce support strategies. Educational programs that include emotional regulation, self-reflection, and cognitive-behavioral techniques may help nurses enhance their adversity quotient. Nurse managers should consider AQ-based assessment tools to identify individuals at risk of burnout and offer targeted interventions accordingly.

Limitations

This study was limited to a single hospital setting, which may affect the generalizability of the findings. Additionally, the use of self-report instruments introduces the potential for response bias. The cross-sectional design also precludes any causal inference. Future research should include longitudinal, multi-site studies to further validate these findings and test the effectiveness of AQ-based interventions.

Conclusion

The findings confirm that AQ serves as a protective psychological factor against nurse burnout. Nurses with higher AQ levels were found to be more resilient and less likely to experience severe burnout, highlighting the psychological advantage of strong adversity management in clinical environments. These findings suggest that strengthening AQ among nurses could be a valuable strategy to prevent burnout and improve professional well-being. Nursing education and hospital management programs should incorporate AQ-enhancement interventions, such as resilience training, emotional regulation workshops, and reflective practice sessions, into their staff development initiatives. Future research should explore the longitudinal impact of AQ on burnout, test the effectiveness of targeted AQ training programs, and investigate contextual factors—such as leadership style and organizational culture—that may further moderate this relationship.

Ethics Committee Approval: The study was approved by the Universitas Muhammadiyah Purwokerto Ethics Committee (no: KEPK/UMP/72/VI/2023, date: 27/07/2023).

Informed Consent: All participants provided informed consent prior to participation, and data confidentiality was strictly maintained.

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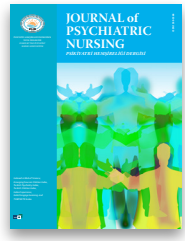

Original Article

Mindfulness meditation interventions of varying lengths on women's anxiety levels

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Abstract

Objectives: Meditation enhances mental health and helps manage stress and anxiety. Regular meditation sessions can increase tranquility, mental clarity, and emotional resilience. However, the optimal duration for mindfulness meditation needs further investigation. This study examined the impact of a 5-stage mindfulness meditation program, administered for varying durations, on anxiety levels in women without psychiatric diagnoses.

Methods: Twenty-five volunteer participants were enrolled and divided into three groups: two experimental groups, which engaged in mindfulness meditation for either 10 minutes or 20 minutes, and a control group that did not meditate. The meditation sessions were conducted over an 8-week period using both a licensed trainer and recorded guidance. Various measures were administered to all groups to assess the outcomes.

Results: Both 10-minute and 20-minute meditation interventions were effective compared to pre-intervention. While post-intervention anxiety scores did not significantly differ between the 10-minute and 20-minute groups, both experimental groups exhibited significantly reduced anxiety levels compared to the control group. Similarly, perceived stress scores showed significant reductions in both meditation groups compared to the control group, with no significant differences between the 10-minute and 20-minute groups. Mindfulness scores and intolerance of uncertainty scores did not significantly differ between the meditation groups and the control group post-meditation.

Conclusion: This research is expected to contribute to the understanding of the varying effects of different time durations of 5-stage mindfulness meditation on stress-induced anxiety in women. The findings could lead to more accessible and practical mental health interventions, especially for women with limited time and resources.

Keywords: 5-stage mindfulness meditation; anxiety; meditation duration; perceived stress; women's mental well-being

Stress, a natural response to challenges, can improve focus and survival instincts, but if excessive or prolonged, it can impair learning, memory, and planning, leading to health issues and exacerbating anxiety and other psychological conditions. When demands exceed coping abilities, individuals feel stressed and experience negative emotions. Events affect individuals based on their evaluation of stress.[1] How individuals interpret their relationship with the environment is crucial in stress perception.[2] Thus, perceiving a situation as stressful and struggling to cope may, in turn, lead to anxiety. Perceived stress and negative emotions, like anxiety, can exacerbate each other, impacting cognitive and emotional equilibrium.[3] Individuals commonly encounter a sense of time distortion when exposed to negative or unpleasant stimuli through various sensory channels.[4] Kramer et al.[5] have shown that meditation can alter time perception. Meditation, particularly mindfulness practices, sensitizes individuals to time and prolongs their perception of it.[6] During meditation, directing attention to the present moment and the breath is thought to facilitate the observation of experiencing uncertainty, implying an acknowledgment and contemplation of uncertainty as well. Intolerance of uncertainty describes individuals' tenden-

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cy to harbor unacceptable thoughts about potential events, irrespective of their probability.[7] This trait may, in turn, be associated with increased levels of worry, mood anxiety, and the development of anxiety disorders.[8] Individuals with low tolerance for uncertainty perceive it as a threat because they struggle to take precautions, ultimately adding to their stress levels.[7] Hence, it can be inferred that both perceived stress and uncertainty are linked to different levels of anxiety. Anxiety manifests as a complex blend of fear and apprehension that can be challenging to pinpoint,[9] often accompanied by physiological reactions. Anxiety disorders entail intense anxiety, fear, and disruptions in behavior.[10]

Stress and anxiety are widespread among women, with studies showing elevated levels compared to men.[11] Several factors contribute to this gender gap, including societal pressures, hormonal changes, and psychosocial stressors. Women tend to seek help for mental health issues more often than men, resulting in higher reported rates of stress and anxiety among women.[12] This willingness to seek support may be influenced by factors such as greater awareness of mental health, societal encouragement to express emotions, and stronger social support networks.[13] However, despite this tendency, societal stigma surrounding mental health can still prevent some women from seeking help. Cultural norms and gender expectations may pressure women to appear strong and resilient, leading them to hesitate in acknowledging their mental health struggles. Additionally, women from marginalized communities may face intersecting forms of discrimination that further hinder their access to mental health support.[14,15] As a result, there may be underreporting of stress and anxiety symptoms among women. Addressing societal stigma and promoting gender-sensitive mental health care are crucial in ensuring that all individuals, regardless of gender, feel empowered to seek the support they need for their mental well-being.

The 5-stage mindfulness meditation involves counting the breath while focusing on the end and head of each breath, observing the breath's movement throughout the body, noticing the breath around the nose, and cultivating open awareness. While research often focuses on assessing the effects of comprehensive programs like Mindfulness-Based Stress Reduction (MBSR) on anxiety, these programs can be prohibitively expensive and time-intensive.[16] A meta-analysis study investigating the effectiveness of MBSR programs in reducing stress and improving health outcomes revealed valuable insights into the benefits of mindfulness meditation for stress reduction among women, despite also including men in the study.[17] Therefore, it is essential to investigate the impact of individual meditation practices, including their duration, on stress and anxiety levels in women.

What is presently known on this subject?

- Mindfulness practice is known to reduce stress and anxiety by improving emotional regulation and present awareness. However, most studies focus on long-lasting or instructor-led programs, leaving the benefits of shorter sessions less clear, especially for middle-aged women.

What does this article add to the existing knowledge?

- The present study shows that 10- and 20-minute daily mindfulness sessions over eight weeks both reduce anxiety and stress, with no difference between durations. This suggested 5-stage mindfulness model, combining self-directed and guided practice, also improved resilience and uncertainty tolerance.

What are the implications for practice?

- Low-cost mindfulness routines can effectively support emotional well-being and fit busy lifestyles. Encouraging self-guided practice may improve accessibility and practice consistency in community and workplace settings.

Study Aim and Hypothesis

This study aims to explore the potential benefits of mindfulness meditation in reducing anxiety, particularly when practiced for shorter durations. Unlike many mindfulness studies that advocate for lengthy daily meditation sessions, this research seeks to assess the effectiveness of meditation within more manageable time constraints, which can accommodate individuals with busy schedules. This approach introduces novelty by proposing a practical and accessible framework for integrating meditation into daily routines. Therefore, the objective of this study is to examine whether short periods of meditation, both through self-training and guided sessions, can help individuals reduce their anxiety levels in everyday life, aiming to offer a feasible method for enhancing overall well-being. A primary goal is to assess how the 5-stage mindfulness meditation affects the anxiety levels of women across varying meditation durations. The research hypothesis is that regular meditation practice, even for short daily durations, is associated with lower anxiety, higher mindfulness, and reduced perceived stress, whereas the length of meditation does not significantly influence these outcomes. Anxiety is expected to be positively related to perceived stress and intolerance of uncertainty.

Materials and Method

This study employed a controlled experimental design. Female volunteers who met the eligibility criteria were classified into low and high anxiety groups according to their Beck Anxiety Inventory scores. Equal numbers of participants from each anxiety level were assigned to the study groups, with the specific allocation of individuals, such as which participants with high anxiety were placed in each group, determined randomly.

Participants

Participants were contacted through online platforms via announcements from various psychologists, yoga instructors, and coaches. Participants filled out an application form, and those deemed suitable were included in the study. Inclusion

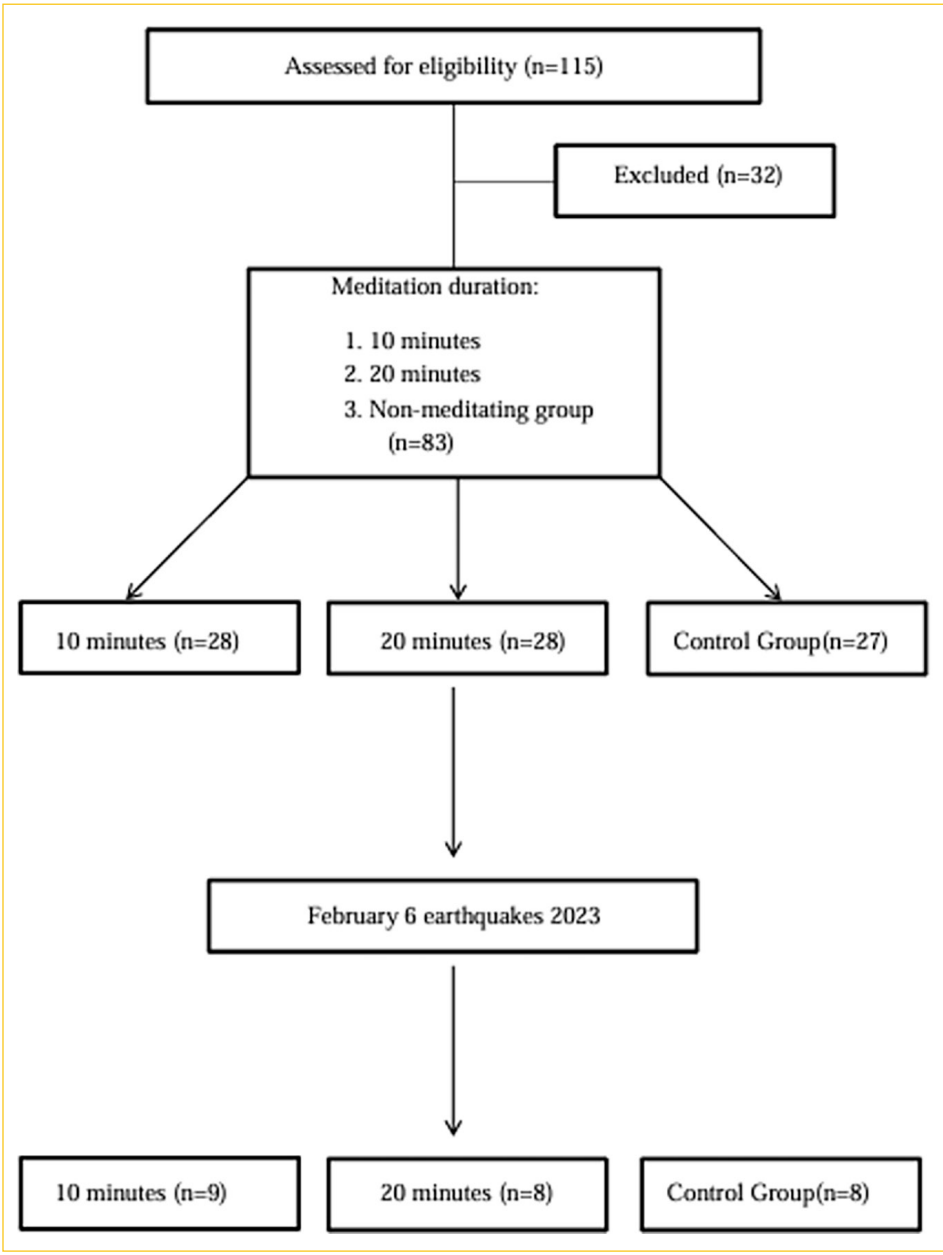

Figure 1. Diagram illustrating the progression of participants from initial recruitment through each stage of the study.

criteria included being female, between the ages of 25 and 35, not having a psychiatric diagnosis, not having a regular meditation practice lasting longer than one month, and committing to not participating in any other yoga meditation workshops or similar training during the 8-week study period. Exclusion criteria included having a psychiatric diagnosis and using related medications, being pregnant, receiving treatment for alcohol or substance abuse, and having received antidepressant or anxiety disorder treatment within the last six months.

The study was conducted with women (age; 30±3.21). Participants were randomly divided into three separate groups: 9 individuals in the 10-minute group, 8 individuals in the 20-minute group, and 8 individuals in the control group. The average Beck Anxiety Inventory score of all eligible participants (n=83) was calculated and found to be 20.37. Anxiety scores below this value were considered low, while those above this value were considered high. Equal numbers of participants with low and high anxiety scores were then randomly assigned to each group. To minimize the impact of age-related differences, a relatively narrow age range of 25–35 was selected. The CONSORT scheme is seen in Figure 1. To assess the homogeneity of the groups, Levene's test was conducted, yielding $F(2.22)=2.62$, $p=0.10$. These results indicated that the participants in each group were assigned homogeneously.

Table 1. Demographic characteristics of the participants

Demographic characteristic	Percentage (%)	Demographic characteristic	Percentage (%)
Participants with self-identified anxiety	61.54	Substance use (alcohol/cigarettes)	69.23
Menstrual symptoms		Migraine diagnosis	34.62
Pain	42.31	Frequent headaches	50
No pain	34.62	Experience physical symptoms with anxiety	92.31
Variability	23.08	Response to anxiety:	
Regular menstrual cycles	88.46	Contact friends	13.5
Employed	84.62	Attempt to sleep	12.5
In a relationship	69.23	Go for a walk	11.5
Education level		Eat a meal	10
Bachelor's degree	61.54	Feel helpless	9.4
Postgraduate	30.77	Unsure of what to do	9.4
Doctoral degree	3.85	Cry	9.4
High school	3.85	Hope the feeling would pass	9.4

Female participants varied in education level, substance use, menstrual cycles with or without pain, headaches-migraine status, different strategies for dealing with anxiety. N=25.

Initially aiming for 83 female participants, the sample size was reduced, likely due to the earthquake disaster in Kahramanmaraş in February 2023, impacting those from nearby areas. The demographic properties of participants are summarized in Table 1.

Procedure

Voluntary participants meeting the specified conditions were divided into groups based on their pre-intervention scores from the Beck Anxiety Inventory (BAI), ensuring an equal distribution of participants across groups to prevent the accumulation of high or low BAI scores in any particular experimental group. Subsequently, two out of the three groups, each consisting of 8–9 women, were formed using an experimental design, with two designated as experimental groups and the third as the control group. Before commencing the meditation practice, each group underwent pre-intervention using the scales applied in the study. The independent variable was the duration of meditation, while the dependent variables included changes in anxiety levels, perceived stress, conscious awareness, and intolerance to uncertainty scores.

The experimental groups (10-minute and 20-minute groups) engaged in 5-stage mindfulness meditation for eight weeks, practicing online with the guidance of a mindfulness licensed expert. Participants followed the meditator's instructions via an online platform twice a week, repeating the recorded meditation sessions provided by the experimenter for an additional four days each week, depending on their study groups. Conversely, the control group did not engage in any meditation practice throughout the experiment but was invited to participate in mindfulness practice after the eight-week period concluded. Participants were given self-report scales: BAI, Perceived Stress Scale (PSS), Mindful Attention Awareness Scale (MAAS), and Intolerance of Uncertainty Scale (IUS). All scales have been adapted into Turkish, with reliability and validity studies conducted in Turkey. At the end of the eight-week intervention, all three groups underwent a post-intervention assessment.

At the beginning, participants received cautions, followed by an orientation exercise directing attention to the environment and the five senses. No additional practice was introduced before the five-stage meditation. The first four stages involved focused attention, such as counting the breath or observing its bodily sensations. The fifth stage emphasized open awareness without a specific focus tool. The details of the practice were presented in Table 2.

Ethical Considerations

This study was approved by the Bartın University Social and Human Sciences Ethics Committee (25.10.2022, No: 2022-SBB-0457). Participants were informed about the purpose and scope of the study, assured that participation was voluntary and their personal data would remain confidential, and informed that the study would be conducted online. Written informed consent was obtained from all participants. This study was conducted in accordance with the principles of the Helsinki Declaration.

Statistical Analysis

When normality and homogeneity assumptions were met, One-Way ANOVA test was applied to compare group differences for PSS and BAI scores before and after the mindfulness intervention. A t-test was used to assess the effectiveness of the mindfulness intervention on IUS, MAAS, PSS, and BAI. Lin-

Table 2. 5-stage meditation stages

Stage	Instruction	Focus
Orientation	Sit upright with elongated spine. Spend 5 min in mindful body movement. Observe the room as if for the first time; let gaze rest naturally.	Orientation to environment
Stage 1	Count after each exhale. If you reach 10 or lose attention, return to 1. Keep breath natural.	Counting with exhalation
Stage 2	Count before each inhale. If attention drifts, return to 1. Breath flows naturally.	Counting with inhalation
Stage 3	Stop counting; observe sensations of breathing (nostrils, chest, abdomen, clothing). Return to breath if distracted.	Bodily breath sensations
Stage 4 (Flashlight)	Focus on nose/upper lip. Notice airflow speed, temperature, and nostril differences.	Focused breath at nostrils
Stage 5 (Projector)	Open awareness of sounds, sensations, thoughts, emotions. Observe without judgment. Keep spine upright.	Open awareness (Zazen)
After	When ready, open eyes and resume activity or continue meditating.	Transition

Safety reminders: (a) maintain upright spine, (b) open eyes briefly if struggling, (c) keep eyes open if intense emotions arise, (d) stop if pain or distress occurs, (e) if dizzy, hold leg/floor and open eyes if it persists.

Table 3. Pre- and post-intervention values of participants by group and scale

	Control						10-Minutes						20-Minutes					
Group	N	Mean	Mdn	SD	Min	Max	N	Mean	Mdn	SD	Min	Max	N	Mean	Mdn	SD	Min	Max
PSS Pre-test	8	29.0	30.5	9.9	17	42	9	31.1	30.0	5.3	23	40	8	33.7	33.0	7.5	21	45
PSS Post-test	8	35.2	34.5	7.3	25	47	9	20.7	23.0	6.9	9	29	8	21.2	18.5	7.9	14	37
IUS Pre-test	8	35.7	29.5	12.9	23	54	9	39.5	38.0	11.8	18	54	8	37.2	39.0	6.6	28	45
IUS Post-test	8	40.1	36.5	10.2	25	53	9	29.6	31.0	9.0	15	46	8	28.0	25.0	6.8	20	40
BAI Pre-test	8	19.5	18.0	11.5	6	42	9	16.6	19.0	7.5	6	30	8	23.8	23.5	15.1	2	44
BAI Post-test	8	22.1	15.5	13.0	9	45	9	8.6	7.0	5.9	2	21	8	6.3	6.5	2.6	1	10

The table includes the number of participants, mean, median, standard deviation, minimum, and maximum scores for PSS, IUS, and BAI, both before and after the mindfulness meditation intervention. N: Number; Mdn: Median; Min: Minimum; Max: Maximum; SD: Standard deviation; PSS: Perceived Stress Scale; IUS: Intolerance of Uncertainty Scale; BAI: Beck Anxiety Inventory.

ear regression analysis was employed to examine the relationships between the variables. The relevant test scores for each group are presented in Table 3. The analysis was conducted using IBM SPSS 28.0.1.1 and GraphPad Prism 10.2.2.

Results

Comparison of Anxiety, Perceived Stress, and Intolerance of Uncertainty Scores

To assess the effectiveness of different time durations of the 5-stage mindfulness intervention, 10-minute, 20-minute, and control groups were assessed. We utilized BAI, PSS, and IUS before and after the intervention. Results showed that there was a significant effect of the 5-stage mindfulness intervention. In the 10-minute duration group, BAI scores showed that mindfulness training significantly reduced BAI scores. Results obtained from the t-test indicated that post-intervention BAI scores decreased after the eight-week training ($T(8)=3.244$, $p=0.011$). PSS scores indicated a significant difference following the eight-week training. Post-intervention results compared to pre-intervention showed that participants' scores were significantly lower in the post-intervention PSS ($T(8)=3.719$, $p=0.005$). On the other hand, comparison of IUS scores showed a significant effectiveness of the eight-week training; analyses obtained from the t-test results indicated that 5-stage mindfulness significantly reduced the IUS scores ($T(8)=2.463$, $p=0.039$). Finally, results obtained from the MAAS indicated no significant difference between the pre- and post-intervention results ($T(8)=-0.246$, $p=0.806$, data not shown in the graph).

In the 20-minute group, BAI scores between the pre- and post-intervention were significantly different. The eight-week 5-stage mindfulness training reduced the BAI scores, with results obtained from the t-test indicating a significant difference ($T(7)=3.768$, $p=0.007$). PSS scores significantly differed between the pre- and post-intervention results, with t-test results showing that the training reduced the PSS scores ($T(7)=2.940$, $p=0.021$). The results obtained from the IUS indicated that the training significantly reduced the IUS scores ($T(7)=4.400$, $p=0.003$). However, as seen in the 10-minute training duration, there was no significant difference when the MAAS scores were compared before and after the inter-

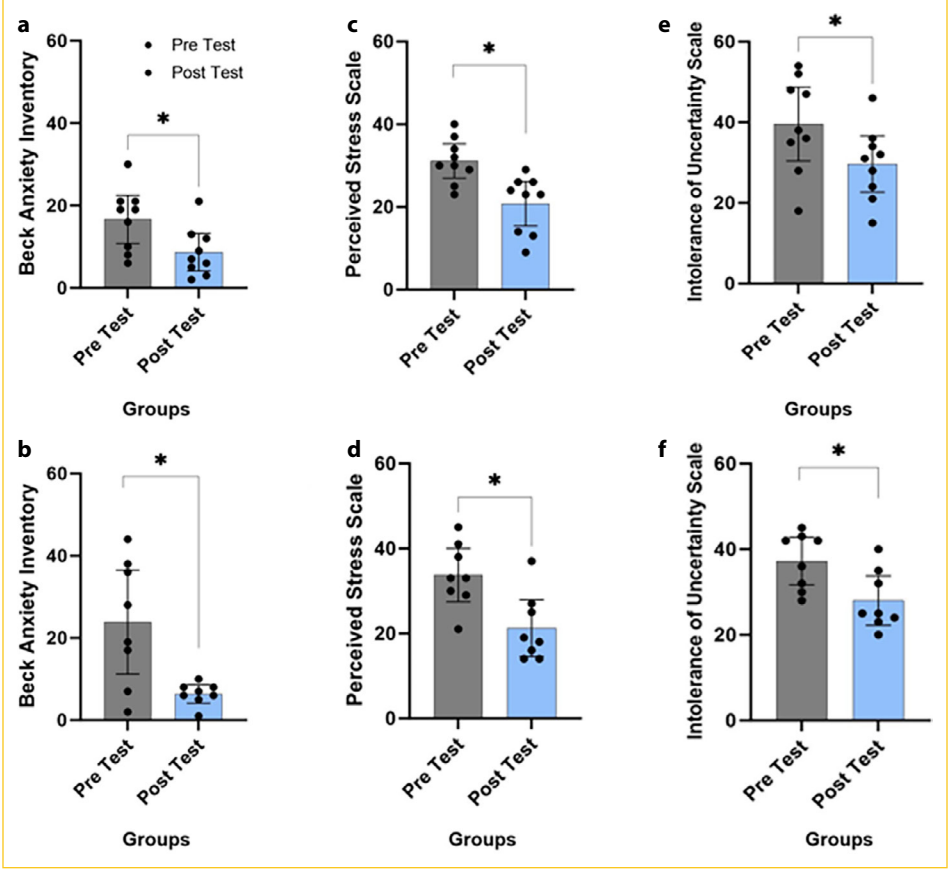

Figure 2. The intervention effect on scales. Participants were assigned to 10-minute (a, c, e) and 20-minute (b, d, f) meditation groups. Following the eight-week mindfulness meditation, BAI, PSS, and IUS scores were significantly reduced in both groups. N=9-8 per group.

BAI: Beck Anxiety Inventory; PSS: Perceived Stress Scale; IUS: Intolerance of Uncertainty Scale.

vention. t-test results indicated an insignificant difference (T(7)=-1.040, p=0.333, data not shown in the graph) (Fig. 2).

These findings indicate that the eight-week, 5-stage mindfulness intervention reduced BAI, PSS, and IUS scores. Both 10-minute and 20-minute sessions were effective, suggesting that even short durations of mindfulness practice can be beneficial. However, MAAS results were similar before and after the intervention, regardless of session length. Since session duration is crucial in this study, it is important to compare the benefits between the 10-minute and 20-minute sessions across the utilized scales to draw a comprehensive conclusion about the impact on mental health.

Perceived Stress and Anxiety Score Difference Between the Groups

Although we observed pre- and post-intervention differences, we next compared the extent of mindfulness training's effect on perceived stress and anxiety levels between the control, 10-minute, and 20-minute groups. Before the intervention, there was no difference between the groups on BAI scores. One-way ANOVA results indicated that all groups showed similar BAI scores ($F[2,22]=2.525$; $p<0.05$). After the eight-week mindfulness intervention, a significant difference was observed between the groups ($F[2,22]=2.895$; $p=0.001$). Post hoc analysis obtained from Tukey's test showed that there was a significant difference between the control and 20-minute groups ($p=0.032$) (Fig. 3).

On the other hand, PSS scores showed that there was no difference between the groups before the mindfulness intervention. One-way analysis revealed non-significant results ($F[2,22]=1.632$; $p<0.05$). After participants enrolled in the eight-week training, a significant change in PSS was observed. One-way analysis showed a significant difference ($F[2,22]=0.046$; $p=0.0008$). Post hoc analysis revealed that there was a difference between the control and 20-minute groups ($p=0.003$) (Fig. 3). Since we did not observe a significant difference between pre- and post-intervention results on the MAAS obtained from the t-test, this data was not included in the analysis for group comparison.

When individuals view events as overwhelming or beyond their capacity to handle, they feel stressed, which can lead to anxiety. In this scenario, anxiety is a reaction to increased

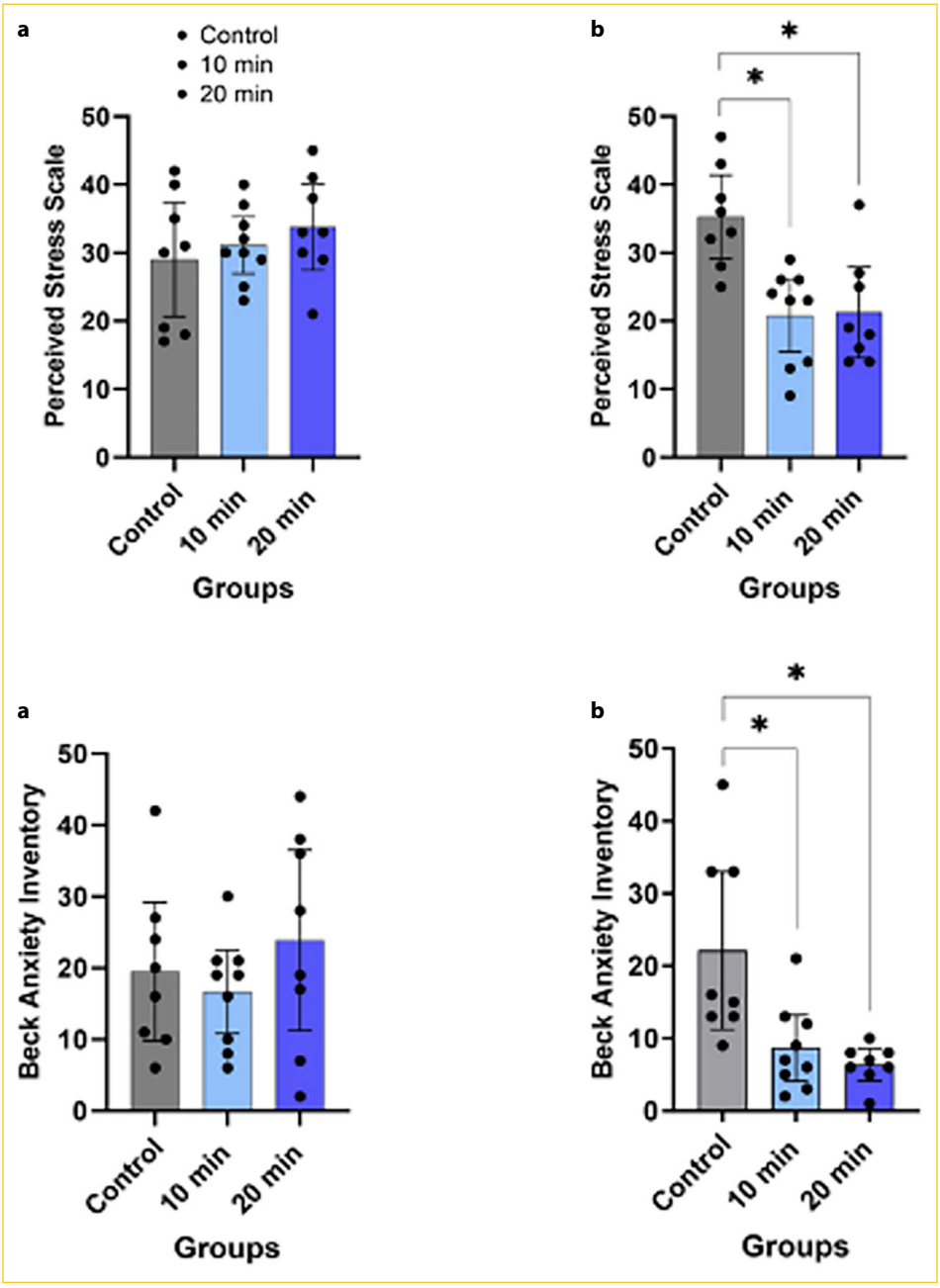

Figure 3. Meditation effect on perceived stress and anxiety. All group scores obtained from PSS compared before and after meditation. (a) Before the intervention, there was no statistically significant difference between the control, 10-minute, and 20-minute meditation groups. (b) Both 10-minute and 20-minute groups showed reduced PSS and BAI scores following the eight-week mindfulness meditation. However, there was no difference between the 10-minute and 20-minute meditation groups. N=8-9 per group.

PSS: Perceived Stress Scale; BAI: Beck Anxiety Inventory.

stress levels and the anticipation of possible threats or difficulties. Therefore, we have focused on PSS and BAI scores for this reason. The findings support that both 10-minute and 20-minute sessions of eight-week mindfulness training reduced perceived stress and anxiety levels. The lack of difference between the two durations suggests that even short sessions are effective. These results reinforce the view that mindfulness training helps alleviate anxiety and reduce stress. Our results indicate that women with similar anxiety scores across the groups benefited from reduced anxiety and perceived stress with both 10-minute and 20-minute sessions, compared to the control group that did not receive mindfulness training.

Regression Analysis of Scores

The extent to which BAI scores predict PSS, IUS, and MAAS were analyzed for both the 10-minute and 20-minute groups. Results showed that there was no regression in the 20-minute group, whereas BAI prediction for IUS was significant for the 10-minute group. Linear regression analysis revealed that a significant relationship exists ($F=13.37$, $p=0.008$). Participants' anxiety scores explained 66% of the variance in IUS scores (R Square=0.6564). A one-unit increase in anxiety score leads to a 0.66-unit increase in IUS score (95% confidence interval). Linear regression analysis showed that both PSS ($F=2.53$, $p<0.05$; R Square=0.2655) and MAAS ($F=3.31$, $p<0.05$; R Square=0.3215) were not significant (Fig. 4).

The prediction of BAI on IUS was significant for the 10-minute group following the mindfulness intervention, but not for the 20-minute group. Although there is a tendency for BAI to predict PSS and MAAS in the opposite direction, this does not reach a significant level in the 10-minute group. This finding suggests that BAI scores explain the variation in IUS, but not in PSS and MAAS, for participants in the 10-minute mindfulness training group.

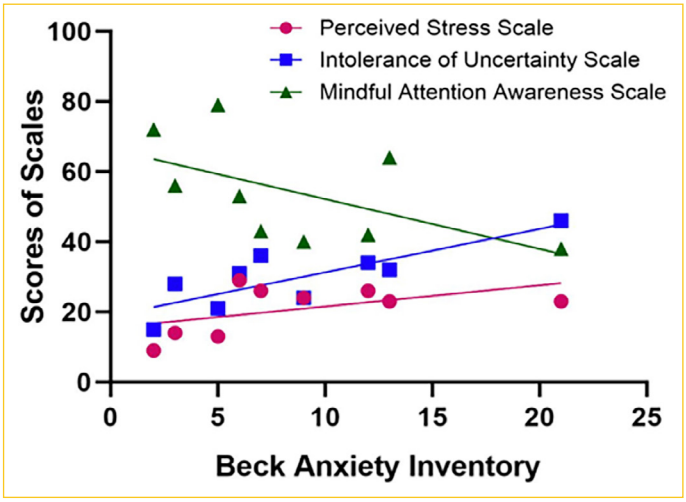

Figure 4. Meditation-Mediated Predictions. In the 10-minute meditation group, BAI scores were predictive of IUS scores. Analysis was conducted to measure how BAI scores explained changes in PSS, IUS, and MAAS. The only significant relationship observed in the regression analysis was between BAI and IUS scores. The opposite tendency was not significant for PSS and MAAS scores. N=9 per group.

BAI: Beck Anxiety Inventory; IUS: Intolerance of Uncertainty Scale; PSS: Perceived Stress Scale; MAAS: Mindful Attention Awareness Scale.

Discussion

Utilizing the 5-stage mindfulness meditation across different groups (control, 10-minute, and 20-minute), perceived stress and anxiety levels were compared among female participants. Scores from the BAI, IUS, and PSS scales indicated that both meditation durations significantly reduced perceived stress and anxiety levels. However, MAAS scores did not differ across groups post-intervention. Further comparisons showed that both 10-minute and 20-minute meditation sessions significantly reduced BAI and IUS scores, but not PSS and MAAS scores. No significant difference was observed between the 10-minute and 20-minute sessions for BAI and IUS scores. Participants were assigned to groups based on their initial BAI scores, and regression analysis was conducted to predict how BAI scores in the treatment groups explained variations in MAAS, IUS, and PSS scores. Only the 10-minute meditation group showed that BAI scores explained the variation in IUS scores, but this was not the case for the 20-minute group.

Dealing with stress-induced anxiety is a primary concern in women's mental health, as women experience higher rates of stress and anxiety compared to men.[18–20] Cultural factors also significantly impact women's mental well-being.[21] Women exhibit higher anxiety levels and are more frequently diagnosed with anxiety disorders than men.[22–24] Access to consultation, therapy, and social support can be challenging due to cost and time constraints. Therefore, low-cost options like meditation can help improve mental health. The present study, like others, suggests that meditation is a viable option.

Although the benefits of stress reduction, emotional regulation, well-being enhancement, and improved focus through meditation have been studied extensively, we compared relatively shorter durations of meditation to test their effectiveness for women. Sparing 10 minutes worked as well as 20 minutes for reducing perceived stress, anxiety, and intolerance of uncertainty. In fact, there was no difference in BAI and IUS scores between the 10-minute and 20-minute groups compared to the control group. However, MAAS scores did not show a difference before and after the meditation across the groups. Given that mindfulness meditation increases focus and attention,[25] the reason for the lack of significance in this study is unknown, as attention-required tasks were not assigned to the participants. Therefore, further research is needed to test if short-duration meditation, with both audio-recorded guidance and trainer guidance over an eight-week period, is effective for women. Buddhist Anapanasati Meditation was conducted using an audio CD for 4 weeks with both male and female medical students.[26] Another recorded mindfulness training included three 1-hour modules: (a) Introduction to Mindfulness, (b) Mindfulness in Daily Life, and (c) Mindful Breathing and Walking. Participants, both male and female healthcare professionals and students, completed the modules in any order over a 4-month period with 20-minute sessions.[25] Our study is similar in session duration, but differs in the concept of mindfulness and completion time. Additionally, 10-minute daily smartphone app-guided sessions for 10 consecutive days were conducted with healthcare professionals, including both group and indi-

vidual sessions.[27] In our study, the 10-minute sessions were spread over eight weeks, and all participants received both trainer-guided and recorded meditation. This design improved PSS and BAI scores following the intervention. In a recent randomized controlled trial involving university students, a 28-day intervention was implemented in which the experimental group received a 30-minute mindfulness session once per week and engaged in 10 minutes of daily meditation practice on the remaining days. Compared with the control group, the intervention group demonstrated statistically significant reductions in depression, rumination, and persistent anxiety.[28]

Another recent study using heartfulness meditation over 12 weeks also supports our findings, showing improved BAI and PSS scores in younger participants (ages 18–24).[29] Other studies have similarly reported improvements in PSS scores [30–32] following mindfulness meditation. A comprehensive randomized study found that mindfulness interventions in women during menopause significantly reduced stress and anxiety levels.[33] A study examining the relationship between short periods of meditation and psychological well-being found no significant difference in meditation times.[34] In an experimental study, when the effects of a single session of meditation practice on state mindfulness, anxiety, and mood were measured in 10-minute and 20-minute versions, no difference in the duration of reduction in anxiety levels was observed, and both groups improved compared to the control groups.[35] Our results are consistent with these findings.

Mindfulness meditation has also been used to investigate attention and awareness processes,[36] though not all attentional processes are affected.[37] The MAAS is a unidimensional measure of mindfulness, assessing mindfulness indirectly by asking about the opposite of mindful attention and awareness, such as absent-mindedness and lack of attention to the present moment.[38] While some studies have shown enhanced MAAS scores post-intervention,[25,39] others found no significant effect, particularly in samples composed predominantly of women (95% of participants).[40]

A meta-analysis found that as the length of meditation practice increased, there was a decrease in alerting, suggesting that attention-related cognitive skills are affected by the duration of meditation.[37] Nevertheless, the meditation protocol performed in the current study attenuated pre-intervention scores of anxiety and perceived stress. Although we did not observe a separate duration effect of meditation on IUS compared to the control group, BAI scores explained the variation in IUS in the 10-minute meditation group. Further research is needed to explain this variation.

Due to its short duration, mindfulness meditation may offer psychiatric nurses an effective self-help method for managing stress and crises in demanding clinical settings without the need for specialized equipment. The meditation's low cost, straightforward nature, and ease of application further support its potential for widespread adoption in clinical practice, making it a practical resource for enhancing resilience and sustaining psychological well-being in healthcare environments. To support this view, a recent study with psychiatric nursing students found that a four-week mindfulness program increased awareness, attentiveness, and interpersonal communication in the experimental group compared to controls.[41] A meta-analysis study published in 2023 suggested that mindfulness interventions lasting 8 weeks or less could significantly reduce anxiety and depression levels in nurses.[42] Because mindfulness studies include various meditation practices, we can assume that meditation produces similar effects in this study. Mindfulness practices enhance self-awareness, which may allow nurses to strengthen psychological resilience and cope with the challenges of patient care with minimal reliance on external tools. In both the short and long term, such practices may alleviate burnout, fatigue, stress, insomnia, and depressive symptoms by serving as an accessible way of regulating the behavior system. By reducing stress-related emotions such as anxiety, irritability, and impatience, which can negatively affect therapeutic interactions, mindfulness contributes to improved occupational performance, greater job satisfaction, and sustained psychological well-being among psychiatric nurses. However, the duration of the intervention should be given further attention in order to more accurately assess the effectiveness of mindfulness meditation in psychiatric nursing. Upcoming research that extends the practice over longer periods and tests it under hospital conditions would provide stronger ecological validity and a better understanding of its practical benefits in real clinical environments.

Limitations of the study

The present study is subject to certain limitations. First, the small sample size restricts the generalizability of the findings, underscoring the need for future research with larger cohorts. Second, the reliance on self-reported data, including weekly meditation frequency and duration as well as scale responses, introduces the possibility of bias and limits the ability to determine whether the reduction in anxiety levels after eight weeks reflected genuine behavioral changes or was influenced by expectancy effects. Third, the participant profile was constrained, as recruitment through online platforms largely reached psychologists, yoga and Pilates instructors, therapists, and compassion educators. This may have resulted in a limitation by reducing the diversity of perspectives and excluding individuals without prior knowledge or interest in mindfulness. Finally, the study only involved female participants within a narrow age range and did not account for gender diversity or sexual orientation, thereby excluding individuals whose assigned gender was female but who do not identify as such.

Conclusion

Overall, the current study revealed that the 5-stage mindfulness meditation, conducted with both self-training and licensed mediator training, helps improve resilience to anxiety, perceived stress, and tolerance to uncertainty in middle-aged women with different demographic features such as education level, employment, menstrual regulation, substance use, and anxiety-coping strategies. While the therapeutic effectiveness of this approach is still a topic of research, it can be a useful tool for increasing well-being. Further studies on different durations of 5-stage mindfulness meditation in women diagnosed with anxiety are necessary to develop low-cost, self-training-based positive intervention approaches.

Ethics Committee Approval: The study was approved by the Bartın University Social and Human Sciences Ethics Committee (no: 2022-SBB-0457, date: 25/10/2022).

Informed Consent: Written consent was obtained from all participants included in the study.

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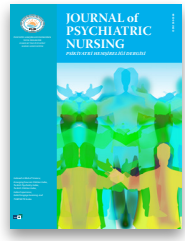

Systematic Review

Enhancing critical thinking skills and patient care outcome through simulated mental health nursing training among baccalaureate nursing students

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Abstract

Objectives: The link between theoretical knowledge and practical application in nursing education requires innovative methods to teach crucial skills to future nurses. This review outlines a framework emphasizing simulated training in mental health nursing and aims to consolidate findings on the significance of this training for nursing students globally.

Methods: This review utilized five major databases: Scopus, ProQuest Medical Library Database, CINAHL Database via EBSCO Host, PubMed, and Web of Science. Papers related to simulated mental health nursing training for baccalaureate nursing students were searched using specific keywords such as simulated mental health nursing, learning mental illness through simulation, mental health nursing through simulation, and simulation in psychiatric nursing. From the results, papers containing one or more of these keywords within titles, abstracts, or keyword sections were identified.

Results: Research indicates that simulated mental health nursing training decreases students' anxiety and enhances their confidence, ultimately resulting in improved patient care. The study emphasizes how simulated mental health nursing training can improve nursing outcomes and patient care by aligning with learners' cognitive abilities and evaluation methods.

Conclusion: Simulating mental health nursing enhances the knowledge and skills of nursing students, supporting the development of crucial competencies by linking theory to practice. These simulations serve as an effective educational strategy to address challenges in learning mental health nursing. Simulated mental health nursing training strengthens nursing students' confidence, reduces anxiety, improves their knowledge and skills, and contributes to better patient care outcomes.

Keywords: Clinical knowledge; critical thinking; mental health nursing; simulation; undergraduate nursing students

Mental health nursing education has evolved significantly, driven by societal shifts in mental health awareness and the growing recognition of its role in overall healthcare. Nurses in this field face complex ethical and clinical challenges, emphasizing the need for innovative teaching methods that provide students with real-world experiences.[1] As mental health nursing in the baccalaureate curriculum includes understanding the basic psychology of human behavior, types, causes, symptoms, and management of various mental illnesses, using the appropriate therapeutic communication techniques, removing the social stigma related to mental illness, and managing psychiatric emergencies in the community and hospital. As the subject requires more advanced knowledge and skills in managing mentally ill patients,[2] simulated participant programs (SPPs) have emerged as valuable tools for improving nursing education, enhancing theoretical knowledge, developing critical skills, and addressing the need for skilled mental health professionals who can meet the com-

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plex needs of patients.[3] Simulation in nursing education can be categorized as low-fidelity, using simple tools like mannequins or role-playing, and high-fidelity, utilizing advanced technology and lifelike mannequins to create realistic clinical settings.[4] This range of simulation strengthens critical thinking, improves clinical judgment, and fosters empathy in patient care. Initially, simulations involved simple models and role-playing exercises, focusing on basic skills. However, the advent of advanced simulators and virtual reality technology has expanded the scope of simulation to include complex medical scenarios, providing a more immersive and realistic experience.[5] Frameworks like the Association of Standardized Patient Educators (ASPE) and Standards of Best Practice have been established to ensure quality standards and continuous improvement in training effectiveness.[6,7] Simulation-based learning, grounded in constructivist and situational learning theories, is crucial for enhancing nursing education, particularly in mental health.[8] The purpose of this review was to reiterate the significance of simulated learning in mental health nursing, in the clinical competence of baccalaureate nursing students and clinical outcome of patients. We have used extensive search strategies from data sources such as Scopus, ProQuest Medical Library Database, CINAHL Database via EBSCO Host, PubMed, and Web of Science. The studies that met the inclusion criteria were selected, and the comprehensive analysis was done based on the findings of the source list published between 2010 and 2024.

Theoretical Models Supporting Simulation-Based Learning

Human simulation involves human role players interacting with learners in experiential learning and assessment. Initially, role players were referred to as standardized or simulated patients (SPs) portraying patients.[9] In recent years, SPs may take on various roles such as clients, family members, or healthcare professionals. The methodology can be applied to any individual portraying a human in any simulation. Simulation-based learning, supported by different theories, is very important for improving nursing education, especially in mental health areas.[10] Constructivist theories from Piaget and Vygotsky stress the need for hands-on learning, where students are actively involved in learning, leading to better understanding of complicated clinical ideas, which supports the evidence of adding transformative learning experiences that are meaningful for both new and experienced clinicians and nurses, helping to improve their clinical reasoning skills.[11] Additionally, the situational learning theory suggests that knowledge is best gained through experiences in context, further backed by simulated learning,[12] which showed in an assessment of simulated programs that well-structured, realistic simulations greatly enhance learning outcomes. These theories together highlight the importance of interactive settings in developing empathy, critical thinking, and better patient care, ultimately getting nursing students ready for the challenging realities of mental health work. A recent study conducted on the effectiveness of simulated learning outcomes in real-time clinical settings in psychiatry by nursing students showed that after doing the simulation, students' levels of stigma improved significantly in six out of nine areas. The biggest improvements were seen in feelings of anger and willingness to help, with moderate effect sizes (r=0.392 and 0.307). When comparing by gender, the analysis showed that simulation helped women reduce stigma in six areas, while men showed improvements in four areas — with anger and fear having the strongest effects for men (r=0.414 and 0.446). The researchers also looked at whether students who had previous contact with people with mental illness reacted differently. Overall, there was no big difference between the groups. However, within each group, students who had prior contact showed improvement in fear only (p=0.040, r=0.353), while those with no prior contact showed improvements in six areas, similar to the full group's results.[13]

What is presently known on this subject?

- Simulated mental health nursing training is essential for the clinical skill development of baccalaureate nursing students.

What does this article add to the existing knowledge?

- Simulation in mental health nursing increases confidence, self-esteem, empathy, and interpersonal relationships with patients.
- It not only enhances the students' confidence and clinical competency, but also the patients' well-being and clinical outcome.

What are the implications for practice?

- Every nursing school should include simulation training in mental health nursing to improve the teaching-learning process in psychiatric care settings, and thus improve patients' outcomes and satisfaction.

Research Question

Based on the fine review of the related literature, the authors have identified the need for simulated nursing education for baccalaureate nursing students in mental health nursing, especially in the post-pandemic era and during times when many emerging and tropical illnesses play a critical role in the healthcare system.[14] The following research question was formulated by the authors for undertaking this comprehensive review:

"What is the impact of simulation-based mental health nursing training on undergraduate nursing students' critical thinking, clinical decision-making skills, and their ability to provide improved patient care?"

Objectives of the Review

The goal of simulation-based teaching is to boost students' knowledge, abilities, and empathy, which should lead to better critical thinking and patient care.[15] By using methods

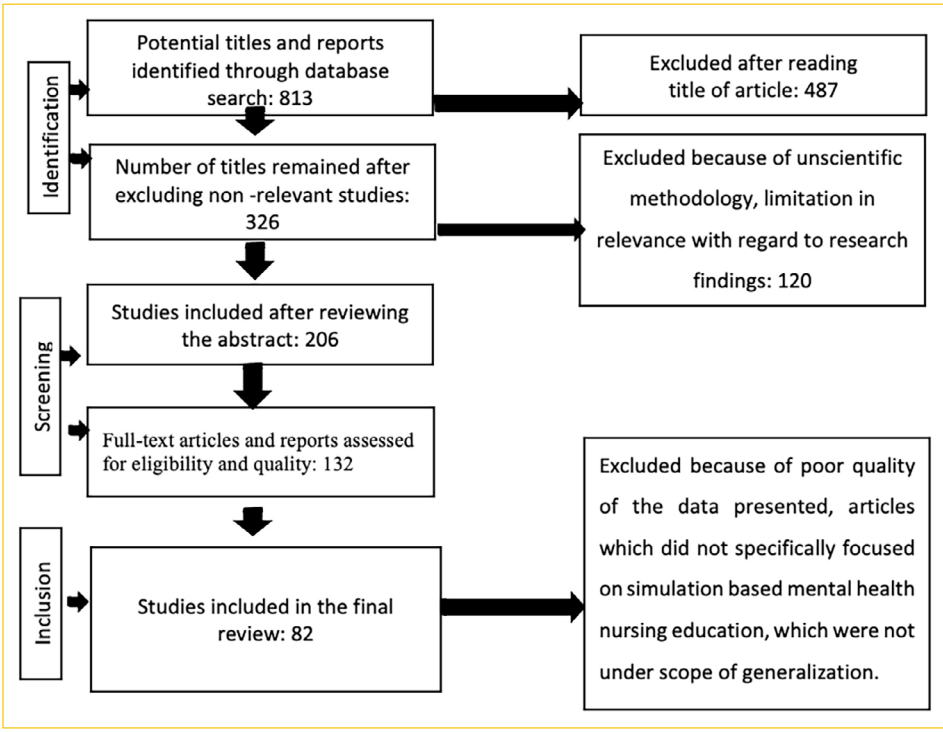

Figure 1. Flow-diagram of literature selection.

that replicate real-life clinical situations, this review aims to connect theory with practice. Current nursing programs often do not include enough hands-on learning, as seen in recent trends and issues with clinical reasoning. Related studies show that understanding changes in clinical education after the pandemic requires a forward-thinking approach to updating curricula.[16] Thus, this review has the following objectives:

- To check how effective simulated training is in the clinical practice of mental health nursing students.
- To guide future nursing education curriculum developments.
- To address the gaps in quality and diversity.[17]

Materials and Method

To identify pertinent studies in the broad area of our review, we utilized five major databases: Scopus, ProQuest Medical Library Database, CINAHL Database via EBSCO Host, PubMed, and Web of Science. Our search was guided by the query: "Simulated mental health nursing training for baccalaureate nursing students," and the search terms were simulation, nursing, mental health, psychiatric nursing, simulated mental health training, undergraduate nursing students, mental health nursing students, nursing education, and nursing curriculum. From the results, we aimed to pinpoint papers containing one or more of the following keywords: Simulated mental health nursing, learning mental illness using simulated learning, mental health nursing through simulated learning, and simulation and psychiatric nursing. These keywords were searched within the titles, abstracts, or keyword sections of the papers. The methodology for searching and selecting articles for this review is illustrated in Figure 1.

Inclusion and Exclusion Criteria

Our search was restricted to articles published in English between 2010 and 2024. Initially, our selection process began with 813 papers, which encompassed original research, review articles, and surveys. For our analysis, we opted to include only those papers that presented original experimental findings and review papers and were either open access or had the full text available (Table 1).

To filter out papers that did not satisfy our inclusion criteria (Table 2), we implemented a four-step process:

Step 1: Elimination of duplicates, review articles, and survey articles.

Step 2: Exclusion of articles lacking full text.

Step 3: Removal of articles without experimental results.

Step 4: Exclusion of articles that did not provide adequate details regarding data sources.

Following the removal of duplications and methodologically inconsistent review papers in the first step, we were left with 326 articles for further screening. We then assessed the open access criterion (full text availability) and identified 132 papers that met this requirement. We examined the titles, abstracts, methodologies, and results of these papers. After our initial screening, we selected 82 full texts of interest that offered orig-

Table 1. Data sources and search strategy

Sl. no.	Database	Keywords	Number of identified articles
1	Scopus	Simulation, nursing, mental health, psychiatric nursing, mental health nursing students, nursing education and nursing curriculum.	176
2	ProQuest	Simulated mental health training, under graduate nursing students	78
3	Medical library database	Simulation, nursing, mental health, psychiatric nursing, mental health nursing students, nursing education and nursing curriculum.	16
4	CINAHL Database	Simulated mental health training, under graduate nursing students,	219
5	PubMed	Simulated mental health training, under graduate nursing students, simulation, nursing, mental health, psychiatric nursing, mental health nursing students, nursing education and nursing curriculum.	118
6	Web of Science	Simulated mental health training, under graduate nursing students, simulation, nursing, mental health, psychiatric nursing, mental health nursing students, nursing education and nursing curriculum.	206

Table 2. Inclusion and exclusion criteria for the review of literature

Inclusion criteria	Exclusion criteria
Manuscripts on simulation in mental health nursing training	Literature not directly focusing on the research question
Literature focusing on simulated learning in nursing	Literature characterized by methodological inconsistencies, which can be identified through the examination of abstracts, often presents challenges in the synthesis of evidence. This includes instances where the methodology is inadequately explained, resulting in insufficient evidence, as well as articles that primarily consist of commentary and opinion rather than empirical research.
Literatures which were peer reviewed	Literatures which were published in other than English
Articles from across the globe, referencing to simulation training in psychiatric nursing education	
Articles published between 2010 and 2024	

inal experimental data and consistency in the review outputs. Subsequently, we established our eligibility criteria based on the type of data utilized and its availability in the public domain.

Results

In the healthcare field, nurses need more than just medical knowledge and technical skills; they also need empathy and emotional understanding for their patients.[18] Building strong relationships with patients through empathy helps to improve trust and communication, leading to better care outcomes.[19] Transformative learning experiences and real-life practice are key in enhancing a nurse's clinical reasoning skills and ability to adapt to patient needs.[20] Simulation-based structured training programs can also play a crucial role in developing these essential competencies.[21]

Role of Experiential Learning in Nursing Education

Hands-on learning in nursing education is crucial to help students develop real skills from theoretical knowledge. It is important for nurse educators to have the necessary skills to create curricula that promote hands-on learning and address community health issues. Research has shown that using various teaching methods, including hands-on learning, enhances knowledge and confidence in new nurses working in emergency departments, ultimately improving patient care outcomes.[22]

Impact of Simulation on Student Engagement and Learning Outcomes

Engagement and participation are essential in nursing education, particularly in mental health training. Simulation-based training is valuable for students as it allows them to practice real clinical situations without risking patient safety, boosting confidence and skills as well as clinical reasoning and critical thinking.[23] Teaching clinical reasoning explicitly through simulations enhances learning outcomes and creates a more skilled nursing workforce as evidenced by Rothgeb.[24]

Enhancing Knowledge and Skills Through Simulation

In nursing education, simulation training is a key tool for improving both knowledge and hands-on skills necessary for good patient care.[25,26] Researchers point out that good clinical reasoning is a complex skill that develops through practice and facing various clinical situations.[27] Moreover, simu-

lation gives students a controlled but active environment to deal with problems they might face in real life, addressing significant gaps in reasoning and diagnostic skills that often come from traditional education methods.[28] This practical approach not only builds clinical and diagnostic abilities but also improves students' empathy and communication skills, resulting in better patient care outcomes.

Development of Clinical Skills Through Simulation Exercises

The role of simulation exercises in nursing education has changed from being an extra tool to becoming essential for building clinical skills. Through interactive scenarios, students take part in real-life patient interactions, which helps them develop both technical skills and critical thinking, along with emotional intelligence needed in mental health nursing.[29] For example, the study of simulated participant programs (SPPs) shows how organized structures improve training quality, making sure nursing students understand the complex needs of clinical reasoning and patient care.[30] Additionally, this method helps with the mental strain often felt during real-life interactions, enabling students to practice and improve their abilities in a safe and supportive setting.[31] As a result, simulation exercises not only boost students' confidence but also get them ready to handle clinical situations with empathy and understanding.

Comparison of Traditional vs. Simulation-Based Training Outcomes

Traditional nursing education methods mostly focus on theory and clinical practice, which can limit students' chances to develop advanced communication and emotional skills. A systematic review shows that although there may not be big differences in levels of empathy, self-confidence, and satisfaction between students trained with high-fidelity manikin simulators and standardized patients, these experiences contribute to an important social shift that emphasizes empathetic communication in nursing.[32] Moreover, efforts to teach emotional intelligence and empathy through new strategies have shown possible benefits in enhancing the students' clinical experience.[33]

Integration of Evidence-Based Practices in Simulation Scenarios

By participating in simulations that are based on up-to-date research, students can understand the complexities of mental health issues better, which helps them improve their diagnostic skills and patient care strategies.[34] The shift from theory to practice is backed by Default and Network Theory (DNT) that good clinical reasoning comes from lots of practice with organized mentoring.[35] Also, addressing student worries and job expectations through specific simulation exercises has been shown to get students ready for real clinical situations, as noted in earlier studies about immersive learning.[36] In the end, this method not only improves theoretical understanding but also gives students the skills needed to enhance patient care results in mental health areas.

Role of Feedback in Skill Enhancement During Simulations

In simulations, students take part in realistic situations that require them to make clinical decisions and use what they have learned. Giving timely and helpful feedback not only helps students see where they can improve but also supports good practices, leading to a better understanding of their future roles in healthcare. A recent study suggests that new graduate nurses need better clinical judgment, highlighting the role of feedback in preparing for the Next Generation NCLEX (NGN) exam.[37] Additionally, as shown in research among medical graduates, organized feedback during the transition in college demonstrated interventions to reduce student anxiety and improve their professionalism and diagnostic skills.[38] The authors support that effective feedback makes simulations into strong educational tools that enhance critical thinking and patient care results among medical students.

Fostering Empathy and Emotional Intelligence

Empathy and emotional intelligence are very important in nursing education, especially in mental health. Developing these traits in baccalaureate nursing students boosts their skills and affects patient care outcomes. Studies show that students with emotional intelligence training show better clinical practices and higher patient satisfaction, making a strong case for adding emotional skills training to nursing programs.[39] Moreover, research on nursing students at various educational levels found that emotional intelligence is often linked to personal maturity, indicating that as students learn more, their empathy may also grow.[40] Therefore, organized programs that include empathy and emotional intelligence in mental health nursing education are crucial to prepare future nurses to handle their patients' complex emotional needs effectively.

Improved Patient Interactions

A key point found in various case studies is that organized simulation exercises boost students' clinical reasoning skills by giving them a real-life setting to practice their empathetic communication and critical thinking. These simulations create a safe space where nursing students can reflect on their practice, which was noted by participants who moved from being inexperienced to more confident professionals.[41] Additionally, using a simulation approach in developing clinical competency among students shows that regular evaluations of these simulation programs can measure improvements in

the quality of clinical interactions, highlighting how beneficial this training can be.[42] Overall, these research findings emphasize the importance of hands-on learning models in improving patient care standards, pushing future nursing programs to focus more on simulation-based teaching.

Long-Term Effects of Empathy Training Through Simulation on Nursing Practice

Empathy training in nursing education has shown good long-term effects on practice, helping both patient care and nurse-patient relationships. By involving nursing students in simulation exercises that imitate real-life challenges faced by people with sensory and cognitive issues, educators create a setting for critical reflection on emotional responses. This training improves technical skills and builds a better understanding of patients' experiences, leading to better health outcomes. Studies highlight that dealing with sensory and cognitive impairments requires healthcare professionals to take a more empathetic approach, which can lower the chances of negative events in clinical settings.[43] Also, using theoretical methods in training can help nursing students improve their communication skills, making it easier for them to handle difficult emotional situations and support patients better.[44] Thus, the ongoing use of empathy learned through simulation can greatly enhance nursing practice over time.

Simulation as a Tool for Developing Critical Thinking Skills

In nursing education, using simulation as a teaching method has become a strong way to improve students' critical thinking. By placing learners in real-life clinical situations, simulation helps them develop important thinking skills needed for making good decisions in patient care. For example, studies show that organized simulated experiences can improve clinical reasoning skills, which are crucial in mental health nursing, where practitioners deal with tricky emotional and psychological issues.[45] Additionally, using Simulation-Based Research (SBR) to assess the quality of simulations ensures that education programs meet high standards meant to enhance critical thinking in nursing.[46] Therefore, simulation not only helps in gaining knowledge and skills but also builds the empathy needed for whole patient-centered care.

Although we have analysed the constructive and learning interventions possible using simulation in mental health nursing, evidence suggests that it has some negative impacts as well, which may hinder the learning enthusiasm of the students.

Limited Human Interaction

As mental health nursing requires vast experience for the learner to interact with real patients and real-time emotions, the artificially created environment and learning environment do not facilitate students' interaction with patients.[47]

Risk of Oversimplification

Scenarios in SPPs are often structured with clear learning objectives for the students. Real-world mental health situations are often ambiguous, overlapping, and evolve in unexpected ways. This may lead students to develop unrealistic expectations of clinical practice and make clinical case management even tougher.[48]

High Cost and Resource Demands

Often, quality simulated learning environments require highly trained simulated patients, experienced staff, and advanced mannequins. In most low-resource setting nursing schools, such facilities may not be available.[49]

Limited Focus on Therapeutic Relationship Building

Building a trusting therapeutic alliance is central to mental health nursing, and simulations may emphasize specific communication techniques or crisis interventions but may not adequately foster the subtle, long-term skills needed to build rapport and therapeutic trust with the patients in real-time clinical scenarios.[50]

Performance Anxiety in Students

Some students might feel significant stress or embarrassment when acting out scenarios in front of peers and instructors. This anxiety can reduce their ability to perform naturally and diminish the effectiveness of the learning experience, eventually acting as a barrier to enhancing clinical skills.[51]

Discussion

The changing field of nursing education needs new ways to help students gain the skills required for mental health work.[52] One way to do this is through simulated training, which places students in safe but realistic clinical situations, helping them improve both their clinical thinking and people skills. This method goes beyond normal classroom learning by allowing students to experience real-life patient situations in a secure setting. Importantly, this hands-on experience helps build empathy, communication, and decision-making skills, which are key in mental health nursing. By acting out real patient interactions, students can see how they respond, think about their practice, and strengthen their emotional toughness—important factors for good patient care. In the end, simulated training not only improves technical skills but also gives nursing students the overall abilities they need for the challenges of mental health nursing, leading to better patient results and a more caring healthcare team.[44]

Table 3. Challenges and limitations of simulated mental health training

Challenge	Importance level	Impact on training	Source
Limited access to technology	High	Hinders practice and skill development	American Nursing Association
Variability in simulation quality	Medium	Different outcomes across training programs	Nursing Education Perspectives
Instructor experience	High	Affects simulation effectiveness and realism	Journal of Nursing Education
Student preparedness	Medium	Differences in prior knowledge affect learning	International Journal of Nursing Studies
Emotional distress in simulations	High	May impact student engagement and learning	Nurse Education Today
Resource intensive	Medium	Increases costs and time for implementation	Nursing Management

The importance of simulated mental health nursing training helps by putting students in real-life situations, these simulations help combine what they learn theoretically with how to use it practically, helping them build critical thinking and decision-making skills during challenging times. Additionally, the emotional side of nursing gets attention, allowing students to practice empathy and communication skills that are key for good patient care. As the need for skilled mental health workers grows, it makes sense to incorporate such modern training methods into nursing courses more thoroughly. This article highlights how important it is to use simulation-based learning techniques to better equip and build the confidence of upcoming nurses when facing complex mental health situations.[53] In conclusion, the review points out the positive effects of simulated mental health nursing training and supports its wider use in educational programs. By embracing this teaching method, nursing schools can increase student readiness and also improve the overall quality of mental health care. In the end, continuously developing these teaching strategies is crucial for meeting the changing demands of healthcare systems and for improving patient outcomes in mental health services. The use of simulated training in nursing education is really important for getting students ready for real-life clinical problems. This method creates a setting where students can deal with complex situations, helping them build critical thinking and decision-making abilities that are vital for mental health nursing. Also, taking part in simulations helps promote empathy, especially for the needs of patients with sensory and cognitive challenges.[54] As nursing students work through these designed scenarios, they not only practice technical skills but also learn to recognize the emotional aspects of patient care, thus connecting theory to practice. Moreover, including emotional intelligence in training, as mentioned in the literature, adds to student growth by focusing on caring delivery, making graduates better at handling complicated patient interactions.[44] Therefore, simulated training is key in improving the overall skills of nursing students, getting them ready for the challenges of mental health care. Simulated training in mental health nursing does have significant educational advantages, but it also comes with some challenges and limits. A major issue is that participants might feel emotionally disconnected, as students could struggle to engage fully with simulations that do not reflect the emotional depth of real-life situations. This disconnection can result in a lack of empathetic understanding, which is essential in mental health care. Additionally, focusing too much on simulation might overlook the significance of direct interactions with patients, highlighting the restrictions of an artificial learning environment. Being able to handle complex interpersonal situations and improve emotional intelligence is crucial for effective nursing practice. However, some people suggest that standardized tests for emotional intelligence raise ethical concerns, as they often fail to capture the subtle qualities of compassion and care needed for mental health professionals.[55] Therefore, while new simulation methods provide useful training opportunities, they should be carefully combined with real-world experiences to ensure thorough skill development, as they have a few negative implications in the learning process and real-time patient management skills in clinical scenarios. Moreover, simulated learning experiences need advanced clinical labs and experienced instructors.

Implications for Nursing Education and Practice

Simulated mental health nursing training enhances nursing education by helping new nurses build confidence in clinical skills and professionalism. It offers a controlled environment for students to practice in realistic situations, improving clinical reasoning and critical thinking skills. This method reduces reliance on traditional shift-based learning, allowing for more practice and better preparation for real-life healthcare challenges, ultimately leading to improved patient care outcomes. This method should be included inevitably in the nursing curriculum, and the educational institution authorities must be able to provide administrative and other technical support for implementing the simulation-based training in nursing schools. However, the simulation method of mental health nursing clinical training is a challenging task for many instructors, as reported by researchers, and the same has been depicted in Table 3.

Recommendations for Future Research in Simulation Training

To make simulation training in nursing education better, future studies need to focus on creating and testing new simulation methods that include a complete approach to mental health care. It is important to look into different simulation settings, like virtual reality and realistic manikins, to find out which approaches best improve empathy, clinical judgment, and critical thinking in nursing students. Taylor et al.,[56] and Doyon et al.,[57] in their research, noted that adding clinical judgment to training is key for better patient outcomes, which calls for a thorough examination of simulation situations that promote this skill. Also, research should look into how interprofessional education works within simulation environments, as shown by results from research highlighting fairness and teamwork among health professions.[15] These efforts could help understand how simulation training can better prepare nursing students to handle complicated health issues in their careers.

Limitations of the Review

The review shows promising results, but there are limitations that affect its impact and generalizability. Differences in simulation programs across institutions could limit relevance. Simulation in mental health nursing education is crucial for enhancing skills like empathy, communication, and critical thinking. Realistic scenarios help students understand psychological issues and prepare for real-world experiences. Educators should consider stress factors like remote consulting and emerging tropical illnesses, which may cause a threat to the population in quarantine. Using recognized methods to assess simulation quality improves learning outcomes. Investing in comprehensive simulation training results in better patient care and skilled mental health professionals.

Conclusion

In summary, this review shows that simulated mental health nursing training significantly improves bachelor nursing students' knowledge, skills, and empathy. These simulations create a realistic clinical environment that allows students to learn actively and think critically, which prepares them for real patient care challenges. Previous studies indicate that effective simulation programs can greatly enhance educational quality and student outcomes, Sanchis-Giménez et al.[44] The knowledge gained from this training may also guide changes in the curriculum, making future nursing education more relevant to today's complex healthcare needs, Kiernan & Olsen.[41] In the end, incorporating simulated training into nursing programs is not just about improving academic standards; it is an essential development that leads to better patient care and helps prepare nurses with the necessary skills for their careers.

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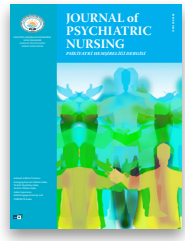

Systematic Review

A review of nursing research on delirium: The sample of Türkiye; systematic review

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Abstract

Objectives: This study aims to explore research conducted by nurses in Türkiye on delirium, as documented in national and international nursing literature, and to present the findings.

Methods: A systematic search was conducted for articles published between 2012 and 2023 that focused on delirium and were authored by nurses in Türkiye. Searches were conducted in both Turkish and English using relevant keywords, and the PRISMA 2020 Checklist criteria were applied to evaluate reporting quality.

Results: Twenty-three articles meeting the inclusion criteria were identified, categorized into two main themes: studies involving nurses and those involving patients. Of these, 16 were published in international journals and 7 in Turkish nursing journals. The studies covered various aspects, including the level of nurses' knowledge about delirium and its management, as well as patient-focused research conducted in intensive care settings.

Conclusion: This review provides a comprehensive overview of nursing research on delirium in Türkiye, serving as a valuable resource for future investigations in this field. It is anticipated that these findings will contribute to the development of a robust database to inform and guide further research endeavors.

Keywords: Delirium; intensive care; nurse knowledge; nursing; nursing research; Türkiye

Delirium is a clinical syndrome characterised by a sudden onset and fluctuating course of consciousness, attention, and perception. The prevalence of this condition is highest in patients who are critically ill.[1–3] Delirium is categorised into three primary clinical subtypes: hypoactive, hyperactive, and mixed. Patients with hypoactive delirium typically present with lethargy, apathy, and decreased psychomotor activity,[3,4] while patients with hyperactive delirium exhibit agitation, restlessness, and increased psychomotor activity.[3,4]

Despite its multifactorial aetiology, delirium is often caused by modifiable factors, including dehydration, hypoxia, serious illness, comorbidities, infections, surgical procedures, medications, and metabolic disorders.[5–8] Elderly individuals who are hospitalised are at an elevated risk of developing delirium, a condition that arises from heightened vulnerability.[9] In adult medical inpatients, worldwide, the prevalence of delirium ranges from 9% to 34%,[10,11] and in intensive care units (ICUs), it has been reported to be as high as 88%.[12,13] Delirium has been shown to contribute to the persistence of cognitive impairment in one-third of patients, prolonging hospital stay by 8–10 days and mechanical ventilator dependence by 2–5 days. It has also been demonstrated to increase healthcare expenditures and to triple six-month mortality rates.[14–19]

The American Psychiatric Nursing Association (APNA) and the International Society of Psychiatric-Mental Health Nurses (ISPMHN), under the auspices of the American Nursing Association (ANA), define psychiatric-mental health nursing as a specialized nursing practice committed to "promoting health through

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the assessment, diagnosis, and treatment of human responses to psychiatric disorders."[20] (ANA, 2014). Delirium management is a key part of the work of psychiatric nurses, who play a key role in both preventive and therapeutic approaches.[21]

The role of nurses in the management of delirium is of crucial importance.[22,23] Nurses' experiences include assessing patients' risk of delirium, implementing preventive measures, detecting delirium, and providing care for patients during the recovery process.[24] It is imperative to recognise the pivotal role that nurses play in the management of delirium, given their involvement in various stages of this process. Furthermore, nurses are directly exposed to the symptoms of delirium when providing bedside care. Consequently, the care of patients with acute delirium represents a significant risk and stressful situation for nurses due to the unpredictable behaviours and movements of the patients.[2,25–30] An investigation of the experiences and knowledge levels of nurses may offer insights into the provision of enhanced quality care to individuals with delirium.

The objective of this article is to provide a comprehensive examination of the knowledge levels, experiences, challenges, support needs, and educational requirements of nurses in the care of patients with delirium. A systematic review was conducted to identify knowledge gaps, contribute to further research efforts, and provide nurses with valuable information on the nuances of delirium nursing care. The present article will facilitate the consolidation and dissemination of findings from delirium-specific nursing research in the Turkish context.

What is presently known on this subject?

- Nurses play an important role in the management of delirium. Nurses' experience includes assessing patients' risk of delirium, implementing preventive measures, detecting delirium, and caring for patients to support recovery.

What does this article add to the existing knowledge?

- Given that nurses are involved in various stages of delirium management, it is valuable to conduct an in-depth study on nurses' management of delirium, as this can improve patient outcomes.

What are the implications for practice?

- This study provides a comprehensive overview of nurses' knowledge, experiences, challenges, support needs, and educational needs in the care of patients with delirium. In addition, this systematic review attempts to identify gaps in the literature, contribute to further research efforts, and provide nurses with valuable information on the nuances of delirium nursing care.

Materials and Method

This systematic review was conducted in accordance with the PRISMA 2020 Checklist;[31] PubMed, EBSCO Host, Science Direct, Ulakbim TR Index, and Turkish Medline databases were searched. The research encompassed studies conducted by nurses (clinicians/academicians) in Türkiye and published in national/international literature. The Medical Subject Headings (MeSH) index was employed for the English keywords, while the Turkish Science Terms were utilised for the Turkish keywords. The searches were conducted between March and April 2024. National searches were conducted using the keywords "delirium, nursing," while international searches were performed with the keywords "delirium, nursing, and Türkiye," individually and in combination (Table 1).

Inclusion Criteria

In Türkiye, studies published between 2012 and 2023 by nurses (academicians/clinicians) related to delirium and for which full text was available were included in the review. Inclusion criteria were determined according to PICOS (P (Patient/Population/Problem), I (Intervention/Indicator), C (Comparison of Intervention), O (Outcome of Interest), S (Study Design)) (Table 2).

Exclusion Criteria

Articles, reviews, scale validity and reliability studies, and unpublished theses whose full text could not be accessed from databases at the time of the search, whose researchers were not nurses, or whose language was not Turkish or English, were not included in the study.

Data Sources and Searching

Searches were conducted between March and April 2024 using computer-assisted search engines. International databases PubMed, Embase, Ovid, ProQuest, EBSCOhost, ScienceDirect, and Blackwell-Synergy were searched with the key-

Table 1. Key words used in the survey

Key words in English	Key words in Turkish
"Delirium"	"Deliryum"
"Nursing "	"Hemşirelik"
"Türkiye/ Turkish"	-

Table 2. PICOS search terms used in the research

PICOS	Search terminology
P (Patient/Population/Problem	Delirium
I (Intervention/Indicator)	Nursing care
C (Comparison of Intervention)	National and International Literature
O (Outcome of Interest)	Delirium prevention approaches
	Incidences of delirium
	Delirium treatment
	Delirium level
	Knowledge levels of nurses
S (Study Design)	Randomised controlled trials
	Pre-test-post-test studies
	Experiment-control studies
	Descriptive Studies
	Qualitative studies

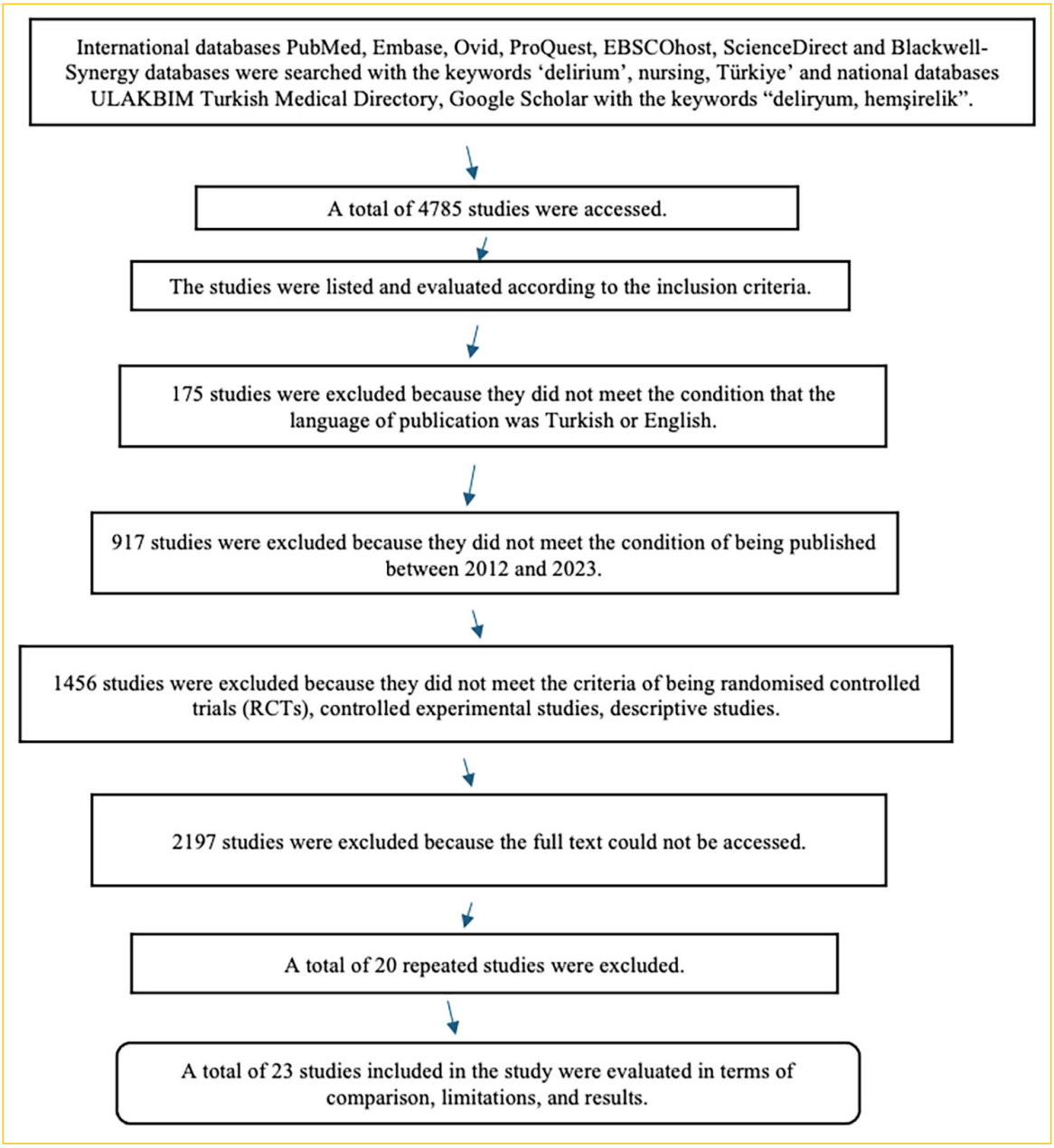

Figure 1. Preferred Reporting Items for Systematic Reviews And Meta-Analyses (PRISMA) research process flowchart.

words "delirium", "nursing", "Türkiye", and national databases ULAKBIM Turkish Medical Directory and Google Scholar were searched with the keywords "delirium, nursing". The research process (Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Flow Chart) is shown in Figure 1.

Selection of Studies

In this evaluation, two researchers conducted the searches for and selection of the studies independently. Where there was a difference of opinion regarding any study, the two researchers discussed the matter and reached a consensus. Following selection based on title, abstract, and full text, it was decided that 23 articles met the research criteria (Fig. 1).

Results

A total of 4,785 studies were identified through keyword searches. Following the initial screening process, 175 studies were excluded as they were not published in either Turkish or English. A further 917 studies were excluded because the publication date did not fall within the specified range of 2012 to 2023. Furthermore, 1,456 studies were excluded because they did not meet the criteria for randomised controlled trials (RCTs), controlled experimental studies, or descriptive studies. Finally, 2,197 studies were excluded because the full text could not be accessed. A total of 20 studies were excluded because they were duplicates. The remaining 23 studies were

subjected to a comprehensive evaluation in terms of comparison, limitations, and results (Appendix 1).

In terms of research design, the studies can be categorised as follows: 12 were descriptive, 6 were randomised controlled trials, 2 were qualitative, 2 were quasi-experimental, and 1 was designed as an observational cohort study. Examination of the units in which the studies were conducted revealed that they included anaesthesia, internal medicine, coronary care, cardiovascular surgery intensive care units, as well as orthopaedics and neurosurgery services, and post-anaesthesia care units.

The studies included in the review were published in a total of 23 different journals, seven of which were Turkish Nursing and Health journals and 16 of which were foreign publications. The sample of the first 11 studies consisted of patients, while the remaining 11 studies comprised nurses. One study included both patients and nurses in its sample. The total number of participants in the articles included in the systematic review was 1,064 for studies with nurses as the sample and 1,106 for studies with patients as the sample.

Upon analysing the studies included in the review, those with nurses as the sample were grouped under the following titles: nurses' knowledge levels, delirium management, and nurses' experience. Conversely, studies utilising patients as the sample were categorised according to the following themes: risk factors, nursing interventions, and the prevention of delirium.

Studies with a Sample of Nurses

Several studies involving nurses have provided insights into various aspects of delirium care. Topuz (2012), Korkmaz (2015), and Temiz (2021) conducted studies to evaluate nurses' knowledge of delirium. Topuz's (2012) descriptive study found that 28 nurses defined delirium correctly, and 73.2% demonstrated an understanding of the differences between delirium, depression, and dementia.[32–34] Korkmaz (2015) found that nurses received an average score of 41.18±12.50 on delirium information forms, indicating a moderate level of knowledge. Those working in intensive care, head nurses, and those who had received in-service training achieved higher scores.[33] Temiz (2021) demonstrated that nurses who had received training in delirium had significantly higher mean scores on the Delirium Knowledge Test for Intensive Care Nurses.[34]

Karabulut (2016), Çevik (2016), and Eren (2023) conducted research into the delirium management strategies employed by nurses.[35–37] Karabulut (2016) observed that 83.9% of nurses applied non-pharmacological treatment alongside additional interventions, such as massage, rhythmic breathing exercises, and music therapy. Çevik (2016) reported that 84% of nurses had received training in delirium management, and 70% found it challenging to care for patients with delirium and sought physician support.[35] Eren (2023) found that nurses demonstrated a high level of knowledge about delirium, with an average score of 44.77±9.83. Furthermore, there was a correlation between knowledge scores, personality traits, and delirium symptom management.[37]

Qualitative studies conducted by Doğan (2023) and Yılmaz (2023) focused on the experiences of nurses in delirium care.[38,39] Doğan (2023) identified six intervention themes: providing and maintaining a safe environment, communication, nutrition, movement, sleep, and dependent interventions/other.[38] These included maintaining a safe environment and addressing patient-related difficulties. Yılmaz (2023) classified nurses' experiences as relating to the identification and management of delirium, care-related difficulties, and personal and skill-related barriers.[39]

Studies with a Patient Sample

Several studies have examined the risk factors and interventions associated with delirium in different patient groups. Yaşayacak (2012), Birge (2018), Köse (2021), and Erbay (2023) investigated various aspects of delirium in their respective studies.[40–43] In a study involving 55 patients in the intensive care unit, Yaşayacak (2012) found that delirium developed in 18.2% of patients. Furthermore, the study revealed a significant relationship between delirium and visual impairment.[40] In a study involving 133 patients in a cardiology intensive care unit, Birge (2018) found that the prevalence of delirium was higher in elderly patients who received more medical intervention.[41] Köse (2021) sampled 127 neurosurgery intensive care unit patients and identified independent risk factors for postoperative delirium, including the Glasgow Coma Scale score and surgical procedures.[42] Similarly, Erbay (2023) observed a 31.8% incidence of delirium among 129 intensive care unit patients and identified significant correlations between delirium and various clinical parameters.[43]

The efficacy of various interventions to prevent delirium was examined by Kasapoğlu E (2022), Ünal (2022), Akpınar (2022), Kılıç (2022), Şanlıtürk (2023), and Çavuşoğlu (2023).[44–49] In a randomised controlled trial involving 132 intensive care unit patients, Kasapoğlu (2022) demonstrated the efficacy of multicomponent, non-pharmacological nursing interventions in reducing delirium.[44] In a study by Ünal (2022), it was found that the quality of sleep improved, and the risk of delirium decreased in patients in the intervention group who received specialised nursing care.[45] Akpınar (2022) and Kılıç (2022) demonstrated that the use of earplugs and eye masks during the night improved sleep quality and reduced the severity of delirium.[46,47] In a randomised controlled trial involving 92 intensive care patients, Şanlıtürk (2023) applied sensory stimulation and sleep hygiene interventions and found that delirium rates were significantly lower among the interven-

tion group.[48] Furthermore, Çavuşoğlu (2023) demonstrated a significant reduction in the risk of delirium compared to the control group through the implementation of environmental modifications in a quasi-experimental study involving 60 intensive care patients.[49]

Discussion

In this systematic review, 23 articles were included to examine the research conducted by nurses in Türkiye on delirium. In this discussion, the sample was categorised into two groups: patients and nurses (Appendix 1).

Studies with Nurses as Sample

The inclusion of nurses as participants in studies yielded valuable insights into their knowledge levels, management practices, and experiences in the care of patients with delirium. Topuz (2012), Korkmaz (2015), and Temiz (2021) found that nurses who received delirium training demonstrated significantly higher levels of knowledge.[32–34] Furthermore, 73–85% of them were able to distinguish between delirium, dementia, and depression. Similarly, Trogrlić. (2017) and Rowley-Conwy. (2017) reported that the average knowledge scores among nurses ranged between 42–61%, with a significant proportion having received delirium training.[50,51]

In the context of delirium management, Karabulut (2016), Çevik (2016), and Eren (2023) observed nurses implementing non-pharmacological treatments, such as massage, breathing exercises, and music therapy, in the management of pain in delirium patients. Furthermore, emphasis was placed on the significance of non-pharmacological interventions, including open communication, noise reduction, and pain management, in order to prevent the onset of delirium.[35–37]

Doğan (2023) and Yılmaz (2023) conducted qualitative studies to investigate nurses' experiences of caring for patients with delirium. The studies emphasised the importance of effective communication, the use of non-pharmacological treatments, and the necessity of policy revisions in delirium management.[38,39] The findings of Zamoscik et al.[2] and Yue et al.[28] are consistent with those of Doğan (2023) and Yılmaz (2023), emphasising the importance of communication strategies, non-pharmacological interventions, and the psychological and physiological difficulties nurses face in decision-making processes.[38,39]

Studies with Patient Sample

The results of research conducted using patient samples have yielded invaluable insights into the risk factors and preventive measures associated with delirium. The prevalence rates reported by Yaşayacak (2012), Birge (2018), Köse (2021), and Erbay (2023) indicate that delirium is a significant burden for hospitalised patients, particularly those in intensive care settings, with rates ranging from 18.2% to 31.8%. The observation that a considerable proportion of delirium cases are characterised by hypoactive delirium underscores the significance of recognising and appropriately managing this frequently under-recognised subtype.[40–43]

Furthermore, the observed relationships between delirium and high Apache II, RASS, and TISS-28 scores emphasise the clinical severity and complexity of delirium cases. These scoring systems, which reflect the physiological state and severity of the disease in patients, serve as valuable tools in identifying individuals at high risk of delirium and guiding clinical decision-making.

The increasing necessity for mechanical ventilation, sedation, and physical restraint in patients with delirium serves to highlight the clinical challenges associated with the management of this condition. These findings underscore the necessity for comprehensive and tailored approaches to delirium management that address both the underlying precipitating factors and associated complications.

Furthermore, the results of the systematic review by Zaal et al.[52] corroborate the findings of individual studies, offering valuable insights into delirium risk factors from a broader perspective. The consistent identification of factors such as the Apache II score and the use of mechanical ventilation across multiple studies serves to underline the robustness of these associations and emphasise their clinical validity.

In studies aimed at preventing the development of delirium, researchers have employed a variety of strategies, including the provision of orientation information, sleep hygiene practices (including the use of earplugs and eye patches), catheter removal, early mobilisation, noise reduction, and the use of time orientation aids. The findings of this study indicated that the interventions in question were associated with a reduced incidence of delirium and improved sleep quality, reduced agitation, and improved attention. These results are consistent with those of similar studies by Khalil et al.[53,54]

In the future, efforts to prevent the development of delirium should prioritise the implementation of evidence-based interventions aimed at addressing modifiable risk factors and optimising patient care practices. The favourable outcomes observed in studies investigating interventions such as providing directional information, sleep hygiene measures, and early mobilisation serve to illustrate the potential impact of proactive approaches in reducing the risk of delirium and improving patient outcomes.

Limitations

A limitation of this article is the potential lack of generalisability of the findings, as the review was based on studies conducted in specific clinical settings or populations and may not

be representative of broader healthcare contexts. In addition, variations in the quality of the included studies, potential publication bias favouring statistically significant results, and methodological heterogeneity between studies may affect the reliability and validity of synthesised findings. Despite efforts to search extensively for relevant studies, the possibility exists that some literature is missing, leading to incomplete coverage of the available evidence. Moreover, temporal limitations restrict the review to the literature available up to a given cut-off date, potentially excluding new developments in the field. Finally, differences in reporting quality between studies can affect the accuracy and completeness of data extraction and the risk of bias assessment.

Conclusion

In conclusion, a comprehensive review of studies focusing on delirium among both nurses and patients has illuminated various aspects of this complex clinical syndrome. A body of research conducted with nurses has highlighted the significance of three factors in optimising the care of patients with delirium. These factors are adequate information, effective management practices, and supportive interventions. Nurses play a crucial role in the detection, prevention, and management of delirium, and efforts to improve education and support systems can have a significant impact on patient outcomes.

Similarly, research on delirium risk factors and preventive interventions among patients has revealed important clinical insights. The high prevalence rates of delirium, particularly in intensive care settings, emphasise the urgent need for targeted interventions aimed at reducing risk factors and improving patient care practices. Strategies such as providing directional information, optimising sleep hygiene, and early mobilisation show promise in reducing the incidence of delirium and improving patient outcomes.

Suggestions for Future Research

Longitudinal Studies: It is recommended that future research endeavours concentrate on longitudinal studies, with the objective of enhancing comprehension of the trajectory of delirium development and its long-term effects on patients' health outcomes. Longitudinal data will provide valuable information about factors influencing the incidence, duration, and resolution of delirium over time.

Multifactorial Approaches: Given the multifactorial nature of delirium, future studies could adopt a multidisciplinary approach to investigate the interaction between various risk factors, including medical, environmental, and psychosocial factors. Understanding the complex interactions between these factors may inform the development of targeted interventions for the prevention and management of delirium.

Intervention Studies: Further research is needed to evaluate the effectiveness of new interventions in preventing and managing delirium among both nurses and patients. Randomised controlled trials that evaluate the impact of specific interventions, such as educational programmes for nurses or multicomponent interventions for patients, can provide valuable evidence to inform clinical practice.

Health System Factors: Investigating the impact of health system factors, such as staffing levels, workload, and organisational culture, on the prevention and management of delirium can shed light on system-level strategies to improve patient outcomes. Understanding how organisational factors influence delirium care delivery can inform policy and practice initiatives aimed at improving patient safety and quality of care.

In summary, ongoing research efforts aimed at improving our understanding of delirium among both nurses and patients are essential to improve clinical practice and optimise patient outcomes in a variety of healthcare settings. By prioritising research in this area, we can advance our knowledge, improve clinical approaches, and ultimately enhance the quality of care for individuals affected by delirium.

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Appendix 1. Synthesis of included articles					
Title of the study	**Objective**	**Design**	**Sample size**	**Material and method**	**Conclusion**
Studies whose sample is nurses					
In Intensive Care Units of a University Hospital Knowledge Levels of Working Nurses about Delirium **(Topuz et al., 2012)** [32]	Determination of the knowledge levels of nurses working in intensive care about delirium	Descriptive	Eighty-five nurses working in intensive care units of a university hospital	The questionnaire form prepared by the authors by referring to the literature on the subject	Twenty-eight of the nurses participating in the study correctly defined delirium. 73.2% of the nurses stated that they knew the difference between depression, delirium, and dementia.
Knowledge Levels of Cardiovascular Surgery Nurses About Delirium **(Demir Korkmaz et al., 2015)** [33]	To identify the level of knowledge of cardiovascular surgery nurses about delirium	Descriptive	Ninety-seven nurses working in the cardiovascular surgery intensive care unit of a private hospital in two different cities	The data were collected by using a questionnaire form showing the demographic characteristics of the nurses and an information form including the level of knowledge of the nurse about delirium.	When the scores obtained from the information form about delirium were analysed, the lowest score was zero, the highest score was 60, and the mean score was 41·18±12·50 (moderate level of knowledge). It was found that nurses working in intensive care units, head nurses and those who received in-service training received higher scores than the others.
Delirium Assessment in Intensive Care Units: Practices and Perceptions of	To determine the current practices and perceptions of intensive care nurses regarding delirium	Descriptive, correlational	A total of 131 nurses were employed in five	Data collection form developed by the researchers	More than half of the nurses performed delirium assessments. However, the ratio of nurses using delirium assessment tools is quite low. All the nurses perceived

Nurses **(Özbasan et al., 2015)** [58]	assessment and to examine the factors affecting these practices and perceptions		public hospitals in the same city.		delirium as a problem and a fundamental problem for ICU patients.
Nursing Management of Delirium in Post-Anaesthesia Care Unit and Intensive Care Unit **(Karabulut et al., 2016)** [35]	To examine nurses' approaches to the care of patients with postoperative delirium in the post anaesthesia care unit and intensive care unit	Descriptive	Eighty-seven nurses working in a training and research hospital	Data collection form developed by the researchers	83.9% of nurses reported pharmacological treatment, 39.1% massage, 31.0% rhythmic breathing exercise and 26.4% music therapy in the treatment of pain in delirium patients. 90.8% of nurses stated that they reduced noise and lighting at night to ensure normal sleep patterns.
Nurses Working in Intensive Care Unit About Delirium Management Determination of Awareness **(Çevik et al., 2016)** [36]	Determination of awareness of nurses working in intensive care unit about delirium management	Descriptive	One hundred nurses working in the Internal and Surgical Intensive Care Units of a University Hospital	The data of the study were collected using the data collection form prepared by the researchers by analysing the relevant literature.	It was observed that nurses considered delirium seen in intensive care patients as an important and serious health problem, but they were inadequate in delirium management and necessary precautions to be taken.

Problems Encountered in Intensive Care Nurse-Patient Communication: Polish and Turkish Examples **(Yaman Aktaş et al., 2017)** [59]	To determine the problems related to nurse-patient communication in intensive care unit (ICU)	Descriptive	Fifty intensive care nurses in Poland and fifty-two intensive care nurses in Türkiye participated in the study.	A questionnaire form prepared by the researchers	In this study, 46% and 42.3% of nurses in Poland and Türkiye, respectively, reported communication problems with patients. In addition, it was found that nurses in Poland used therapeutic touch (80%) and nurses in Türkiye used facial expression (90.4%) for non-verbal communication.
Evaluation of Delirium Knowledge Levels of Intensive Care Nurses **(Temiz et al., 2021)** [34]	To determine the level of delirium knowledge of intensive care nurses	Descriptive	One hundred and seventy-four nurses working in intensive care units	Nurse diagnostic form and Delirium Knowledge Test for Intensive Care Nurses	The mean score of the Delirium Knowledge Test for Intensive Care Nurses (DKT-ICN) was 16 (0-21). The mean score of the knowledge test of the nurses who received training about delirium was found to be significantly higher.
The effect of delirium information training given to intensive care nurses on patient care: a quasi-experimental study **(Yıldırım et al., 2022)** [57]	To examine the effect of delirium information training given to intensive care nurses on patient care	Quasi-experimental	Thirty nurses working in four intensive care units of a university hospital	Personal Information Form, Patient Care in Delirium Checklist and Intensive Care Unit Confusion Assessment Scale were used to collect the data.	It was determined that providing delirium information training to intensive care nurses positively affected the care of patients with delirium. In addition, it was determined that nurses were able to provide the care they needed to patients at risk for delirium by defining delirium with the Intensive Care Unit Confusion Assessment Scale.

Experiences of Surgical Intensive Care Nurses Regarding Delirium: A Phenomenological Study **(Doğan et al., 2023)** [38]	To reveal the perceptions and care practices of nurses working in surgical intensive care units towards delirium by in-depth interviews	A Qualitative Research in Phenomenological Design	Twenty nurses working in surgical intensive care units and caring for patients previously diagnosed with delirium.	Semi-structured interview form	The interventions applied by nurses while caring for the patient with delirium were divided into six themes: providing and maintaining a safe environment, communication, nutrition, movement, sleep and dependent interventions/other. In addition, the difficulties experienced by nurses while caring for the patient with delirium were divided into three themes: patient-related, systemic, and individual difficulties.
Intensive Care Nurses' Knowledge about Delirium Evaluation of Knowledge and Approaches: Qualitative Study (**Yılmaz et al., 2023)** [39]	To evaluate the knowledge and approaches of intensive care nurses about delirium	Qualitative Study	Fifteen nurses working in internal medicine, surgery, neurology, and coronary intensive care units.	Semi-structured interview form	Defining delirium, managing delirium, problems in care, experiencing physical and mental problems, and lack of knowledge and skills (five themes)
Delirium Awareness and Management in terms of Personality Characteristics of Nurses Working in Intensive Care Units **(Eren et al., 2023)** [37]	To determine the awareness and management of delirium in terms of personality traits of nurses working in intensive care units	Descriptive	Eighty-four nurses in adult intensive care units	Data collection form, Nurses' Level of Knowledge about Delirium Form and Five Factor Personality Traits Questionnaire	A negative correlation was found between nurses' delirium definition knowledge scores and extraversion personality trait; a positive significant relationship was found between delirium symptom/symptom scores and conscientiousness, agreeableness and five factor personality total

					scores. In addition, a positive significant relationship was found between delirium management scores and conscientiousness, emotional inconsistency and five-factor personality total scores, and a positive significant relationship was found between delirium total knowledge scores and conscientiousness personality traits.
Studies with patient samples					
Determination of delirium and risk factors in patients hospitalised in cardiovascular surgery intensive care unit **(Yaşayacak et al., 2012)** [40]	Determination of delirium and risk factors in patients hospitalised in cardiovascular surgery intensive care unit (ICU)	Descriptive	Fifty-five patients hospitalised in the intensive care unit of a university hospital	Glasgow coma scale, Richmond agitation sedation scale (RASS), acute physiology and chronic health evaluation (APACHE2), simplified treatment approaches scoring system	It was determined that 18.2% (n=10) of the patients developed delirium, 80% of the patients who developed delirium were hypoactive type, and APACHE II, RASS, TISS-28 scores from intensive care scores increased in the group who developed delirium.
The relationship between delirium and risk factors and nursing workload in cardiology intensive	To evaluate the relationship between delirium and risk factors and nursing	Cross-sectional / Descriptive	One hundred and thirty-three patients in the cardiology	Patient Information Form, Delirium Risk Factors Form and Therapeutic Intervention Scoring	It was found that the presence of delirium and delirium risk

care unit patients **(Öztürk Birge et al., 2018)** [41]	workload in cardiology intensive care unit (ICU) patients.		intensive care unit of a university hospital	System-28 (TISS-28) scale to determine the workload of the nurse	factors increased the workload of the nurse.
Prevalence of Postoperative Delirium and Affecting Factors in Neurosurgical Intensive Care Unit **(Kose et al., 2021)** [42]	To determine the prevalence and factors affecting postoperative delirium (POD) in patients in neurosurgical intensive care unit	Cross-sectional / Descriptive	One hundred and twenty-seven neurosurgical intensive care unit patients.	Patients evaluated for the development of post-operative delirium using the Intensive Care Delirium Screening Checklist.	Among one hundred and twenty-seven intensive care unit patients, post operative delirium was found in 24 patients. It was statistically significant.
The Role of Multicomponent Non-Pharmacological Nursing Interventions in the Prevention of Delirium: A Randomised Controlled Study **(Kasapoğlu et al., 2022)** [44]	To compare the effects of multicomponent-non-pharmacological nursing interventions on delirium	Randomised controlled trials	132 patients in an intensive care unit	Patients in group 1 were made to listen to orientation messages recorded in the voice of a non-family member (10 minutes), read the newspaper, and wore an eye patch at night. Group 2 received the same interventions as group 1, except that the orientation messages were recorded in the voice of a family member. The control group received standard care.	A significant difference was found between the 3 groups. When group 1 and group 2 were compared with the control group, a significant difference was found between group 2 and the control group ($p<0.05$). Multicomponent non-pharmacological nursing interventions were found to reduce

					delirium in critically ill patients.
Evaluation of the effectiveness of a delirium prevention care protocol in patients with hip fracture: A randomised controlled trial (**Unal et al., 2022)** [45]	Investigation of the effectiveness of delirium prevention care protocol on pain, functional status, sleep quality and delirium prevention in patients with hip fracture	Randomised controlled trials	84 patients who were admitted to the orthopaedic ward	The intervention group (n=41) received nursing care according to the protocol and the control group (n=43) received standard nursing care. Study data were collected using demographic information form, Confusion Assessment Method-Intensive Care Unit (CAM-ICU), Barthel Index, Mini Nutritional Assessment-short form, and Richards-Campbell Sleep Questionnaire (RCSQ). Patients' pain was assessed using the Visual Analogue Scale (VAS).	The sleep quality of the patients in the intervention group was significantly better than that of the control group for all three-time measurements ($p < 0.05$ for each).
The Effect of Ear Plugs/Eye Mask on Sleep and Delirium in Intensive Care Patients **(Akpinar et al., 2022)** [46]	To investigate the effects of overnight use of ear plugs and eye masks on sleep quality and delirium in intensive care patients.	Randomised controlled trials	42 patients in the experimental group and 42 patients in the control group, a total of 84 intensive care patients.	Patients in the experimental group used earplugs and eye masks throughout the night, while those in the control group received only routine care. Data were collected using an information form, Richards-Campbell sleep questionnaire (RCSQ) and	Earplugs and eye masks used overnight by intensive care patients were associated with an increase in sleep quality and a decrease

				intensive care delirium screening checklist (ICDSC).	in the degree of delirium.
Incidence, characteristics, and risk factors of delirium in intensive care unit: An observational study **(Erbay et al., 2022)** [43]	To investigate the incidence, characteristics, and risk factors of delirium in ICU.	An observational cohort studies.	**129 intensive care patients**	Patients were assessed twice daily using the RASS and CAM-ICU scales.	The incidence of delirium was 31.8%, while the hypoactive type (41.5%). Patients with delirium had significantly higher APACHE-II, SOFA and CPOT scores, higher blood urea levels, higher requirements for mechanical ventilation, sedation and physical restraints, longer ICU stays and higher mortality than those without delirium.
Determination of delirium and risk factors in intensive care unit **(Bahar et al., 2023)** [55]	The aim of this study was to increase nurses' awareness of delirium risk factors, to gain competence in the use of the Nursing Delirium Screening Scale (Nu-DESC) and to improve quality of	Descriptive, correlational	55 patients in an intensive care unit	Personal Information Form, Richmond Agitation and Sedation Scale, Glasgow Coma Scale and Nu-DESC.	Most patients (89%) showed anxiety and agitation symptoms, age and day of delirium detection were significantly correlated with Nu-DESC, and the need for isolation,

	care through early detection of delirium in intensive care patients.				ventilator support and pain were identified as risk factors.
The effect of eye mask and earplugs in preventing delirium in intensive care unit patients: A single-blind, randomised, controlled study **(Kiliç et al., 2022)** [47]	To investigate the effect of eye mask and ear plugs in preventing delirium in intensive care units (ICU).	A randomised, controlled, single-blind intervention study	60 patients (30 in the intervention group and 30 in the control group)	Nursing Delirium Screening Scale, Richard-Campbell Sleep Scale, and daily follow-up form	Ear plugs and eye masks used by intensive care patients during the night were found to be effective in improving sleep quality and preventing delirium.
Delirium of Cognitive Stimulus and Sleep Hygiene in COVID-19 Intensive Care Patients Preventive Effect **(Şanlıtürk et al., 2023)** [48]	To evaluate the effect of a two-component intervention including sensory stimulation and sleep hygiene on reducing the development of delirium in intensive care unit (ICU) (COVID-19) patients	Randomised controlled trials	43 patients in the intervention group and 49 patients in the control group	Personal data collection form, CAM ICU, RASS, GKS were used. Sensory stimulation and sleep hygiene interventions were applied to the patients in the intervention group according to the Nursing Model Based on Life Activities.	There was no statistically significant difference between the experimental and control group patients in terms of demographic and treatment characteristics, vital and arterial blood gas values ($p>0.05$). After the intervention, 56% of the patients in the experimental group and 80% of the patients in the control group developed delirium and the

					difference was statistically significant.
The Effect of Environmental Changes in Preventing Delirium in Elderly Patients in the Intensive Care Unit: A Non-Randomised Controlled Study **(Çavuşoğlu et al., 2023)** [49]	To examine the effect of environmental changes on the prevention of delirium in elderly patients in the intensive care unit	A non-randomised independent two-group quasi-experimental study	The sample consisted of 60 patients who met the inclusion criteria.	Patient information form, GCS, RASS, CAM ICU were used. In the intervention group (30 patients), the sound level of the environment was improved, bright light, a written calendar and clock were used, and they were allowed to use their glasses or hearing aids if they had them.	The risk of developing delirium was 2.32 times higher in the control group compared to the intervention group and this was statistically significant.
Studies with Nurses and Patients as Sample					
The effect of nonpharmacological approach training on intensive care nurses' recognition and handling of delirium **(Öztürk Birge et al., 2017)** [56]	To investigate the effect of nonpharmacological intervention training on delirium recognition and intervention strategies of intensive care unit (ICU) nurses	Quasi-experimental	The sample consisted of 95 patients hospitalised in the chest diseases intensive care unit of Gazi University Hospital and 19 employees.	Patient-nurse introduction form, ICU-confusion assessment scale, delirium risk factors, and information assessment form about delirium were used.	Delirium was detected in 26.5% and 20.9% of patients before and after training, respectively. Patients with delirium had longer ICU stays, lower Glasgow Coma Scale mean scores, and more drugs were used in daily treatment ($p < 0.05$). The risk of delirium increased

					8.5-fold with physical restraint and 3.4-fold in the presence of hypo/hypernatremia. The rate of nurses recognising delirium increased from 7.7% to 33.3% in the post-training period.

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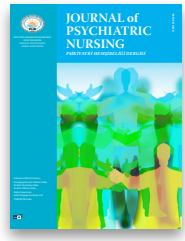

Systematic Review

Stigma perceptions and associated factors among caregivers of individuals with dementia: A systematic review of quantitative studies

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Abstract

Objectives: This systematic review aims to investigate studies on stigma perceptions and associated factors among caregivers of individuals diagnosed with dementia (IWD).

Methods: Studies published between January 2000 and July 2024 were searched in PubMed, Web of Science, Scopus, and EBSCO. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were followed for the search and review process. A total of 933 studies were identified through database searching, and 12 studies were included in this review, comprising 3,467 participants. A narrative synthesis was used to describe the included studies in terms of year, title, country, aim, participants, caregivers' relationship to the individual diagnosed with dementia, type of dementia, data collection methods, scales used, research design, analytical methods, and research findings.

Results: The findings indicated that stigma is associated with caregiver burden, emotional expressiveness, quality of life, anxiety, and psychological well-being. Regarding demographic variables, gender, age, education level, closeness to the individual diagnosed with dementia, and income level were found to be associated with stigma. For individuals with dementia, having frontotemporal dementia, a longer duration of dementia, and the presence of behavioral symptoms were associated with higher levels of stigma. It was also observed that caregivers taking breaks during caregiving had negative effects in terms of stigma.

Conclusion: These findings suggest that stigma is a multifaceted phenomenon influenced by both individual and contextual factors. Addressing stigma through targeted interventions, awareness campaigns, and culturally sensitive strategies is essential to improve caregivers' mental well-being and strengthen support systems. Future research would benefit from focusing on longitudinal and intervention studies to better understand the development of stigma over time and to design effective approaches to mitigate its impact.

Keywords: Dementia; family caregivers; stigma; systematic review

It is stated that there were 55 million individuals diagnosed with dementia (IWD) worldwide in 2020, and this number is estimated to double every 20 years.[1] Dementia is an umbrella term that includes many diseases affecting memory, thinking, and an individual's ability to perform daily activities. Although there are different types of dementia, such as vascular dementia, frontotemporal dementia, and dementia with Lewy bodies, Alzheimer's disease is reported to be the most common type.[2] As stated, dementia is a disorder in which individuals experience difficulties in maintaining their daily lives.[2] These difficulties create a need for a caregiver for IWD.[3] Caregivers of IWD provide care both because of this need and because they perceive caregiving as their responsibility and wish to remain close to the individual diagnosed with dementia.[4] Caregiving is defined as experiences that include helping and supporting the care recipient in tasks they are unable to perform.[5] In addition

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to individuals who provide caregiving as a profession, there are also informal caregivers. Informal caregiving is defined as providing care to relatives in need within existing relationships, including family members, friends, or neighbors. It is stated that the majority of informal caregivers provide care without receiving any payment for this activity.[6] Informal caregivers are examined in three groups according to their degree of closeness: spouse/partner, adult child, and others. The "others" group includes siblings, friends, and children-in-law.[7] In the remainder of this study, the term caregiver refers to informal caregivers.

Caregivers provide many services to IWD, such as assisting with eating, dressing, bathing, and toileting,[8] accompanying them to medical appointments, and managing their personal and financial affairs.[9] As dementia progresses, the hours devoted to caregiving increase,[10] and caregivers may experience difficulties meeting even their own basic needs.[11] These challenges also cause caregivers to experience stress.[12] In addition to the practical difficulties of caregiving, having a relative diagnosed with dementia[13] and witnessing the gradual deterioration of their abilities pose significant emotional challenges for caregivers.[14] All of these factors can negatively affect caregivers. Studies have shown that caregivers of IWD experience various psychological problems, including depression, anxiety, and somatization.[15,16]

In addition to psychological distress, caregivers of IWD also report caregiver burden.[17] It has been stated that this burden increases further when IWD display rude, inappropriate, or unusual behaviors in the presence of people who are unaware of their illness. IWD may exhibit disruptive behaviors such as aggression and screaming.[18] When the cause of these behaviors is not recognized by others as dementia-related, such situations can be particularly challenging for caregivers and may lead them to feel stigmatized. Stigma is defined as "an attribute that is deeply discrediting," and it has been stated that stigma can be directed toward demographic characteristics (e.g., race, gender, age), physical or bodily characteristics, and individual flaws, such as mental disorders or criminal behavior.[19] Studies have shown that IWD report experiencing stigma and being treated negatively.[20] In fact, it has been reported that professionals working in this field may have difficulty disclosing the diagnosis because of stigma.[21]

When studies on stigma are examined, it is evident that stigma is not directed solely at individuals with the disorder. Negative societal attitudes toward people who are close to individuals with a disorder are referred to as courtesy stigma. In addition to courtesy stigma, individuals close to a person with a disorder may also experience associate stigma and affiliate stigma. Associate stigma reflects caregivers' perceptions of negative social attitudes, whereas affiliate stigma is defined as the internalization of these negative societal attitudes by caregivers.[22,23] In some studies, the terms stigma by association, associative stigma, and courtesy stigma are used interchangeably.[24,25]

What is presently known on this subject?

- It is known that the stigma associated with a disorder is not only perceived by individuals with the disorder themselves but also by those close to them. In other words, caregivers can also experience stigma, and this stigma is associated with various psychological problems.

What does this article add to the existing knowledge?

- Although there are studies addressing the stigma experienced by caregivers of individuals diagnosed with dementia, review studies in this area appear to be limited.

What are the implications for practice?

- Identifying variables associated with stigma can provide a foundation for the development of stigma-related interventions.

Studies conducted with caregivers of IWD have shown that caregivers experience both courtesy stigma[26] and affiliate stigma,[27] and that stigma is associated with various forms of distress, including caregiver burden, stress, depression, and anxiety.[27–29] It has also been stated that stigma reduces the likelihood that caregivers will participate in interventions aimed at reducing caregiver burden.[30] Moreover, stigma-related distress affects both the care provided and the interaction with the individual diagnosed with dementia. For example, distress associated with stigma has been shown to negatively influence caregiving practices.[31] In addition, negative emotions arising from stigma may alter caregivers' attitudes toward IWD, leading to reduced communication and social interaction.[22]

When recent review studies on stigma among caregivers are examined, it is observed that reviews have focused on stigma experienced by caregivers of individuals diagnosed with autism,[32] epilepsy,[33] psychological disorders,[34] and schizophrenia.[35] Although researching stigma in dementia has been identified as a priority in the context of caregivers of IWD,[36] studies in this area remain limited. This study aims to draw attention to this gap in the literature and to create a foundation for future research by reviewing existing studies. Accordingly, the purpose of this systematic review is to synthesize existing evidence on stigma perceived by caregivers of IWD and to identify associated factors. By examining these factors, the study aims to provide insights that can inform the development of targeted interventions, awareness campaigns, and culturally sensitive strategies. Ultimately, this knowledge may help improve caregivers' psychological well-being, enhance the quality of care provided to IWD, and reduce the negative impacts of stigma on both individuals with dementia and their families.

Materials and Method

Search Strategy

In this study, a systematic review was conducted to synthesize studies on stigma perceived by family caregivers of individu-

als with dementia (IWD). In July–August 2024, searches were conducted for studies published between 2000 and 2024 using the keywords "dementia caregiver" and "stigma". Searches were performed in the PubMed, Web of Science, Scopus, and EBSCO databases.

Inclusion and Exclusion Criteria

Studies published between January 2000 and July 2024 were screened. The inclusion criteria were:

1. **Language:** Articles written in English;
2. **Population:** Family caregivers of individuals diagnosed with dementia;
3. **Intervention, comparator, and outcome:** Studies that investigated stigma as a main variable;
4. **Study design:** Quantitative design.

The exclusion criteria were:

1. **Article types:** Non-research papers (dissertations, conference papers, reviews, scale adaptation studies);
2. **Population:** Studies in which participants were not family caregivers;
3. **Main topic:** Studies that did not consider stigma as a key variable.

Screening Procedure and Data Extraction

The author removed duplicates. Subsequently, the titles and abstracts of the retrieved studies were screened. Based on the title and abstract screening, studies eligible for full-text review were identified. Following full-text assessment, eligible papers were determined.

Data from each study were extracted by the author. Extracted data included the author(s), year, title, country, aim, participants, caregivers' relationship to the individual diagnosed with dementia, type of dementia, data collection methods, scales used, research design, analytical methods, and research results.

Statistical Analysis

Although only quantitative studies were included, substantial heterogeneity across studies was observed. Studies differed in several aspects, including the closeness of the caregiver to the IWD, the type of dementia, the scales used, and the variables examined. This heterogeneity made meta-analysis difficult; therefore, narrative synthesis was considered appropriate for examining stigma and associated variables.[37] Descriptive analyses of sample characteristics were performed using SPSS 24.0.

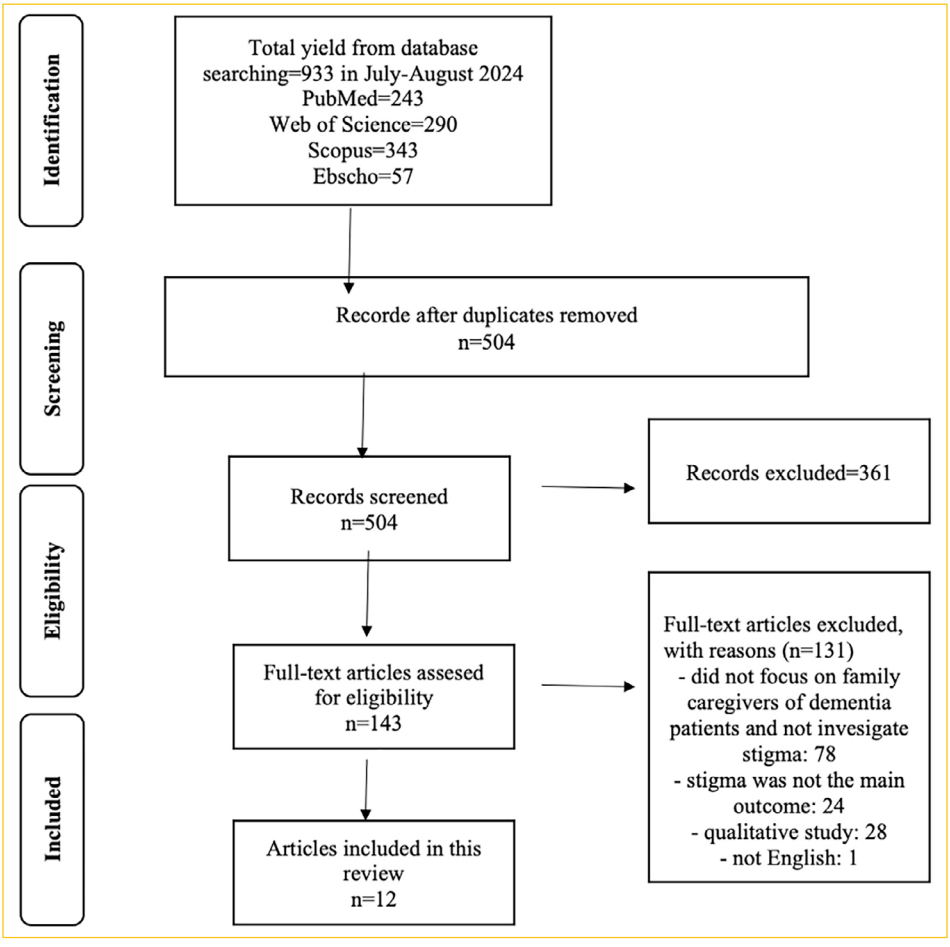

Figure 1. Inclusion PRISMA flow diagram.

Table 1. A summary of key features of incorporated studies

Country	n	Country	n
Israel	1	Patient's diagnosis	
United States	3	Dementia	7
Iran	1	Alzheimer	4
South Korea	1	Alzheimer's or other forms of dementia	1
Taiwan	2	Alzheimer's disease and related dementia	1
Belgium	1	Frontotemporal dementia	2
Colombia	1	Vascular dementia	1
China	1	Lewy body dementia	1
Malaysia	1	Mixed type dementia	1
Year		Sample size	
2012	1	<100	1
2016	1	101–200	4
2018	2	201–300	4
2020	2	301–400	1
2022	2	601–700	1
2023	3	701–800	1
2024	1	Data collection	
Study design		Online	3
Cross-sectional	11	Face to face	7
Longitudinal	1	Phone or mail	1
		Phone	1

Study Selection

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were followed for the search and review process.[38] The initial search yielded 933 articles, of which 429 duplicates were removed. The author screened the titles and abstracts of the remaining 504 articles according to the inclusion and exclusion criteria. After title and abstract screening, an additional 361 articles were excluded: 161 were non-research articles, 189 did not address stigma and did not include family caregivers of individuals with dementia, 2 were not written in English, 4 lacked author names and abstracts, and 5 were scale adaptation studies. The remaining 143 full-text articles were assessed for eligibility, and 12 articles met the inclusion criteria. These 12 articles were included in the review (Fig. 1).

Results

Twelve studies met the eligibility criteria and were included in this review. The characteristics and outcomes of these studies are presented in Tables 1, 2, and 3.

Characteristics of Included Studies

The 12 studies examined were conducted between 2012 and 2024 in Israel,[39] the United States,[40–42] Iran,[43] South Korea,[44] Taiwan,[27,45] Belgium,[24] Colombia,[46] Malaysia,[47] and China.[48]

Study Design and Methods

All twelve included studies were quantitative. Eleven studies used a cross-sectional design, and one study used a longitudinal design.

Sample Characteristics

The number of participants in the 12 included studies ranged from 82 to 727, with a total of 3,467 participants. Of these participants, 2,101 were female and 1,340 were male. The mean age of all participants was 48.39 years. When participants were evaluated in terms of their relationship to the care recipient, closeness information was unavailable in one study, whereas it was reported in 11 studies. Among these, 620 participants reported being the partner or spouse of the individual receiving care, and 2,082 reported being the children of individuals with dementia. In addition to spouses and children, caregivers also included siblings, grandchildren, children-in-law, nephews, friends, and neighbors. The diagnoses of individuals receiving care were also examined. Dementia was addressed in general terms in six of the twelve studies. One study focused exclusively on caregivers of individuals diagnosed with Alzheimer's disease, whereas the remaining studies included caregivers of individuals with various types of dementia.

Stigma Variables

All included studies addressed the concept of stigma; however, the way stigma was conceptualized varied. Of the twelve

Table 2. Features of incorporated studies

No	Author, year	Country	Aim of the study	Participants	Caregiver type	Dementia type
1	Werner et al., 2012[39]	Israel	To understand the predictor role of family stigma in caregiver burden	185 adult child caregivers of persons with Alzheimer's disease	Adult child caregiver	Alzheimer
2	Kahn et al., 2016[40]	USA	To investigate the caregiver stigma and burden in terms of caregiver type and gender	82 caregivers of persons with dementia	Spousal caregivers and adult child caregivers	Alzheimer, dementia, not diagnosed, or other, missing
3	Saffari et al., 2018[43]	Iran	To investigate the roles of spiritual coping and stigma related family stress on the relationship between patients' activities of daily living impairment and caregiver mental health	664 caregivers of persons with dementia	Spouse, child, others	Dementia
4	Weisman de Mamani et al., 2017[41]	USA	To investigate the mediator role of expressed emotion on the relationship between stigma and quality of life.	106 dementia caregivers	Adult children, spouses, grandchildren, nieces/ nephews, children in law, siblings	Dementia
5	Jeong et al., 2020[44]	South Korea	To investigate the moderator role of family caregivers' affiliate stigma on information cross-checking, coping efficacy and coping outcomes.	226 family caregivers of patients with dementia	Spouses, children, related in some other way	Alzheimer's or other forms of dementia
6	Su & Chang, 2020[27]	Taiwan	To understand the relationship between caregiver burden and affiliate stigma and explore the factors associated with affiliate stigma	270 caregivers of people with dementia	Parent, spouse, child, and other	Dementia
7	Van den Bossche & Schoenmakers, 2022[24]	Belgium	To explore the effect of the affiliate stigma on caregivers' well-being	228 relatives caring for a person with dementia	Partner, sibling, parent, grandparent, aunt/uncle, friend/neighbor, no data	Dementia
8	Velilla et al., 2022[46]	Colombia	To explore the effect of family stigma and socioeconomic factors on psychological outcomes, quality of life and care burden	150 caregivers of patients with early-onset and late-onset Alzheimer's disease, and frontotemporal dementia	No information	Alzheimer's disease and frontotemporal dementia
9	Ellin et al., 2023[47]	Malaysia	To explore the association between affiliate stigma and psychological well-being.	178 caregivers of patients with dementia	Mother/father, spouse, and relative	Alzheimer's Disease, Vascular, Frontotemporal, Lewy Body dementia, Mixed type dementia, not identified
10	Hu et al., 2023[45]	Taiwan	To suggest a model showed the associations between affiliate stigma, caregiver burden, psychological distress and quality of life	275 family caregivers of people living with dementia	Spouse, children, others	Dementia
11	Schlag & Vangelisti, 2023[42]	USA	To investigate the effect of family stigma on the relationship between behavioral symptoms of patients and caregiver burden and the prediction of direct support in the relationship between caregiver burden and well-being.	375 family caregivers of patients with Alzheimer's disease and related dementias	Spouse, parent, other (e.g. grandparent, aunt, uncle), declined to respond	Alzheimer's disease and related dementias
12	Shi et al., 2024[48]	China	To investigate factors, affect the levels of perceived affiliate stigma	727 dementia family caregivers	Spouse, children, relatives	Dementia

Table 3. Methods and results of incorporated studies

No	Author, year	Data collection method	Instruments	Design	Analysis	Results
1	Werner et al., 2012[39]	Face to face	Zarit Burden Interview Short Form, Family Stigma in Alzheimer's Disease Scale, Problematic Behavior Scale	Cross-sectional	Descriptive statistics, Spearman correlations, Hierarchical multiple regression	Caregiver burden was found to be predicted by family stigma.
2	Kahn et al., 2016[40]	Phone or mail	Zarit Burden Inventory Short Form, Caregiver Section of the Family Stigma in Alzheimer's Disease Scale	Cross-sectional	Spearman's rank order correlation, independent t-tests, Pearson's chi-square tests, Fisher exact tests	Stigma was found to be correlated with caregiver burden. Female caregivers showed more stigma and burden as compared to male caregivers. Adult child caregivers presented to have more burden than spousal caregivers.
3	Saffari et al., 2018[43]	Face to face	Zarit Burden Interview, Spiritual Coping Strategies Scale, Lawton Instrumental Activities of Daily Living Scale, Short Form 12, Mini Mental State Examination, Hospital Anxiety and Depression Scale, and Family Stigma Stress Scale	Longitudinal	Descriptive statistics, Bivariate Pearson' correlations, Serial mediation analysis	The relationship between patient instrumental activities of daily living impairment and caregiver psychological health was mediated by spiritual coping and stigma-related stress
4	Weisman de Mamani et al., 2017[41]	Phone	The Clinical Dementia Rating Scale, 20-item Family Questionnaire, Quality of Life Inventory, Stigma Impact Scale	Cross-sectional	Pearson correlation coefficients, t-tests, ANOVA, PROCESS macro for mediation analysis	There is a positive relationship between caregiver stigma and emotional expressiveness, while caregiver stigma was negatively correlated with quality of life. Expressed emotion mediated the relationship between stigma and quality of life.
5	Jeong, Kim, & Kim, 2020[44]	Face to face	Information cross-checking with doctors, modified form of Emotion-focused coping scale, Affiliate stigma, modified form of Physical Coping Outcome Scale	Cross-sectional	Pearson's correlation, PROCESS macro for mediation and a moderated mediation	Low affiliate stigma was found to have moderator role in coping efficacy on the association between information cross-checking and dementia patients' health outcomes.
6	Su & Chang, 2020[27]	Face to face	Caregiver Burden Inventory, Affiliate Stigma Scale, Taiwanese Depressive Questionnaire, Beck Anxiety Inventory, Neuropsychiatric Inventory, Barthel Index, Clinical Dementia Rating, and Mini-Mental Status Examination	Cross-sectional	Hierarchical regression model	Age, dependence in daily activities, anxiety and care burden was found to be related with affiliate stigma.
7	Van den Bossche & Schoenmakers, 2022[24]	Online	The Affiliate Stigma Scale, the Patient Health Questionnaire – 9, 20-item Center for Epidemiologic Studies Depression Screening	Cross-sectional	Descriptive analyses, General Linear Model	Being women, having higher education, and being partner were found to affect affiliate stigma on mental well-being. Affiliate stigma was affected by the duration of dementia and the age of the caregiver.
8	Velilla et al., 2022[46]	Face to face	Interview for socioeconomic factors, Affiliate Stigma Scale, Functional Assessment Staging, The Frontal Behavioral Inventory, The Zarit Burden Interview, Center for Epidemiologic Studies Depression Scale, State-Trait Personal Inventory, QoL 36-Item Short Form	Cross-sectional	ANOVA, chi-squared tests, MANCOVA	Caregivers of early-onset dementia patients showed greater socioeconomic risk factors. Caregivers of patients with frontotemporal dementia were found to have higher levels of family stigma and higher prevalence of negative outcomes. Family stigma was most important risk factor for caregiver burden and quality of life.

Table 3. Cont.

No	Author, year	Data collection method	Instruments	Design	Analysis	Results
9	Ellin et al., 2023[47]	Face to face	21-item Affiliate Stigma Scale, Scale of Psychological Well-Being	Cross-sectional	T-test, ANOVA, Mann-Whitney U test, Kruskal-Wallis's Test, Hierarchical multiple linear regression	Income and gender were related to affiliate stigma was associated with psychological well-being. Affiliate stigma was found to be strongest predictor of psychological well-being.
10	Hu et al., 2023[45]	Face to face	Caregiver Burden Inventory, World Health Organization QoL Questionnaire-Brief, Affiliate Stigma Scale, an Beck Anxiety Inventory, and Taiwan Depression Questionnaire	Cross-sectional	Descriptive statistics, Pearson correlations, Structural Equation Model	Affiliate stigma was negatively related to quality of life, while affiliate stigma was positively related to caregiving burden. Caregiving burden and psychological distress sequentially mediated the relationship between affiliate stigma and quality of life.
11	Schlag & Vangelisti, 2023[42]	Online	Revised Memory and Behavior Problems Checklist, Items adapted from the Family Stigma in AD Scale, the Zarit Burden Interview Short Form, Support Seeking, The Warwick-Edinburgh Mental Well-Being Scale	Cross-sectional	Path analysis	Caregiver and layperson stigma were predicted by behavioral symptoms. Caregiver burden and well-being relationship was mediated by direct support seeking.
12	Shi et al., 2024[48]	Online	Demographic questionnaire, Affiliate stigma scale, Caregiver burden inventory	Cross-sectional	Descriptive analysis, independent sample t-test, one way analysis of variance, Pearson correlation analysis, Multiple linear regression	Having regular breaks during patient care, time-dependent, developmental, physical and social burden were found to be associated with affiliate stigma.

studies, six examined affiliate stigma, three examined family stigma, one examined caregiver stigma, one examined stigma stress, and one examined perceived stigma. Affiliate stigma was measured using the Affiliate Stigma Scale,[22] while the Affiliate Stigma Scale (ASS) was used in one study examining family stigma. The remaining two studies examining family stigma used the Family Stigma–Alzheimer's Disease Scale (FS-ADS).[49] Caregiver stigma was measured using the Caregiver Section of the Family Stigma–Alzheimer's Disease Scale (FS-ADS-C).[49] Stigma stress was measured with the Family Stigma Stress Scale (FSSS),[50] and perceived stigma was measured using the Stigma Impact Scale.[51] Although the same instruments were used across multiple studies, the scales were applied in versions adapted to the countries in which the studies were conducted. Regarding administration methods, scales were administered face-to-face in seven studies, online in three studies, by telephone in one study, and via telephone or e-mail in one study.

Variables Addressed in Studies

When the variables examined alongside stigma in the reviewed studies are evaluated, it is observed that demographic variables, mental well-being, caregiver burden, behavioral problems, spiritual coping, functional status, health-related quality of life, cognitive functioning, anxiety, depression, dementia diagnosis and cognitive impairment, expressed emotion, quality of life, information cross-checking with doctors, coping efficacy, coping outcomes, psychological well-being, support seeking, well-being, relationship satisfaction, and help with care were investigated. A wide range of parametric and nonparametric analyses were used to examine these variables.

When the reviewed studies were evaluated in terms of caregiver gender, it was concluded that female caregivers reported higher levels of stigma.[24,40,47] However, it was also reported that male caregivers experienced higher levels of anxiety and care burden associated with affiliate stigma compared with female caregivers.[27] Regarding age, contradictory findings were observed. One study reported that older caregivers reported higher stigma,[24,40] whereas another study found that younger caregivers reported higher levels of affiliate stigma.[27] In terms of education level, it was reported that caregivers with higher educational attainment experienced higher stigma.[24,40] Additionally, having a middle income, compared with low or high income, was associat-

ed with affiliate stigma.[47] When findings related to caregiver closeness were examined, one study reported that partners experienced more stigma than spouses,[24] while another study found that adult children reported more stigma than spouses.[40] Furthermore, caregivers who took regular breaks during the caregiving process reported higher levels of affiliate stigma.[48]

When examined in terms of characteristics of individuals with dementia (IWD), caregivers of IWD who were less dependent in daily activities were found to report higher levels of stigma.[27] In another study, spiritual coping and stigma-related stress were found to have a mediating role in the relationships between impairment in daily activities of IWD and caregivers' anxiety, depression, care burden, and the mental health subdimension of quality of life.[43] In other words, impairment in daily activities predicted stigma-related stress, and stigma-related stress predicted caregivers' anxiety, depression, care burden, and the mental health subdimension of quality of life. In addition to functional dependency, it was reported that caregivers of individuals who had dementia for a longer duration experienced higher levels of stigma.[24,40] With respect to dementia type, caregivers of individuals with frontotemporal dementia reported higher levels of family stigma compared with caregivers of individuals with Alzheimer's-type dementia.[46] Regarding behavioral symptoms, it was reported that behavioral symptoms of the care recipient predicted stigma, and stigma had a mediating effect on the relationship between behavioral symptoms and caregiver burden.[42]

Moreover, stigma experienced by caregivers of IWD was found to be associated with caregiver burden[27,39,40] and psychological well-being.[47] In another study focusing on caregiver burden, affiliate stigma and psychological distress were associated with quality of life, whereas affiliate stigma was directly associated with caregiver burden. Additionally, caregiver burden and psychological distress had a sequential mediating effect on the relationship between affiliate stigma and quality of life.[45] Similarly, another study reported that family stigma was the most important factor associated with caregiver burden and quality of life among caregivers of individuals diagnosed with early-onset dementia, after controlling for dementia type, dementia stage, behavioral changes, and caregiver age and education.[46] In a study examining different dimensions of caregiver burden, individuals reporting high levels of time-dependent burden, developmental burden, and physical burden, as well as low levels of social burden, reported higher levels of affiliate stigma.[48]

Finally, in a study examining coping efficacy, coping efficacy was found to have a mediating role in the association between information cross-checking and care recipients' health outcomes. While coping efficacy mediated this relationship, low levels of affiliate stigma were reported to moderate coping efficacy.[44]

Discussion

The aim of this study is to systematically review studies on stigma perceived by caregivers of individuals with dementia (IWD). To achieve this aim, the PubMed, Web of Science, Scopus, and EBSCO databases were searched for studies conducted between 2000–2024, and the findings were examined in accordance with the PRISMA 2020 Statement.[38] As a result of this review, the characteristics and findings of 12 studies that met the inclusion and exclusion criteria were reported.

When the 12 studies were evaluated, it was observed that they were conducted between 2012 and 2024, with a noticeable increase in studies on stigma perceived by caregivers of IWD in recent years. Notably, 8 of the 12 studies were published between 2020 and 2024. In parallel with the global prevalence of dementia,[2] the studies were distributed across a wide geographical range. In this context, it is thought that the studies were conducted in countries that can be considered both individualistic and collectivist.[52] Although this diversity can be considered a strength, further studies are still needed, as the experience of dementia is known to vary across cultures. For example, in a study comparing stigma beliefs toward IWD among Israeli and Greek university students, Israeli students reported higher stigmatizing beliefs than Greek students.[53] In another cross-cultural study examining stigma experienced by IWD and individuals with mild cognitive impairment, participants in the United Kingdom reported higher stigma than those in Italy and Poland.[54] Although some studies have examined cultural influences on caregiving for IWD,[55] further research is required. Identifying cultural influences is also important for the development of effective interventions. In one study, it was reported that incorporating cultural and religious elements into interventions developed for caregivers of IWD may be beneficial.[56]

When the participants in the 12 included studies were evaluated, 2,101 were female and 1,340 were male. The predominance of female caregivers was consistent with previous caregiver research.[57] Most caregivers were partners or spouses and adult children of the individual receiving care, which is also consistent with the literature.[58] In addition, six of the reviewed studies differentiated between types of dementia. Considering that different types of dementia have distinct effects on caregivers,[59] making such distinctions is important, and many previous studies have also emphasized this issue.[58]

In studies examining stigma among caregivers of IWD, stigma was conceptualized as affiliate stigma, family stigma, caregiver stigma, stigma stress, and perceived stigma. Affiliate stigma has been defined as the internalization of stigma.[24] Family stigma has been conceptualized as stigmatizing experiences and perceptions of family members.[49] Caregiver stigma has been described as a subdimension of family stigma.[40] Another concept, family stigma stress, refers to stigma-related stress

experienced by family caregivers.[43] Although different terms are used, there is considerable conceptual overlap across studies. For example, the Caregiver Stigma Impact Scale is used to measure perceived stigma and includes subdimensions such as social rejection, financial insecurity, internalized shame, and social isolation.[41] Thus, although perceived stigma is assessed, aspects of internalization are also evaluated. In terms of measurement tools, the Affiliate Stigma Scale[22] and the Family Stigma–Alzheimer Diseases Scale (FS-ADS)[49] were the most frequently used instruments. Although no review studies specifically addressing commonly used stigma scales among caregivers of IWD were identified, the Affiliate Stigma Scale has been used across multiple languages and caregiver populations, including dementia caregivers.[60–62]

When the methods of administering the scales were evaluated, it was observed that scales were administered face-to-face in seven studies, online in three studies, by telephone in one study, and via telephone or e-mail in one study. Studies involving caregivers of IWD have indicated that participation in research can be challenging for caregivers.[63] As dementia progresses, caregiving demands and time commitment increase,[10] which may further limit caregivers' ability to participate in research. Additionally, caregivers experiencing higher levels of stigma may isolate themselves from their social environment. To protect themselves and their relatives from negative social attitudes, they may limit social interactions and avoid public settings.[64] Consequently, individuals who experience higher levels of stigma may be underrepresented in research. For this reason, increasing the use of online research methods in future studies may be beneficial.

In addition to the consideration that conducting online studies in the future would be beneficial, it is also deemed necessary to implement awareness campaigns. As noted by participants, caregivers may refrain from going out, possibly due to feelings of stigma, which further highlights the importance of online studies.[48] While expanding online research constitutes one dimension, enabling caregivers to be outside without experiencing stigma represents another. Contrary to other studies conducted with caregivers of IWD,[65] one of the studies reviewed indicated that taking regular breaks from caregiving had negative effects. When assessed from the perspective of stigma, it is possible that caregivers use these breaks to socialize yet may be exposed to greater stigma during such interactions.[48] Furthermore, in contrast to previous research emphasizing that lower dependence is associated with more favorable outcomes,[66] one study reported that lower dependence of the care recipient was linked to greater stigma.[27] It is plausible that when people perceive the care recipient as highly dependent, they more readily recognize the condition as an illness, which may be associated with reduced stigma. However, it is also well established that higher dependence of the care recipient can lead caregivers to report negative outcomes.[66] Thus, while experiencing less stigma on one hand, caregivers may simultaneously feel overwhelmed by the burden of care. For these reasons, the implementation of awareness campaigns is of considerable importance. In this way, breaks taken by caregivers could yield more positive effects. Additionally, even if the care recipient is not highly dependent on the caregiver, it should be recognized that an underlying condition may still be present.

In this review, the examined studies reveal inconsistent findings regarding the relationship between demographic variables and stigma. While some studies found that female caregivers reported higher levels of stigma,[24,40,47] others indicated that male caregivers experienced greater anxiety and caregiving burden associated with stigma.[27] This suggests that there may be gender-based differences in stigma and that stigma may be internalized and expressed differently depending on gender. In terms of age, contradictory results were also reported. Some studies noted that older caregivers reported higher levels of stigma,[24,40] whereas another study found that younger caregivers reported greater stigma.[27] This may indicate that different stages of the life cycle, the meanings attributed to the caregiving role, and the availability of social support resources influence the experience of stigma.[67] Regarding educational level, caregivers with higher education were found to report greater stigma.[24,40] This finding may be explained by the possibility that individuals with higher education are more sensitive to societal perceptions[68] or engage more frequently in social comparison processes.[69]

From a clinical perspective, the findings that lower dependence in daily activities,[27] longer duration of illness,[24,40] and specific dementia types (e.g., frontotemporal dementia)[46] are associated with greater stigma indicate that stigma is not solely a function of disease severity but may be shaped by societal recognition and interpretation of symptoms. The mediating roles of spiritual coping, stigma-related stress, and stigma itself in the relationships between functional impairment, behavioral symptoms, and caregiver outcomes underscore the need to address both psychosocial and emotional processes in intervention strategies.[43] Collectively, these findings highlight that stigma among dementia caregivers is multifactorial, emerging from the interplay of personal attributes, relationship contexts, and care recipient characteristics. Future research should adopt an integrative approach to examine these factors simultaneously, allowing for more targeted and effective interventions to reduce stigma and its adverse consequences.

The findings underscore the complex interplay between stigma, caregiver burden,[27,39,40] psychological well-being,[47] and quality of life[45] among caregivers of IWD. Consistent with previous literature, the observed associations between affiliate stigma, caregiver burden, and psychological distress suggest that stigma not only exacerbates the emotional toll of care-

giving but may also indirectly impair caregivers' quality of life through increased burden and distress. The identification of sequential mediating effects further indicates that stigma operates through multiple pathways, potentially triggering a cascade of psychological strain that ultimately diminishes well-being. Of particular interest is the finding that family stigma emerged as a key determinant of burden and quality of life in caregivers of individuals with early-onset dementia, even after controlling for disease-specific and demographic factors.[46] This emphasizes the salience of societal perceptions and social identity in shaping caregiving experiences, irrespective of clinical variables. Moreover, the association between specific burden types (e.g., time-dependent, developmental, physical) and higher levels of affiliate stigma suggests that the nature of caregiving demands may influence caregivers' internalization of stigma.[48] The moderating role of low affiliate stigma on coping efficacy provides a promising avenue for intervention, as reducing stigma may enhance caregivers' ability to cope effectively and, in turn, improve care recipients' health outcomes.[44] Taken together, these findings highlight the necessity of multifaceted intervention strategies that not only target the reduction of stigma but also address caregiver burden and coping mechanisms in an integrated manner.

Determining variables related to stigma may lead to the development of interventions targeting stigma. It has been stated that further research is still needed to identify effective approaches to reduce dementia-related stigma.[70] For example, while some studies indicate that a lack of knowledge plays an important role in stigma,[71] other studies suggest that lack of knowledge is not a determinant.[72] In other words, identifying variables related to stigma and translating them into intervention components is essential. In this context, it is thought that implementing psychoeducational and even social interventions related to dementia is important.[73]

When the limitations of the study are evaluated, the fact that the search was conducted using specific keywords in selected databases may constitute a limitation. In addition, although the characteristics of the included articles were examined, no assessment of study quality was performed. Considering that 11 of the included studies were cross-sectional, the findings primarily reflect correlations and do not allow for causal inferences.[74] Moreover, only quantitative studies were included in this review, and findings from qualitative research were not incorporated. In light of these limitations, there is a clear need for longitudinal studies on stigma among caregivers of individuals with dementia. Furthermore, evaluating study quality and including qualitative research in future systematic reviews are expected to provide more comprehensive insights.

Although dementia is a global condition,[2] research in this area remains limited. Addressing stigma experienced by caregivers of individuals with dementia in different countries is an important direction for future studies. Conducting research on stigma and identifying related variables may also facilitate the development of effective interventions. The availability of valid and reliable stigma-related measurement tools is crucial for identifying factors associated with stigma. However, the scales identified within the scope of this systematic review have not been adapted into many languages. Therefore, cultural adaptation of frequently used stigma scales in the literature is needed. Additionally, among the 12 studies reviewed, distinctions regarding dementia type and severity were limited. This is notable, as caregivers are known to experience different challenges depending on dementia type and severity.[59,75] The closeness of the caregiver to the individual diagnosed with dementia is also an important factor.[76] Accordingly, future stigma research should more clearly address dementia type, dementia severity, and caregiver–care recipient relationship characteristics.

Although there are studies examining stigma experienced by caregivers,[33,34] it is striking that no prior systematic review has specifically focused on dementia. This is noteworthy, as previous research has emphasized that stigma is a priority issue in dementia research.[36] Moreover, the increasing prevalence of dementia worldwide and its projected rise in the coming years further highlight the importance of dementia-related issues.[1] Given that healthcare systems are already considered insufficient under current conditions,[77] it is anticipated that systemic challenges will intensify as prevalence increases.[1] As a result of these systemic constraints, the need for care provided within the close social networks of individuals with dementia is expected to increase. This underscores the importance of caregiver well-being, as better caregiver well-being is associated with higher-quality care.[31] In addition to its negative effects on caregivers' psychological health,[27,28,29] stigma represents one of the most significant barriers to help-seeking.[78] In the context of a condition such as dementia, where early diagnosis is crucial,[79] investigating stigma is essential to overcoming help-seeking barriers and identifying factors related to caregivers' psychological health.

Conclusion

In conclusion, this systematic review addresses stigma perceived by caregivers of individuals with dementia and the factors associated with it. The reviewed studies indicate that stigma is influenced by cultural context, caregiver–care recipient relationships, and various dementia-related factors. Despite the significant impact of stigma on caregivers, the literature on this topic remains limited. There is a particular need for cross-cultural studies and research that distinguishes between different dementia types and stages. The findings highlight the importance of longitudinal and mixed-method research, cultural adaptation of stigma measurement tools,

and the development of psychoeducational and social interventions aimed at reducing stigma. As the global prevalence of dementia continues to rise, addressing caregiver stigma is essential not only for improving mental health outcomes but also for enhancing the quality of care provided to individuals with dementia. Future research should adopt integrative approaches that simultaneously target stigma reduction, caregiver burden, and coping strategies, thereby fostering caregiver resilience and improving outcomes for care recipients.

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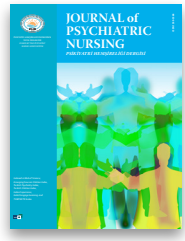

Systematic Review

Unveiling the predisposing factors of stigma towards individuals with mental disorders: A scoping review

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Abstract

Objectives: The issue of stigma related to mental disorders has increasingly become a global concern, despite significant improvements in mental health treatment and services. However, reductions in stigma associated with mental disorders have not kept pace with these advancements. Stigma refers to a negative label assigned to individuals, which may lead to their isolation from other social groups. This study aims to identify the predisposing factors that influence stigma toward individuals with mental disorders.

Methods: A scoping review approach was used to identify various factors influencing the emergence of stigma, from both the perspective of individuals experiencing stigma and their social environments.

Results: Based on the analysis of published studies, several key factors were identified, including demographic characteristics, disease-related factors, culture, education level, and family support, all of which play significant roles in either exacerbating or reducing stigma.

Conclusion: The findings of this study provide deeper insight into the factors that should be addressed to reduce stigma related to mental disorders.

Keywords: Mental disorders; predisposing factors; scoping review; stigma

Mental health issues are an increasing global concern, with significant improvements in treatment and healthcare services. However, progress in reducing the stigma associated with mental disorders has not kept pace.[1] Stigma refers to a negative or discrediting label placed on individuals, causing them to be separated from other members of their group. Social stigma toward mental disorders remains prevalent worldwide.[2] Individuals experiencing mental health issues are often viewed as deviant and are subjected to low social regard. Society tends to hold negative perceptions of those with mental disorders, with some segments justifying the marginalization and isolation of individuals with mental health issues.[3] In addition, stigma is also experienced by families with members who have mental disorders, as stigma can increase the burden on families due to the shame associated with having a family member with a mental illness.[4]

The emergence of stigma is caused by various factors, such as personal beliefs, lack of knowledge, misinformation, and limited personal experience.[5] Additionally, Abi Doumit suggests that stigma can also arise from misinformation, cultural taboos, and deeply rooted beliefs regarding mental instability.[4] As a result of stigmatization, individuals with mental disorders may experience declines in self-esteem and self-efficacy, emotional distress such as anxiety or anger, and reluctance to seek help.[6–8]

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Individuals with mental disorders often face greater stigma and discrimination from surrounding society compared with those experiencing medical illnesses.[9] The prevalence of mental disorders is higher among young people. In OECD countries, approximately one in four individuals aged 15–24 years experiences a mental disorder, placing them at greater risk of dropping out of school and reducing their opportunities to secure stable employment.[10] According to data from the World Health Organization (WHO), in 2019 there were 264 million people experiencing depression, 45 million people with bipolar disorder, 50 million people affected by dementia, and 20 million individuals with schizophrenia.[9]

Stigma and discrimination against individuals with mental disorders can create significant problems for those diagnosed with mental illness.[11] These issues may lead to real-life disadvantages, including poor access to mental and physical healthcare, difficulties in obtaining or maintaining employment, challenges in securing accommodation, and reduced life expectancy. Additionally, stigma and negative treatment may cause individuals with mental disorders to experience relapse upon reintegration into society, as they may not receive adequate roles and social support from the community.[3]

Studies among Asian American and European populations underscore that gender, language, cultural attitudes, and mental health literacy play significant roles in how stigma develops and is experienced.[12,13] However, many current interventions and studies have not adequately explored which of these factors are most impactful, particularly among individuals with vulnerabilities in self-concept. This reflects a critical gap in the existing literature, where generalized strategies fail to address the nuanced, person-centered dimensions of stigma.

Therefore, a scoping review is necessary to explore the predisposing factors that influence stigma in individuals with mental disorders. The aim of this scoping review is to gain a deeper understanding of the predisposing factors related to stigma in individuals with mental disorders.

What is presently known on this subject?

- Stigma and discrimination against individuals with mental disorders can create significant problems for those diagnosed with mental illness.

What does this article add to the existing knowledge?

- This scoping review helps identify various factors that can influence the emergence of stigma, both from the perspective of individuals experiencing stigma and from their social environment.

What are the implications for practice?

- This research contributes to clinical practice by enabling practitioners to better understand the stigma frequently experienced by patients with mental disorders as a potential cause of inconsistent patient care.
- In the field of education, it provides information on the factors that contribute to stigma, as well as the negative impact of stigma on individuals with mental disorders.

Materials and Method

Research Question Identification

The research question for this scoping review is to determine the predisposing factors that influence stigma in mental health patients. The PCC mnemonic (Population, Concept, Context) was used to formulate the research question.[14]

Study Design

We conducted a scoping review in accordance with the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews) standards.[14] The protocol for this scoping review has been registered with the Open Science Framework (https://osf.io/hfrxa) (Fig. 1).

Search Strategy

The databases used to search for articles in this scoping review included Scopus, PubMed, ProQuest, and Google Scholar. The analyzed articles were scientific publications published between 2021 and 2025 and available in Indonesian or English. The search strategy employed a combination of subject terms and free-text keywords. Data collection began in August 2024.

Inclusion Criteria

Respondents had to be over 18 years old, with no changes in treatment in the past month, and the research setting had to be community-based.

Exclusion Criteria

Studies were excluded if the samples did not include individuals with mental health disorders or if the research was conducted in hospital settings.

P = Population

The population included in this scoping review comprised patients with mental health disorders. This included observational studies describing their experiences of stigma since being diagnosed with a mental health disorder.

C = Concept

The main concept in this scoping review is self-concept and the dominant factors contributing to self-concept issues. The theoretical framework for self-concept was based on Stuart's theory, which explains that self-concept arises from several dimensions, including body image, self-esteem, ideal self, role performance, and personal identity.[15]

C = Context

This scoping review focused on the predisposing factors of stigma in individuals with mental disorders.

Data Extraction

After the literature search, references were imported into Rayyan to remove duplicates and to independently evaluate

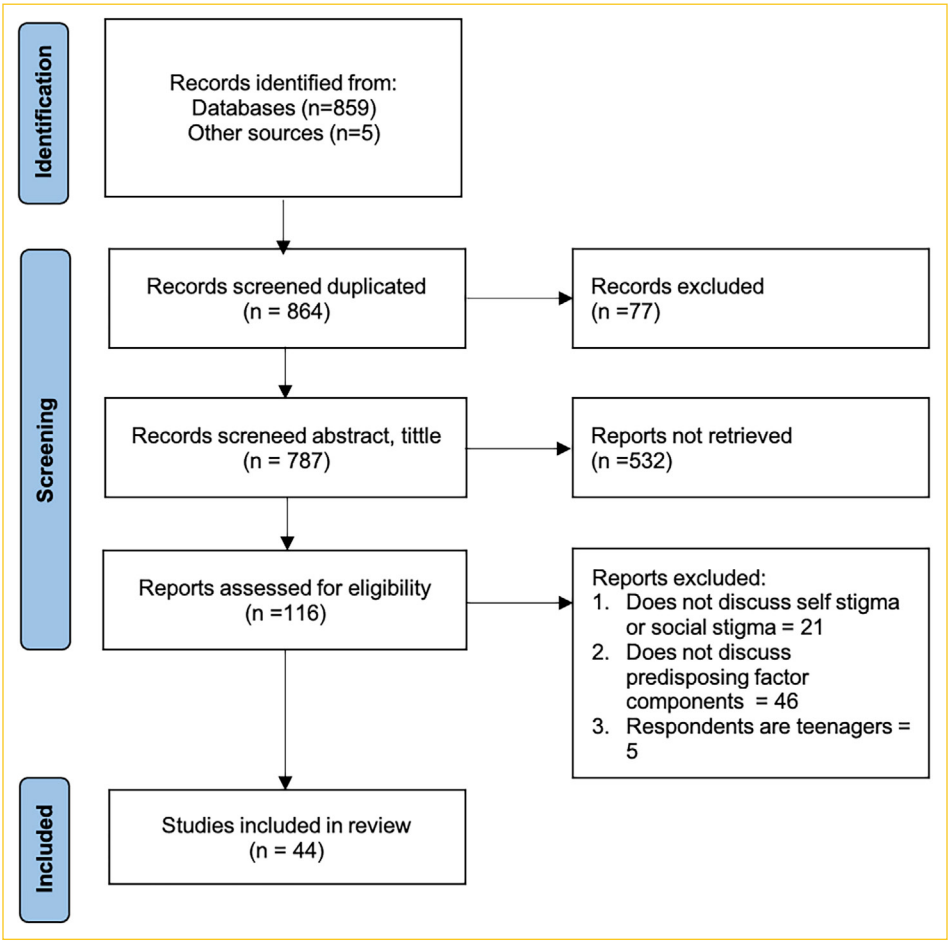

Figure 1. Prisma scoping review.

studies based on titles and abstracts as the initial screening step. Two researchers conducted the screening, and a third researcher was consulted in cases of disagreement. The extracted information included country, year, author, study type, inclusion criteria, and predisposing factors of stigma. The final PRISMA-ScR flow diagram will illustrate the study selection process.

Quality Appraisal

To assess the quality of the included studies, we employed the critical appraisal approach developed by the Joanna Briggs Institute (JBI).[16] The assessment was conducted using JBI Critical Appraisal tools designed to evaluate the methodological quality of studies and determine the extent to which they addressed potential bias in their design, conduct, and analysis. Each criterion was rated as "Yes," "No," "Unclear," or "Not Applicable." Criteria rated "Yes" were assigned a score of 1, whereas "No" or "Unclear" were assigned a score of 0. Total scores were calculated to determine the overall quality of each study.

The JBI Critical Appraisal tools have undergone rigorous evaluation and approval by the JBI Scientific Committee through an extensive peer-review process. Studies were classified as high quality if they achieved a score exceeding 75%, based on relevance to the research topic and adherence to JBI criteria.[16] Two independent reviewers assessed the articles separately to ensure objective and unbiased evaluation. Any discrepancies in scoring were discussed and resolved with a third reviewer to reach consensus. This process ensured that only studies meeting the predetermined quality criteria were included, thereby minimizing bias and enhancing the credibility and reliability of the findings.

Statistical Analysis

After the literature search and selection process, all included articles underwent comprehensive examination and analysis by the entire author team. This process began with a detailed review of each study to extract and summarize essential insights related to the predisposing factors of stigma in patients with mental disorders.

The authors then conducted in-depth discussions to synthesize the extracted data. Key themes and patterns were identified, and a concise summary for each article was developed to capture critical insights. To facilitate synthesis, factors contributing to stigma—including sociodemographic characteristics, employment status, disease characteristics, resistance

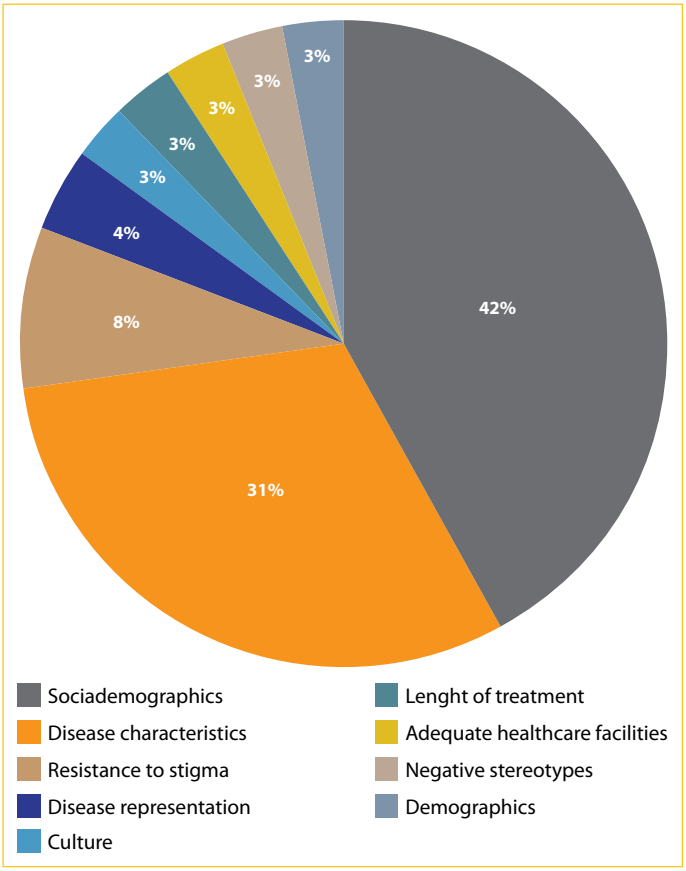

Figure 2. The scope of predisposing factors of stigma in mental disorders.

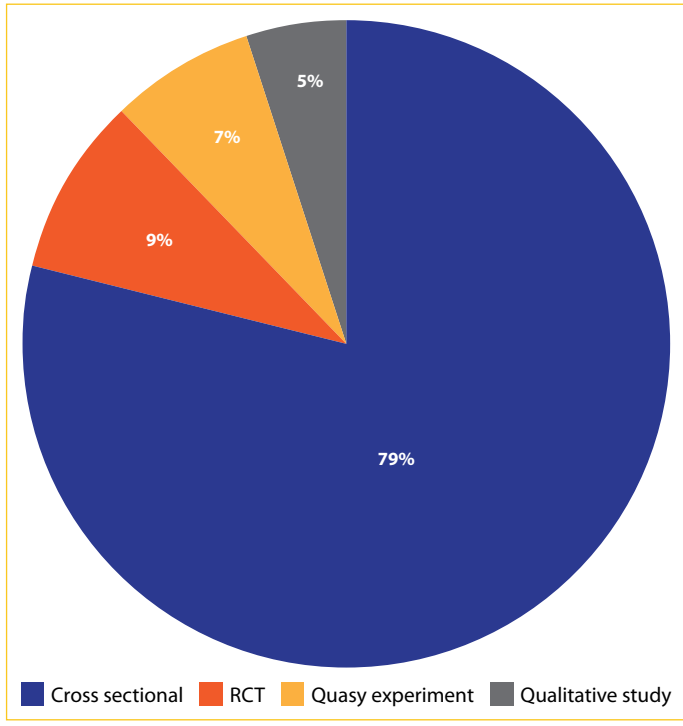

Figure 3. Selected research articles.

to stigma, cultural influences, length of hospitalization, family support, and the availability of healthcare facilities—were systematically categorized.

Each category was then further explored to provide a comprehensive understanding of how these factors contribute to stigma. To ensure rigor and consistency, all steps of the analysis were independently verified by multiple authors. Discrepancies were resolved through discussion, and consensus was reached to ensure the reliability of the findings. This systematic approach ensured that the review was thorough, transparent, and adhered to high scientific standards.

Results

Based on Figure 2, the journal search on the theme of predisposing factors of stigma in individuals with mental disorders identified a total of 44 articles. These articles discuss several factors, including disease representation, disease characteristics, demographics, negative stereotypes, adequacy of healthcare facilities, length of treatment, culture, resistance to stigma, sociodemographic factors, and family support.

Based on Figure 3, the selected research articles predominantly employed cross-sectional study designs. In addition to these, other studies used different methodologies, such as quasi-experimental designs, randomized controlled trials (RCTs), and qualitative approaches.

The selected articles were then subjected to critical appraisal using the JBI tools to assess their quality. The results of the critical appraisal for the studies included in this review are presented in Appendix 1. Furthermore, the scoping review process was evaluated using the PRISMA-ScR checklist, the results of which are provided in Appendix 2-4.

Based on Table 1, the reviewed research articles summarize various predisposing factors contributing to stigma in the context of mental health and chronic illness, drawing on studies conducted in different countries. Overall, these factors can be categorized into several main groups: sociodemographic factors, disease characteristics, psychosocial and environmental factors, culture and stereotypes, and other specific factors.

Discussion

Stigma associated with mental health conditions is a complex phenomenon influenced by various sociodemographic factors. Age is one critical determinant; studies show that older individuals tend to hold more conservative views on mental disorders, often reinforcing social stigma. In contrast, younger generations exhibit greater openness toward mental health issues, although they still experience stigma.[17] This generational difference underscores the need for targeted educational interventions to address misunderstandings about mental health across age groups.

Table 1. Predisposing factors for stigma

No	Author/year	Country	Predisposing factors
1	Lu et al., 2024[19]	China	Higher illness representation and illness understanding, emotional representation. Rural area/ insufficient availability of health facilities, a negative stereotypical image, unemployed, the more hospitalizations insuffi cient disease management at home results in repeated relapses or diffi culty in controlling the disease, the longer the total length of treatment.
2	Shi et al., 2024[27]	China	Social/ public stigma, stigma strees appraisal, cooping orientation, psychological capital, socio-demographic , disease characteristics of the participants, educational level, stigma resistensi.
3	Mahfoud et al., 2023[31]	Lebanon	Socio-demographic, disease characteristics of the participants, educational level, body weight
4	Shah et al., 2022[25]	USA	Stage self stigma, culture .
5	Marcussen et al., 2021[37]	USA	Sosiodemography, stigma resisten, welbeing.
6	Au et al., 2019[21]	China	Socio-demographic, disease characteristics of the participants.
7	Ouali et al., 2020[29]	Tunisia	Socio-demographic, disease characteristics of the participants.
8	Catalano et al., 2021[41]	USA	Socio-demographic, disease characteristics of the participants.
9	Lysaker et al., 2007[8]	USA	Socio-demographic, disease characteristics of the participants.
10	Shimotsu et al. 2014[40]	Japan	Socio-demographic, disease characteristics of the participants.
11	Maharjan et al., 2019[9]	Nepal	Socio-demographic, disease characteristics of the participants.
12	Bos et al., 2009[7]	Nederland	Socio-demographic, disease characteristics of the participants.
13	Lysaker et al., 2012[38]	USA	Socio-demographic, disease characteristics of the participants.
14	Hamidi et al., 2023[3]	Iran	Age, gender, employment, status, total monthly income, educational level, and marital, status. Medical records were also reviewed to confirm the disease's diagnosis, duration, and hospitalization number.
15	Picco et al., 2016[4]	Singapure	Age, gender, employment status, total monthly income, educational level, and marital status. Medical records were also reviewed to confirm the disease's diagnosis, duration, and hospitalization number.
16	Pal et al., 2017[5]	India	Age, gender, employment status, total monthly income, educational level, and marital status.Medical records were also reviewed to confirm the disease's diagnosis, duration, and hospitalization number, duration of treatment, family history, age of onset.
17	West et al., 2015[10]	USA	Socio-demographic, disease characteristics of the participants, charge criminal.
18	Picco et al., 2017[11]	Singapure,	Socio-demographic, disease characteristics of the participants.
19	Oliveira et al., 2015[12]	Portugal	Socio-demographic, disease characteristics of the participants.
20	Billian et al., 2024[13]	Switzerland	Socio-demographic, disease characteristics of the participants.
21	Lysakera et al., 2008[14]	USA	Socio-demographic, disease characteristics of the participants.
22	Roe et al., 2014[39]	Israel	Socio-demographic, disease characteristics of the participants.
23	Goepfert et al., 2019[42]	Germany	Socio-demographic, disease characteristics of the participants, negative event relating to depression).
24	Rüsch et al., 2006[1]	Germany	Socio-demographic, disease characteristics of the participants, Anxiety dan fobia social.
25	Li et al., 2017[15]	China	Socio-demographic, disease characteristics of the participants.
26	Hansson et al., 2017[43]	Sweeden	Socio-demographic, disease characteristics of the participants.
27	Świtaj et al., 2017[32]	Polland,	Socio-demographic, disease characteristics of the participants.
28	Vass et al., 2015[16]	UK	Socio-demographic, disease characteristics of the participants.
29	Lundberg et al., 2009[17]	UK	Socio-demographic, disease characteristics of the participants.
30	Kao et al., 2016[18]	Taiwan	Socio-demographic, disease characteristics of the participants.
31	Morrison et al., 2016[44]	UK	Socio-demographic, disease characteristics of the participants.
32	Howlanda et al., 2016[36]	USA	Demographic variables (age, gender, years of education), comorbidities, and symptom severity (BPRS and MADRS).
33	Ociskova et al., 2015[22]	New Zealand	Relatively young age, primary education level, intensity of depressive symptoms.
34	Karidi et al., 2015[24]	Greece	Family support, Diagnosis, Gender self-stigma is felt more in male patients, Duration of illness.
35	Watson et al., 2007[20]	USA	Time since disease onset, level of disability, socioeconomic status, and utilization of services.
36	Karakas et al., 2016[30]	Turki	Cultural stereotypes.
37	Ow et al., 2015[33]	Singapore	Gender, depression, education.
38	Kim et al., 2015[34]	Korea	Gender, education, occupation.
39	Verhaeghe et al., 2008[26]	Belgium	Rejection from environtment.
40	Young et al., 2016[23]	Hong Kong, China	Gender, diagnosa, marital, education, living arrangment, occupational status, income, periode of illness, number of hospitalization.
41	Segalovich et al., 2013[6]	Israel	Loneliness, societal discrimination.
42	Nagai et al., 2017[2]	Japan	Socio-demographic, disease characteristics of the participants.
43	Oshodi et al., 2014[28]	Nigeria	Gender, age, education.
44	Krajewski et al., 2013[35]	Nederland	Age, occupation, lower social contact.

Gender differences also play an essential role in shaping perceptions of mental illness.[45–47] Men often face pressure to conform to traditional masculinity norms, in which mental health problems are perceived as signs of weakness.[45,48,49] This pressure results in greater stigma toward men who seek help.[50] Conversely, women are frequently labeled as "overly emotional," which complicates their experiences of mental health stigma.[48] These gendered expectations create a context in which both men and women must navigate stigma that affects their willingness to seek treatment and openly express psychological distress.[46,47]

Unemployment is another crucial factor related to stigma. Individuals with severe and common mental disorders are 7 and 3 times more likely to be unemployed, respectively, than individuals without mental disorders.[10] Research indicates that unemployed individuals with schizophrenia are more likely to experience self-stigma and discrimination, as economic instability reinforces negative societal stereotypes.[18,19] The relationship between unemployment and stigma is cyclical; stigma associated with unemployment can hinder access to mental health resources, thereby worsening symptoms and reinforcing feelings of shame and social isolation.[20,21] Marital status also influences the stigma experienced by individuals with mental disorders. Those who are unmarried or living alone often face greater stigma due to the absence of strong social support systems, which are critical for mitigating negative perceptions.

Poverty is a major determinant of mental health, and individuals with low income are more likely to experience poor mental health outcomes. The stigma of poverty can be conceptualized as a broad construct encompassing both the general stigma associated with living in poverty and more specific forms of stigma related to the use of services designed to support low-income populations (e.g., social welfare).[22] Low economic status may also contribute to family conflict, which can, in turn, increase the risk of mental health problems.[24]

Limited knowledge and misconceptions about schizophrenia within society can lead families of patients to feel shame and withdraw from their communities. Consequently, inaccurate societal beliefs and perceptions influence family attitudes toward accepting individuals with schizophrenia.[24] As education level increases, individuals are generally more receptive to information and possess higher levels of health literacy. In contrast, low educational attainment may hinder understanding of mental health concepts, particularly in forming informed opinions and providing support to individuals with mental disorders.[25,26]

The emotional representation of mental illness plays a significant role in reinforcing stigma. Individuals who internalize negative stereotypes related to mental health often experience profound self-stigma, leading to feelings of shame and reduced self-esteem. This internalization may result in symptoms of depression and social withdrawal, further complicating their mental health status.[27] How individuals perceive stigma also influences their coping mechanisms. Those who perceive stigma as a stressor are more likely to adopt maladaptive coping strategies, thereby exacerbating their mental health challenges.[27] In contrast, positive coping strategies, such as seeking social support, may help reduce the negative impact of stigma.

Cultural factors also strongly influence stigma surrounding mental health. In many cultures, mental disorders are frequently associated with mystical beliefs or moral failings, generating fear and prejudice and contributing to stigmatizing attitudes and behaviors toward individuals with mental illness, their families, and mental health professionals.[28] While cultural structures are often interpreted through the symptoms of mental disorders, they can also affect individuals' recovery processes, which involve coping with illness, regaining control over life, and finding meaning.[51] Therefore, a deeper understanding of the impact of stigma across different cultural contexts is crucial to inform culturally sensitive strategies that minimize its consequences and contribute to a more equitable and effective psychiatric care system.[29] These culturally rooted beliefs highlight the need for comprehensive educational initiatives to shift public perceptions of mental health, particularly in regions where stigma is deeply entrenched.[30]

The phenomenon of resistant stigma adds an additional layer of complexity. Resistant stigma refers to deeply ingrained social prejudices that persist despite educational efforts and awareness campaigns. Negative stereotypes about individuals with mental illness, such as perceptions of dangerousness or unreliability, contribute to this form of stigma.[31] Moreover, frequent hospitalizations due to inadequate disease management may reinforce stigma, as families and communities may interpret repeated hospital stays as indicators of instability, thereby strengthening negative stereotypes.[32] Individuals who experience multiple hospitalizations may become trapped in a cycle of stigma that further isolates them from social support.

Access to mental health services is also critical in combating stigma, particularly for individuals living in rural areas. Many rural communities lack adequate mental health facilities, making it difficult for individuals to obtain timely and appropriate care.[19] Limited access may exacerbate stigma, as individuals may not receive accurate diagnoses or effective treatment, leading to misunderstandings and misrepresentations of mental illness.[33] Furthermore, social norms in rural areas are often more conservative, which may contribute to stronger stigmatizing attitudes toward mental disorders.

Public understanding of mental illness is frequently shaped by inaccurate stereotypes, such as the belief that all individuals with mental disorders behave unusually, are dangerous, or are unreliable. Public stigma consists of three components: stereotypes, prejudice, and discrimination.[27] A more accurate and comprehensive understanding of mental illness is necessary to combat stigma effectively. Patients exposed to negative representations of their illness often feel more isolated and experience greater shame.[31] This stigma may be further intensified by the side effects of psychiatric medications, such as weight gain or tremors, which can lead patients to feel judged based on their physical appearance during mental health visits.

Family support plays a crucial role in mitigating stigma. Research indicates that individuals with strong family support are better able to cope with both external and internalized stigma.[34] Families that provide emotional, financial, and practical support can facilitate treatment adherence and protect patients from social isolation. Conversely, a lack of family support may intensify the effects of stigma and make help-seeking more difficult.

In conclusion, the interaction of sociodemographic factors, emotional representations, cultural beliefs, and family dynamics significantly shapes stigma related to mental health. Addressing these multifaceted influences is essential for improving the lives of individuals with mental disorders and fostering a more inclusive society. Comprehensive educational campaigns and support systems should be implemented to challenge stigma and promote mental health awareness across communities. Such efforts can encourage open discussions about mental health, ultimately leading to improved treatment outcomes and a better quality of life for affected individuals.

Limitations

Although this review contributes to a better understanding of stigma among individuals with mental disorders, several limitations must be noted. First, there is a scarcity of studies addressing specific predisposing factors of stigma, with most existing research focusing primarily on general stigma or help-seeking behavior. Furthermore, the literature is heavily concentrated in Western contexts, which limits the generalizability of the findings to non-Western and culturally diverse populations. In addition, many studies rely on cross-sectional designs and self-reported measures, making it difficult to establish causality and potentially introducing bias. The limited attention to intersectionality, such as the combined effects of gender, ethnicity, or socioeconomic status, also oversimplifies the complexity of stigma. Future research should address these gaps by employing more diverse samples and more robust methodological approaches to comprehensively evaluate the multifaceted nature of stigma.

Conclusion

Patients with mental disorders often face both external and internal stigma, which significantly affects their lives. Individuals who experience stigma from both internal and external sources are more likely to discontinue treatment. Moreover, stigma can lead to substantial challenges for those diagnosed with mental illness, resulting in tangible disadvantages in daily life. Several factors have been identified as contributing to the harmful effects of stigma, including discriminatory environments, school dropout, and difficulties in securing employment, even among patients who have consistently received treatment.

Online Appendix Files: https://jag.journalagent.com/phd/abs_files/PHD-63549/PHD-63549_(3)_PHD-63549_Appendix.pdf

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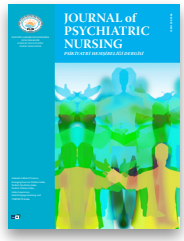

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