

Nurses' in-service education program content for psychiatric nurses: An integrative review

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Article info:

<http://dx.doi.org/10.70848/cnj.v1i2.10>

pISSN 3063-9247

eISSN 3063-9255

Article History:

Received: September 21th, 2024

Revised: December 15th, 2024

Accepted: December 16th, 2024

Abstract

Introduction: The use of technologies to improve the quality of care in psychiatric nursing remains unclear. **Objectives:** This integrative review aims to clarify the contents of an in-service education program for psychiatric nurses. **Method:** The review was conducted between September 2023 and March 2024 using PubMed, ScienceDirect, ProQuest, and CINAHL databases. **Result:** The search returned 4993 studies, of which 50 were included in the final analysis. The results were integrated into six categories: 1) theory-based in-service educational programs; 2) nursing care using technology in various nursing situations; 3) nursing to promote the recognition of persons as participants in their care rather than as objects of care; 4) measures that ensure patient safety, such as prevention of falls and medication errors; 5) psychiatric nurses' roles and responsibilities in addressing ethical and legal issues in the care of patients with mental illness; and 6) technological competence and caring in psychiatric nursing. **Conclusion:** Integrating technology into psychiatric nursing improves efficiency and safety while prioritizing ethical practices, empathy, training, equitable access, and patient dignity.

Keywords:

In-service Education, Psychiatric Nursing, Technology



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INTRODUCTION

The relationship between caring and technology in nursing has been clarified in Locsin's Technological Competency as Caring in Nursing (TCCN) theory (Locsin, 2005, 2017). According to the TCCN theory, although a person's status may change from moment to moment, nurses must recognize a person as a dynamic and unpredictable human being (Locsin et al., 2010). The objectification of persons occurs and becomes conventional when nurses practice nursing as merely the achievement and completion of tasks. Locsin points out that technology is a means of knowing patients and that over-reliance on information from technology risks viewing people as objects. On the other hand, Locsin also clearly stated that the competence to use technology is necessary to provide adequate care and that this is one of the aspects of caring (Locsin & Purnell, 2015).

Nurses have a responsibility to focus on nurturing the person as he or she lives caring and expresses hopes and dreams for growing in caring (Boykin & Schoenhofer, 2001). Psychiatric nurses (hereinafter referred to as nurses) provide support to people who need assistance with their mental health by restoring their autonomy using their specialized knowledge and skills, based on the basic philosophy of protecting the dignity and rights of the individual (Ahn & Yi, 2022). The goal is to support people with mental illness so that they can live a humane life in the community (Browne & Courtney, 2005). People with mental illnesses not only have difficulty managing their daily and social lives but are also severely handicapped by social prejudice (Bahm & Forchuk, 2009; Dammeyer & Chapman, 2018). Patients frequently felt that nursing staff did not understand the issues from their perspective or attempted to empathize with them (Stewart et al., 2015). Thus, to improve the ability to sympathize, empathize, and accept the feelings of patients, nurses must improve their knowledge and skills to effectively use technology specific to patients with mental illness to provide better care (Bollos et al., 2023; Weir & Waddington, 2008; Wilkin & Slevin, 2004). It is necessary to strive to provide quality psychiatric care to people with mental disorders; therefore, nurses must understand that each patient is unique and use technology to get to know the patient deeply (Martinez, 2019).

Moreover, it is important for patients and nurses to collaborate on their care plans and for patients to be involved in their care (Locsin & Purnell, 2015). Although often perceived as "removed" from direct patient care, the nurse administrator is intimately involved in multiple care situations simultaneously, hearing and responding to calls for care. This focus also requires that the nurse know the person seeking nursing as a caring person and that nursing action be directed toward nurturing the nursed in their living caring and growing in caring (Boykin & Schoenhofer, 2001). Psychiatric nurse managers focus on promoting the growth of patients with mental illness and facilitating nurses' growth in their relationships with care recipients (Boykin & Schoenhofer, 2001).

Responsibility for discerning ethical correctness when presenting lies to nurse managers and staff nurses. Technological competence and its incorporation into an understanding of patient care based on caring concepts, thereby, ethical and moral attitudes, and responses toward patients are essential to achieving human health and well-being (Bollos et al., 2023).

The impact of technology in healthcare has increased significantly (Pepito & Locsin, 2018). The use of technology influences how nurses perform their work and interact with patients (Ali et al., 2022). The diversity of technology is increasing, and knowledge is scattered. The concept of technology in nursing is ambiguous, and its ethics remain unelucidated (Korhonen et al., 2015). Understanding advanced technology is complex, and there is still no consensus on the expected benefits, drawbacks, and changes in nursing roles and responsibilities as a result of technological advances (Arcega et al., 2020; Wynn et al., 2023; Zrínyi et al., 2023). Nevertheless, preserving humanness and knowing persons as fully human beings in highly demanding technological nursing situations are mandatory (Locsin & Purnell, 2015); thus, psychiatric nurses must maintain compassionate nursing practices while navigating complex technological demands.

Advanced technologies used in psychiatry include devices to maintain and improve physical conditions, such as ventilators and infusion pumps, as well as testing devices, such as x-rays, blood tests, computed tomography, magnetic resonance imaging, electrocardiograms, ultrasounds, and electroencephalography, vital signs, neurological examinations, blood tests, and the information obtained from these devices (Murai et al., 2014; Watson et al., 2023). Especially, a previous study showed that levels of C-reactive protein (CRP) and white blood cell count (WBC) are related to positive and negative symptoms of psychotic disorders (Liemburg et al., 2018). These healthcare technologies utilize specialized apparatus to comprehend the patient's state, and their application varies depending on the device, aiming to enhance the patient's physical well-being.

Technology as a mechanism allows us to provide more accurate care; for example, the structure of the protective/isolation room, which is unique to psychiatry, enables healthcare providers to observe patients' conditions on digital video monitors (Varpula et al., 2022). Another example of technology is artificial intelligence, which is widely used in medical settings, requiring nurses to possess the requisite knowledge and competencies for its proper utilization. While technologies are constantly changing and evolving, psychiatric nurses must be aware of newly introduced technologies (equipment, drugs, knowledge, and techniques), use them appropriately, and develop their nursing practice. However, if nurses focus only on the information provided by these technologies, there is a risk that people with mental illness may be viewed as objects (Locsin & Purnell, 2015). In particular, the history of psychiatric care is

littered with incidents in which patients with mental illness were not understood as ill, were not treated, or were subjected to abuse (Handerer et al., 2021). On the other hand, if these technologies are integrated with care and used appropriately and effectively, they will be beneficial for understanding patients with mental illness.

The use of technology is greatly influenced by nurses' knowledge and judgment (Cervellin et al., 2014). Therefore, psychiatric nurse managers and staff nurses need to improve their technological competence through continuing education (Nakano et al., 2021). For example, in the 2000s, pharmacotherapy for schizophrenia was actively switched from typical to atypical antipsychotics. Some symptoms can worsen during the switching process (Conley & Mahmoud, 2001). When nurses are familiar with this type of drug therapy, they can work with physicians to monitor patient changes and respond appropriately. New drugs are part of technological advancements that are constantly evolving and advancing.

Many new patients admitted to the psychiatric emergency department have unstable mental and physical conditions (White, 2021; Wong et al., 2020). A variety of tests exist that can be used to assess the mental conditions of patients, such as the Japanese version of the Mini-Mental State Examination (MMSE) and the Hasegawa Dementia Scale-Revised (HDS-R) (Takenoshita et al., 2019) for assessing cognitive functions, and the Hamilton Rating Scale for Depression (HAMD), Positive and Negative Syndrome Scale (PANSS), Brief Psychiatric Rating Scale (BPRS), and Scale for the Assessment of Negative Symptoms (SANS) scales (Chen et al., 2022) for other psychiatric symptoms. Given these conditions, it is important to share patients' suffering process leading up to hospitalization, listen to their concerns, and provide compassionate care (Tehranineshat et al., 2019). It is also crucial to ensure safety, communicate reassuringly, build trusting relationships with a humble attitude, and support patients in expressing their thoughts, fears, and psychological (Jiang et al., 2023). Therefore, providing patient-centered care is vital (Abate et al., 2023) because it brings out patients' dreams, hopes, and innate strengths. However, psychiatric nursing content for in-service education related to technologies that can enhance the quality of care remains unclear. The importance and development of in-service education is to provide theory-based psychiatric nursing practice using advancing technologies in human healthcare. Organized in-service education content should improve the quality of person-centered nursing care. Therefore, this integrative review aims to clarify the contents of the new in-service education program for psychiatric nurses.

METHOD

Integrative reviews allow for the incorporation of various approaches, including experimental and non-experimental methods of review (Whittemore, 2005). It gathers and synthesizes both empirical and theoretical evidence relevant to a well-defined problem. This may include case studies, observational studies, and meta-analyses, as well as practice applications, theory, and guidelines. It is the only approach that allows for the combination of different methodologies. The aim is to develop a holistic understanding of the topic, to present the state of the science, and to contribute to the development of theory. Integrative review has been advocated as important for evidence-based practice initiatives in nursing (Hopia et al., 2016).

The five stages of integrative review described by (Whittemore & Knafl, 2005) are followed as a guide in this study, covering: 1) problem identification; 2) literature search; 3) data evaluation; 4) data analysis; and 5) data presentation. The details of each stage are as follows:

Stage 1. Problem Identification

Theoretical and empirical work in the past decade related to the concept of integration has suggested that integration can be an important aspect of improving the quality of psychiatric care. However, it was unclear what the similarities were between empirical and theoretical reports and whether the process of integration was similar to improving the quality of psychiatric care, technology, technological competence, and care in psychiatric nursing.

Stage 2. Literature Review

A specific focus on integration experiences in relation to health, illness, or care will facilitate the literature search stage. A systematic search was conducted from the following databases: PubMed, ScienceDirect, ProQuest, and CINAHL using the keywords: "Psychiatric Nursing" AND "Technology" AND ("Theory" OR "Continuing education").

Articles were included in the review if they met the following inclusion criteria: a) articles were published between 2013-2023; b) articles were written in English; c) type of articles: research articles (qualitative, quantitative, and mixed method), reviews, and theoretical papers; d) full text can be retrieved. Articles were excluded under the following criteria: a) using language other than English; b) not original research or theoretical papers (e.g., instrument development, editorial, letter to editor, grey literature, conference proceedings, books, book chapters, and dissertations); c) main findings are not related to technology in psychiatric nursing care; and d) full text cannot be retrieved.

Three independent researchers extracted data from the databases. Data searches were conducted using (*Covidence Systematic Review Software*, 2023) following the steps of article identification, screening, and inclusion, as illustrated in Figure 1.

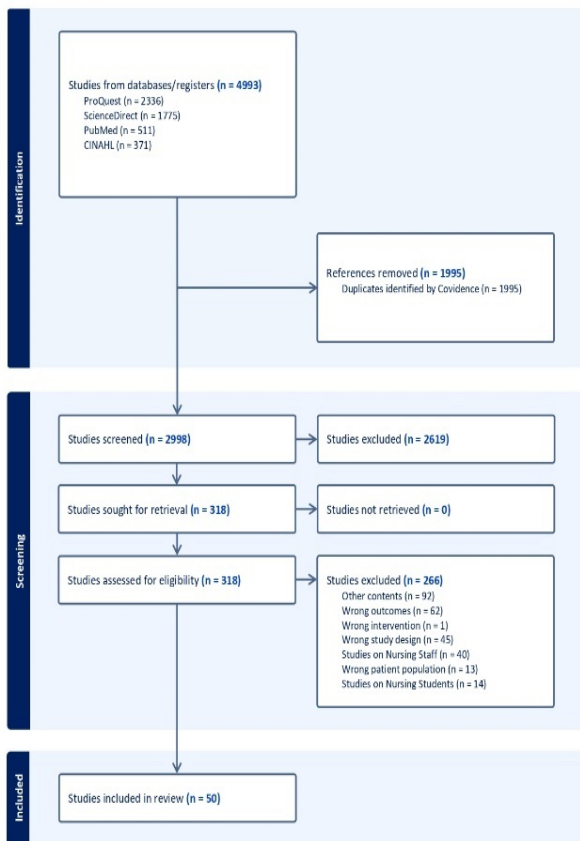


Figure 1. The articles selection process

Stage 3. Data Evaluation

The data were evaluated by three independent reviewers among the research team. Articles identified in the database were inserted into the system. Three members of the research team screened and evaluated the articles by screening the titles and abstracts of each article. Articles that met the inclusion criteria were included in this review.

Stage 4. Data Analysis

To analyze and synthesize the data, the full text of each selected article was read and analyzed. Important information was extracted into the matrix table, which are the purpose of the study, study design, samples, and the study main's finding (please see Table 1). The studies were grouped based on the main findings of each study and were categorized into themes determined before the article screening. For example, if the main finding is related to evaluating ethical approaches toward psychiatric patients, then the study was grouped into theme 4, which is measures to ensure patient safety.

Three independent reviewers among the research team independently extracted the data to the same table. After all data were extracted, the final table was shared with all members of the research group. Any disagreement was resolved within the group and consensus were reach once the disagreement was resolved. Finally, fifty articles were agreed to be included and analyzed in this review.

Stage 5. Data Presentation

Data were presented in a narrative way. To integrate the results, the findings of the study were organized into six themes based on the purposes of this study, which is to clarify the contents of in-service education program for psychiatric nurses.

RESULT

The searches returned 4993 studies, of which 50 were included in the final analysis. The results of the study described the characteristics of the article, including its purpose, study design, subject/sample, main finding, theme, and category. The description of the article is presented in Table 1.

The literature was integrated into following category: 1) theory-based in-service educational programs; 2) nursing care using technology in various nursing situations; 3) nursing to promote the recognition of persons as participants in their care rather than as objects of care; 4) measures that ensure patient safety, such as prevention of falls and medication errors; 5) psychiatric nurses' roles and responsibilities in addressing ethical and legal issues in the care of patients with mental illness; and 6) technological competence and caring in psychiatric nursing

DISCUSSION

Fifty articles were analyzed in this review. Thirty-three of these were original research articles, and 17 were non-research articles, including reviews, theoretical papers, and discussion papers. For original research articles, studies were conducted in Turkey, Japan, the USA, Brazil, Malaysia, Iran, Belgium, France, Canada, Taiwan, Saudi Arabia, China, South Africa, Australia, Cyprus, Korea, the UK, Denmark, Spain, Switzerland, Poland, and Ireland.

Data extracted from the reviewed studies were grouped into six categories following the aim of this integrative review: 1) theory-based in-service educational programs; 2) nursing care using technology in various nursing situations; 3) nursing to promote the recognition of persons as participants in their care rather than as objects of care; 4) measures that ensure patient safety, such as prevention of falls and medication errors; 5) psychiatric nurses' roles and responsibilities in addressing ethical and legal issues in the care of patients with mental illness; and 6) technological competence and caring in psychiatric nursing.

No	Citation	Purpose	Study Design	Subjects	The study's main Findings	Theme	Category	Synthesis
1.	Özalp (2022)	To develop a scale to evaluate the ethical approaches of health professionals working in psychiatry units toward psychiatric patients and to conduct a validity-reliability study for this scale.	Exploratory factor analysis	316 nurses working in different regional psychiatric hospitals between February 2020 and February 2021	The findings determined that the "Ethical Approach Toward Psychiatric Evaluation Scale (EAPPES) is a valid and reliable tool that can evaluate ethical approaches toward psychiatric patients.	Theme 4: EAPPES was developed as a measurement tool to evaluate ethical approaches toward psychiatric patients.	Ethical issue	Measures that ensure patient safety
2.	Tsunematsu et al. (2021)	To identify ethical issues forensic that psychiatric nurses in Japan encountered.	Content analysis	Of the 175 nurses, 131 answered for this survey	The most frequently encountered ethical issue was "protecting patients' rights and human dignity," and the most disturbing ethical issue was "providing nursing care with possible health risks." Forensic psychiatric nursing-related ethical distresses and conflicts: difficulty in discharge management, prevention of violence and self-harm, compulsory treatment, patient care, and negative emotions toward patient.	Theme 5: The most frequently encountered ethical issue was "protecting patients' rights and human dignity," and the most disturbing ethical issue was "providing nursing care with possible health risks."	Ethical issue	Psychiatric nurses' roles and responsibilities in addressing ethical and legal issues
3.	Stuart (2016)	To explore the need for thoughtful consideration of ethics, ethical decision-making and ethical dilemmas in psychiatric nursing practice.	Narrative review	NA (Discussion paper)	Current realities in the field often create complex situations that can challenge nurse's beliefs, values, emotions and actions - and ultimately compromise the quality of care delivered to the patient. Additionally, psychiatric nurses must be advocates for patients and engage in community and mental health advocacy activities that reflect both personal and professional commitments to the vulnerable population for whom they care.	Theme 5: Current realities in the field often create complex situations that can challenge nurse's beliefs, values, emotions and actions - and ultimately compromise the quality of care delivered to the patient.	Ethical issue	Psychiatric nurses' roles and responsibilities in addressing ethical and legal issues
4.	Ventura et al. (2021)	To review what evidence is available regarding human rights and ethical issues regarding nursing care to persons with mental illnesses.	Scoping review	NA (Discussion paper)	To reflect on how to fulfill ethical responsibilities toward persons with mental illnesses, protect them from discrimination, safeguard their human rights, respect their autonomy, and maintain the individual at the center of ethical discourse.	Theme 5: Reflect on how to fulfill ethical responsibilities toward individuals with mental illnesses, protect them from discrimination, and safeguard their human rights.	Ethical issue	Psychiatric nurses' roles and responsibilities in addressing ethical and legal issues

No	Citation	Purpose	Study Design	Subjects	The study's main Findings	Theme	Category	Synthesis
5.	Küçük Öztürk & Özdil (2022)	To determine the views of individuals with mental disorders on the experience of social media.	Qualitative study/ original research article	Individuals with mental disorders (N=12)	The themes included the window opening to the world (source of information, facilitating life), from invisibility to visibility (feeling good, liberation and socialization), negative experiences (feeling lost, envy, and privacy), and the rejection of society (escape and stigmatization). Individuals with mental disorders stated that social media had both positive as well as negative effects on their lives.	Theme 3: Contents to improve psychiatric care related to social media use: Evaluating social media, its meaning, and the effects of social media. Enhance the positive aspects of social media that can be used to maintain and improve the mental health of individuals with mental disorders and tackle the negative effects of social media use, such as stigmatization, jealousy, and time wasted.	Evaluating social media in dealing with stigma	Nursing to promote the recognition of persons as participants in their care rather than as objects of care
6.	Ng et al. (2017)	To evaluate the attitudes of primary care nurses towards people with mental illness and its associated factors and the effectiveness of a short video-based contact intervention (VBCI) in improving these attitudes using a Malay version of the 15-item Opening Minds Stigma Scale for Healthcare Providers (OMS-HC-15-M).	Cross-sectional study/ original research article	Primary care nurses (N=206)	Differences in pre-post VBCI score were statistically significant ($p<0.001$) with a 14% score reduction, a moderate effect size, and SRM at 0.97 (0.85–0.11) and 1.1 (0.97–1.2) respectively. By factoring in the Minimal Detectable Change statistic of 7.76, the VBCI produced a significant improvement in attitudes in 30% of the participants. Factors associated with less stigmatizing attitudes at baseline were previous psychiatry-related training, desiring psychiatric training, and positive contact with people with mental illness.	Theme 2: Technology used to break mental-illness related stigma among nurses: video-based contact intervention (VBCI).	Technology use to break mental illness	Nursing care using technology in various nursing situations
7.	Rezayat et al. (2019)	To explore the process of addressing stigma in people with schizophrenia	Grounded theory	Seven patients and nine patients' family members	The theory of stigma resistance and strategies and interventions can be developed to empower patients and families to address stigma.	Theme 1: educational intervention includes lectures, educational campaigns, and	Educational intervention	Theory-based in-service

No	Citation	Purpose	Study Design	Subjects	The study's main Findings	Theme	Category	Synthesis
		spectrum disorders and families.				designing an instrument to measure the process of addressing stigma in people with schizophrenia spectrum disorders and families this is to empower patients and families in the skills to confront stigma.	ns to deal with stigma	educationa l program
8.	Fontesse et al. (2021)	To compare nurses' stigmatizing/dehumanizing perceptions of people with psychiatric versus non-psychiatric disorders.	Cross-sectional survey design	336 female French speaking nurses with mean age of 40.7	The study's main Findings, a model of dehumanization of psychiatric patients by nurses has been developed based on literature and tested empirically. This study also emphasized that nurses feel dehumanized by their superior which is associated increased dehumanization towards patients.	Theme 3: Nursing promotes and advocates for more human and less stigmatizing practices in the field of healthcare to improve how employees and recipients of healthcare are treated.	Dealing with stigma	Nursing to promote recognition of persons as participant s of care
9.	Yen et al. (2020)	To explore the self-stigma of patients with schizophrenia	Qualitative phenomenol ogical analysis	Fifteen diagnosed schizophrenia patients aged >20 years, diagnosed for at least 2 years and can express self verbally	The findings revealed three subthemes and six subthemes: origin of self-stigma (experience of self-stigma from the outside and the inside, the suffering experience of self-stigma (alienation from others and negative inner feelings), and coping with self-stigma (acceptance and change of mind).	Theme 3: the study supports the importance to increase awareness of self-stigma and suggests effective measures to help patients deal with this challenge.	Dealing with stigma	Nursing to promote recognition of persons as participant s of care
10.	Alyousef and Alhamidi (2023)	To illuminate the obstacles faced by practicing mental health nurses in psychiatric settings and their recommendations for amending care environment.	Qualitative phenomenol ogical	Ten practicing Saudi female mental health nurses aged 25-40 presently employed in public funded inpatient psychiatric units, pursuing Master's program in mental health	The study suggests that maintaining high-quality nursing standards within and inpatient facilities requires a consistent and accountable organizational structure that promotes the development and improvement of relevant nursing skills through continuing education and improved awareness regarding mental health disorders and care within communities.	Theme 5: The roles and responsibilities of psychiatric nurses in addressing ethical legal issues in the care of patients with mental illness.	Ethical issue	Psychiatric nurses' roles and responsibilities in addressing ethical and legal issues
11.	Letlape et al. (2014)	To explore and describe the needs and benefits of in-	Qualitative research/ original	Psychiatric nurses (N=28)	Three main themes emerged: ongoing in-service training is necessary, in-service training is beneficial to	Theme 1: in-service training for psychiatric nurses.	In-service education	Theory-based in-service

No	Citation	Purpose	Study Design	Subjects	The study's main Findings	Theme	Category	Synthesis
		service training for psychiatric nurses; and to formulate recommendations for in-service training.	research article		psychiatric nurses, and challenges exist concerning in-service training.			educational program
12.	Liu et al. (2020)	To evaluate the effectiveness of a mobile community learning (MCL) program in Case Management for psychiatric nurses.	Experimental two-group pre- and post-test design	Psychiatric nurses employed in a psychiatric teaching hospital (N=48)	The program had a positive benefit on the learning experience of the experimental group; the mean satisfaction score for the program was 4.27 (range, 1–5). MCL programs for psychiatric nurses can effectively enhance Case Management knowledge and competence.	Theme 1: Educational technology that can be used to improve psychiatric nursing care: mobile community learning.	In-service education	Theory-based in-service educational program
13.	Meredith et al. (2018)	To investigate the efficacy of providing this training through a custom-designed e-learning package.	Longitudinal survey/ original research article	Nurses and occupational therapists working in mental health settings (N=121)	The custom-designed sensory-based e-learning package is an effective, accessible, acceptable, and usable method for training health professionals in sensory modulation approaches.	Theme 1: Educational intervention using an e-learning package.	In-service education	Theory-based in-service educational program
14.	Barrera et al. (2020)	To describe the process of introducing artificial intelligence ('digitally assisted nursing observations') in an acute mental health inpatient ward, to enable staff to carry out the hourly and the 15 minutes observations, minimizing disruption of patients' sleep while maintaining their safety.	Preliminary study of the observations / original research article	Patients and staff (observations of 755 patient nights)	Digitally assisted nursing observations could maintain patients' safety and potentially improve patient and staff experience in acute psychiatric wards.	Theme 2: Using digitally assisted nursing observations.	Technology used	Nursing care using technology in various nursing situations
15.	Brimblecombe et al. (2019)	To collate views of staff and inpatients related to prospective use of digital version of the National Early Warning Score (eNEWS) system for identifying physical deterioration, to	A mixed-methods survey/original research article	Patients (N=26) and staff attending eNEWS training (N = 82)	Some inpatients expressed concerns about data confidentiality. Most staff were neutral or positive about the planned change, but raised possible safety risks and the risk of electronic recording being misinterpreted by patients.	Theme 2: Technology used: electronic recording. However, patients expressed concerns regarding data safety.	Technology used	Nursing care using technology in various nursing situations

No	Citation	Purpose	Study Design	Subjects	The study's main Findings	Theme	Category	Synthesis
16.	Abbe and O'Keeffe (2021)	inform the plan for implementation. To introduce continuous video monitoring as an adjunct measure to replace sitter use when appropriate.	Theoretical article (development of a continuous video monitoring)	NA	Continuous video monitoring is a tool for nursing staff to enhance patient safety and provide additional safety intervention when sitter use is not reasonable.	Theme 4: Technology (video monitoring) to enhance patient safety and prevent mistreatment.	Patient safety	Measures to ensure patient safety
17.	Ha et al. (2021)	To identify risk factors for self-harm in psychiatric wards.	Systematic review	5 cases and 13 studies	This study emphasized the creation of a ward environment in which inpatients can feel secure and staff can actively engage in therapeutic communication.	Theme 4: Measures to ensure patient safety, such as fall injuries, which are common in inpatient safety incidents in psychiatric mental health units.	Patient safety	Measures to ensure patient safety
18.	(Clifford et al., 2020)	To enhance the understanding of medication adherence from the consumer perspective through qualitative interviews and thematic analysis.	Qualitative study	Twenty-five community dwelling people with schizophrenia	The findings showed that consumers with schizophrenia can make valuable contributions to our understanding of medication and medication adherence and lend support for greater inclusion of the consumer perspective in research.	Theme 4: Measures that ensure patient safety highlight the importance of referrals by health professionals, collaborations with peer workers, and exploring medication adherence.	Patient safety	Measures to ensure patient safety
19.	Walker (2022)	To present elder's life course theory (LCT) as an ethical lens for person-centered care as nurses engage with older adults aging with the diagnosis of schizophrenia in clinical practice and/or research.	Theoretical paper	Four ethical principles fundamental to nursing research and mental health practice are presented, with elder's LCT as a theoretical lens for person-centered care	This paper address ethical principles of vulnerability, veracity, non-maleficence and autonomy for person-centered care in mental health nursing research and practice, focused with the lens of elder's LCT.	Theme 4: Model for ethical research and mental health practice with older adults diagnosed with schizophrenia.	Person-centered care	Measures to ensure patient safety
20.	Chaffin and Adams (2013)	To determine whether students' empathy increased after a simulation that used a learning tool called Simulated	Mixed methods	Data were collected during three semesters from all 67 students in the mental health nursing skill lab	As a result of the hearing-voices stimulation, students intended to generally demonstrate more understanding, patience, and kindness toward patients.	Theme 3: Nursing to promote the recognition of persons as participants in their care rather than objects of care as they	Person-centered care	Nursing to promote recognition of persons as

No	Citation	Purpose	Study Design	Subjects	The study's main Findings	Theme	Category	Synthesis
		Experience of Hearing Voices that are Distressing.				went simulation to determine whether students' empathy was using a learning tool.		participant s of care
21.	Sarikoc et al. (2022)	To examine the simulated patient's beliefs towards mental illness.	Experimental Design	Turkey n= 12, UK= 31 working with a simulation training center on mental health education	This paper explains how contemporary psychiatric mental health nurses can eradicate barriers to mental health by developing a contextual understanding of the concepts of collaboration, integration, and service expansion into one conceptual model of care and incorporating a new paradigm into contemporary quality and evidence-based care delivery systems.	Theme 3: Nursing to promote the recognition of persons as participants in their care rather than as objects of care, to reduce stigma on mental health illness.	Person-centered care	Nursing to promote recognition of persons as participant s of care
22.	Ellis and Alexander (2016)	To use the available evidence to contextually explicate how the blended roles of psychiatric mental health nursing can influential in eradicating barriers to care and services for severe mentally-ill (SMI) persons.	Theoretical paper	NA	This paper explains how contemporary psychiatric mental health nurses could eradicate barriers to mental health by emerging contextual understanding of the concepts of collaboration, integration and service expansion into one conceptual model of care.	Theme 1: A large body of literature proposes that any best-practice standards aimed at eliminating barriers to the healthcare needs of SMI persons require systematic, well-coordinated interdisciplinary partnerships through evidence-based, high-quality, person-centered, and outcome-driven processes.	Educational programs	Theory-based in-service educational programs
23.	Oliveira et al. (2020)	To understand how the nursing staff perceives the care provided to people in situations of psychiatric urgencies and emergencies in the Mobile Emergency Care Service (SAMU – Serviço de	Descriptive and qualitative study	The SAMU nursing workers (N=34)	Three categories emerged that mechanical practice, need for qualification, and (de)humanization of care. The results showed that the care offered to users in psychiatric urgency or emergency situations is based on mechanistic and specific actions.	Theme 2: Technology used: Mobile Emergency Care Service (SAMU).	Support through Technology	Nursing care using technology in various nursing situations

No	Citation	Purpose	Study Design	Subjects	The study's main Findings	Theme	Category	Synthesis
24.	Hsiao et al. (2023)	Atendimento Móvel de Urgência). To investigate the factors influencing mental health nurses' attitudes towards people with mental illness.	Cross-sectional study with descriptive correlation design	180 Taiwanese mental health nurses from mental healthcare settings.	This study demonstrated that mental health nurses were generally negatively disposed to individuals with mental illnesses, particularly those caring for individuals with substance abuse. Nursing education and training programs should equip mental health nurses with empathic and positive attitudes toward patients.	Theme 6: Nursing to promote recognition of effective mental health care among individuals with mental illness.	Knowing patient and family	Technological competency and caring in psychiatric nursing
25.	Kaite et al. (2015)	To synthesize qualitative research findings that explore the lived experience of Severe Mental Illness (SMI) in order to that of a single study.	Meta ethnographic synthesis	Seventeen papers were remaining for the meta-synthesis sample	The present study shed light on the different aspects of the lived experiences of SMI and identified the importance of self-identity through the continuum of illness, particularly how altered self-identity may become a means for reconciliation between the self and the demands of illness.	Theme 3: Nursing to promote recognition of persons as participants not as objects care through targeted psychosocial interventions aiming to alleviate experience of suffering of the mentally ill people. Present findings are useful to contribute to the knowledge of health professional working with SMI in order to strengthen empathy.	Knowing patient and family	Nursing to promote recognition of persons as participants of care
26.	Sveinbjarnardottir et al. (2013)	To evaluate the effectiveness of implementing a therapeutic conversation intervention in acute inpatient psychiatry with families by evaluating family perceived support, expressive family function and general well-being.	Controlled before and after study	Intervention group: 68 patients and 68 family members (n: 136)/ control group: 74 patients and 74 family members (n: 148)	The main findings indicated that family members who received the short therapeutic conversation intervention perceived significantly higher cognitive and emotional support from nurses than those who received standard care.	Theme 1: The positive results for families of psychiatric patients should be encouraged to develop and implement therapeutic conversation interventions in acute psychiatric services and should also be part of ritualized protocols of practice.	Knowing patient and family	Educational programs
27.	Kelly et al. (2019)	To examine the need for, and outcomes of, a psychotherapeutic		Nurses working in an aged-person mental health unit	80% wanted to use psychotherapeutic skills in routine practice, but only 35% had received training in such skills in the	Theme 6: Psychotherapeutic skills that nurses need	Psychotherapeutic skills	Technological competency

No	Citation	Purpose	Study Design	Subjects	The study's main Findings	Theme	Category	Synthesis
		skills training programme, within an acute psychogeriatric unit	Original research article		last 5 years. The focus group results revealed that nurses wanted training in skills related to engaging patients, responding to resistance from patients, problem solving, reminiscence, relaxation, and cognitive behavior therapy. Nurses who underwent pilot training reported increased confidence and competence in using such skills.	include: engaging with patients, responding to resistance, problem solving, reminiscence, relaxation, and cognitive behavior therapy.		y and caring in psychiatric nursing
28.	Delaney et al. (2017)	To revitalize the concept of interpersonal engagement for inpatient psychiatric nurses, this study presents a developed model based on Peplau's theory of interpersonal relationships and research on inpatient therapeutic relationships.	Literature review	Thirty-one studies on the therapeutic relationship summarized in 9 main constructs or attributes of the nurse patient relationship in mental health practice	To cultivate interpersonal engagement and explicate how through operationalizing their inpatient role, nurses support patients in developing their mental health and well-being.	Theme 6: Technological competence and caring in a detailed explanation of the skill set to revitalize the integral engagement concept and nurses' role in supporting patients' recovery journey.	Therapeutic relationship	Technological competency and caring in psychiatric nursing
29.	Mirhaghi et al. (2017)	To perform a systematic review to explain the therapeutic relationship in the contemporary nursing practice.	systematic review	Twenty studies were included in the review	The findings indicated that investment of the self in the nurse–patient relationship is pivotal to establishing therapeutic relationships, including knowing and connecting with patients.	Theme 6: Technological competence and caring through the therapeutic use of self involves the use of personality dimensions, life skills, and knowledge that a nurse can invest in establishing relationships with patients.	Therapeutic relationship	Technological competency and caring in psychiatric nursing
30.	Xue and Heffernan (2021)	To explore the concept of therapeutic communication within the nurse-patient relationship.	Concept analysis/ Systematic review	Thirty-five articles were used in the concept paper analysis of the 544 articles in the database, which	The study identified several attributes, such as mutual information exchange, engagement, and managing health issues of concern to the patient.	Theme 6: Therapeutic communication as the core of professional nursing practice in general nursing as it improves care	Therapeutic relationship	Technological competency and caring in

No	Citation	Purpose	Study Design	Subjects	The study's main Findings	Theme	Category	Synthesis
31.	Yu et al. (2022)	To compare and rank effectiveness of various exercise types in the treatment of mental health disorders.	Pairwise and network meta-analyses and meta regression analyses for mental health disorders (systematic review)	included a 20-year period and articles published in English 6456 participants from 117 randomized controlled trials in the last 35 years were surveyed	The findings revealed that multimodal exercise was best for treating depressive and negative schizophrenic symptoms, whereas resistance exercise seemed to be more beneficial for those with anxiety-related and positive schizophrenic symptoms.	outcome and patient satisfaction. Theme 3: result indicate that the significance of exercise interventions as complementary therapy for mental health disorders should be determined when selecting an exercise program.	Importance of physical rehabilitation	psychiatric nursing Nursing to promote the recognition of persons as participants in their care rather than as object of care
32.	Guo et al. (2024)	To evaluate the effectiveness and feasibility of exercise interventions as adjuncts to pharmacotherapy through meta-analysis providing valuable insights for rational intervention design.	Meta-analysis/systematic review	Seventeen publications involving 973 schizophrenia patients	This study showed that combining conventional treatment with aerobic exercise was more effective in alleviating schizophrenia symptoms than conventional treatment alone.	Theme 3: nursing to promote recognition of effective mental health through a combination of conventional aerobic exercises.	Importance of physical rehabilitation	Nursing to promote the recognition of persons as participants in their care rather than as object of care
33.	Lee et al. (2020)	To suggest a new form of mental health virtual reality (VR) simulation that is user-friendly and engaging to improve education about schizophrenia, thereby improving its treatment.	Mixed-method study/original research article	Nursing students who completed most of their clinical placement training and were in their last semester of university (N=60)	VR simulation was perceived as useful and exciting. Participants stressed that the high realism of the simulation increased their engagement in and motivation to learn about mental health nursing. Some participants made suggestions such as further refining the picture and sound quality to achieve satisfactory educational outcomes.	Theme 2: Using Virtual Reality (VR) to improve educational about schizophrenia.	Knowing patients through technology	Nursing care using technology in various nursing situations
34.	Tsubonouchi et al. (2022)	To examine the effectiveness of a patient-authored medical records (PAMRs), which was an original tool that the authors	Field-oriented ethnographic study	This study took 48 PAMRs from 10 outpatients whose diagnoses included schizophrenia or mood disorders	The qualitative data strongly suggested that the approach had therapeutic effects for each patient.	Theme 3: nursing to promote the recognition of persons as participants rather than objects of care, including PAMRs, which is beneficial for	Knowing patients through technology	Nursing to promote the recognition of persons as participant

No	Citation	Purpose	Study Design	Subjects	The study's main Findings	Theme	Category	Synthesis
		developed in an attempt to create a suitable method for therapeutic conversations in psychiatric hospitals.		such as depression and bipolar disorder		patients because it creates space for new interpretations. PAMRs help patients external their problems instead of personalizing them.		s in their care rather than as objects of care
35.	Zhu et al. (2020)	To evaluate the effects of WeChat based intervention in discharged patients with schizophrenia over the course of the study by comparing differences between the WeChat and control groups in medication adherence and quality of life at 3 and 6 months follow up.	Randomized clinical trial	Eighty-four discharged patients from a mental health center	WeChat is a convenient and easy-to-use social media tool that can be used to remotely improve medication adherence and quality of life among discharged patients with schizophrenia.	Theme 2: Nursing care technology in implementing a WeChat-based intervention program for caregivers to explore the effects of such interventions.	Knowing patients through technology	Nursing care using technology in various nursing situations
36.	Schröder and Ahlström (2004)	To describe the current COVID-19 crisis and the evolving mental health concerns associated with it, discuss how mental health practice has changed, and ways in which psychiatric mental health nurse practitioners (PMHNPs) can adapt and prepare for the future.	Literature review	NA	The COVID-19 crisis has far-reaching implications for mental health treatment, particularly for PMHNPs in practice settings. The role of tele-mental health (TMH) in professional practice has become increasingly important.	Theme 3: Technology has transformed rapidly traditional practices in response to the COVID-19 crisis, and there is strong evidence that it is well accepted by patients and healthcare providers. It is incumbent on PMHNPs to embrace TMH and become educated on best practices and TMH services.	Patient Support through Technology	Nursing to promote the recognition of persons as participants in their care rather than as objects of care
37.	Bostrom (2016)	Update the technologies described in the original article.	Original research article	NA (Discussion paper).	The article highlighted the scientific progress, knowledge and technology about brain and how to treat people with mental illness is understood thus technology and science enhance the	Theme 6: technological competence, nurses must able to response and engage in science	Patient support through technology	Technological competency and caring in

No	Citation	Purpose	Study Design	Subjects	The study's main Findings	Theme	Category	Synthesis
38.	Moeller et al. (2022)	To explore adult outpatients' experiences with home-based psychotherapy via videoconferencing in a Danish mental health service.	Descriptive study/ research article	Mental health nurses working with adult (20–70 years) outpatients (N=7)	work of clinician in the everyday experiences of people with mental illness. Videoconferencing-based psychotherapy for preventive relapse sessions was very useful, and the participants believed that it was possible to maintain a good therapeutic relationship via videoconferencing when they knew their therapist in advance. However, experiences with more in-depth psychotherapy are more unclear because some felt alienated and preferred other ways to communicate.	and technology who help respond to mental illness. Theme 2: Technology used in psychotherapy: videoconferencing.	Psychotherapeutic skills	psychiatric nursing Nursing care using technology in various nursing situations
39.	Hasselberg (2020)	To review the evolution and pros and cons of technology-enabled healthcare since the digital movement in psychiatry began more than 50 years ago as well as describe the University of Rochester's innovative digital behavioral healthcare model.	Literature review	NA	Digital behavioral healthcare is an increasingly important strategy for managing mental health care needs. However, there are numerous hurdles to adopt digital healthcare, including provider resistance and knowledge gaps, lack of reimbursement parity, restrictive credentialing and privileging, and overregulation at both state and federal levels.	Theme 2: concepts of technologies for mental health including: tele mentoring (use of videoconferencing) and telepsychiatry.	Support through technology	Nursing care using technology in various nursing situations
40.	Hilty et al. (2019)	To overview mobile health, smartphone/ device and apps for psychiatry and medicine.	Theoretical paper	NA	NA	Theme 2: 1) Technological competencies, include: novice/ advanced beginner, competent/ proficient, and expert, 2) Technologies used in psychiatry include: mobile health, smartphone/ devices, and apps.	Support through technology	Nursing care using technology in various nursing situations
41.	Kwon et al. (2022)	To review schizophrenia apps offered	Literature review	N=60 articles	Only nine apps—two designed on psychosis-specific platforms and seven on non-specific platforms—were easily	Theme 2: Technology used: schizophrenia apps.	Technological health support	Nursing care using technology

No	Citation	Purpose	Study Design	Subjects	The study's main Findings	Theme	Category	Synthesis
		marketplaces and research literature with a focus on accessibility and availability.			accessible. The search of app marketplaces uncovered 537 apps; only six eligible apps were identified, of which 83.3% offered only psychoeducation. All marketplace apps lacked frequent updates; the average time since the last update was 1121 days. There are few clinically useful relevant apps accessible to patients on commercial marketplaces.			in various nursing situations
42.	Lee et al. (2019)	To examine patients' willingness to use smartphone apps for lifestyle management and its effect on self-reported lifestyle habits.	(Not specify, cross-sectional study)/ original research article	Inpatients diagnosed with schizophrenia (N=555)	Willingness to use smartphone apps was associated with age, education, income, device type, and body mass index. Positive opinions on smartphone app use were significantly associated with willingness to use apps, which were significantly associated with dietary and lifestyle habits.	Theme 2: Technology used: smartphone apps.	Technological health support	Nursing care using technology in various nursing situations
43.	Li et al. (2020)	To present a qualitative review of mobile mental health applications in an Asian context.	Qualitative review/ original research article	N = 19 articles	Mobile health applications that address eight categories of mental illnesses. These applications have been developed in only six countries and regions in Asia. Given widespread access to mobile technology worldwide, health behavior changes tools delivered through mobile platforms enable evidence-based assessment and interventions with a broader reach and scalability, especially for addressing the growing burden of mental health disorders globally.	Theme 2: Technology used: mobile health applications.	Technological health support	Nursing care using technology in various nursing situations
44.	Sprenger et al. (2017)	To explore: (1) the intention of health professionals to use and recommend e-mental health applications, (2) how this intention of health professionals might be influenced, (3) which group of health professionals might be most accessible to promote e- mental	Online survey/ original research article	Health professionals in the field of pregnancy and maternal care (including psychologists, psychiatrists, midwives, and doctors)	Health professionals generally recommend and use e-mental health applications. However, their attitudes toward e-mental health applications vary with regard to the respective use cases and differ among health professionals. An e-mental health application could be used for the first assessment and diagnosis, especially for women who are reluctant to seek help from a health professional. If the application identified a woman at high risk of depression, it	Theme 2: Technology used: e-mental health application.	Technological health support	Nursing care using technology in various nursing situations

No	Citation	Purpose	Study Design	Subjects	The study's main Findings	Theme	Category	Synthesis
		health applications for maternal depression, and (4) for which tasks they rate them to be most useful.			might encourage her to consult a psychologist or psychiatrist.			
45.	Callan et al. (2017)	To review currently available technologies and research aimed at relieving symptoms of major depression.	Literature review	NA	Recent technologies used to treat major depression include computer-assisted cognitive-behavior therapy (CCBT), web-based self-help, Internet self-help support groups, mobile psychotherapeutic interventions (i.e., mobile applications or apps), technology-enhanced exercise, and biosensing technology.	Theme 2: Technologies and contents used for psychiatric care.	Technology-based therapies	Nursing care using technology in various nursing situations
46.	Knight et al. (2017)	To examine opposing patient narratives to better understand underlying meanings of the effect of ECT (electroconvulsive therapy).	Qualitative study/ original research article	People who had experienced ECT (N=18)	Positive reflections on the ECT emerged alongside narratives of trust in staff, comfort with the ECT, and perception of sufficient personal control. Conversely, where negative evaluations of the ECT predominated, anger was associated with a lack of control and a belief that the ECT made little sense and was linked to past abuses and/or the unacceptability of side effects.	Theme 2: Technology used: ECT: however, there are positive and negative aspects to the use of ECT.	Technology-based therapies	Nursing care using technology in various nursing situations
47.	Markiewicz and Dobrowolska (2021)	To evaluate Galvanic skin response (GSR) Biofeedback method as a form of rehabilitation and quantify the outcomes achieved by patients undergoing training using this technique.	Original research article	Schizophrenia patients (N=6)	Four patients showed a statistically significant decrease in the measured values after the concentration training module (BALANCE), reflecting an improvement in concentration. Three patients showed a statistically significant decrease in the measured values after the self-regulation training module (INSECTS), indicating improvement in self-regulation.	Theme 2: Contents and technology used in psychiatric intervention: Galvanic skin response (GSR) Biofeedback.	Technology-based therapies	Nursing care using technology in various nursing situations
48.	Nakao et al. (2021)	To evaluate the effectiveness of Cognitive-behavioral therapy (CBT) in stressful conditions among clinical and general populations, and identified recent advances in CBT-related techniques.	Literature review	N=345 studies	CBT was effective for a variety of mental, physical, and behavioral problems, at least in the short term; more follow-up observations are needed to assess the long-term effects of CBT. Mental and physical problems can likely be managed effectively with online CBT or self-help CBT using a mobile app; however, these should be applied with care, considering their cost-	Theme 2: CBT can be implemented online or through a mobile app; however, cost-effectiveness and applicability for patients.	Technology-based therapies	Nursing care using technology in various nursing situations

No	Citation	Purpose	Study Design	Subjects	The study's main Findings	Theme	Category	Synthesis
49.	Shaygan et al. (2023)	To determine the effect of mobile phone-based logotherapy on depression, suicidal ideation, and hopelessness in patients with major depressive disorder.	A mixed-methods approach/ original research article	Adult patients referred to three outpatient psychiatric services (N=70)	effectiveness and applicability to a given population. Qualitative analysis confirmed the efficacy of sertraline plus mobile - based logotherapy on depression, suicidal ideation, and hopelessness in the intervention group. Mobile - based logotherapy through WhatsApp was an effective psychotherapeutic method for decreasing depression, hopelessness, and suicidal ideation in patients with major depressive disorder. Educational, institutional, and technological infrastructures for providing and using mobile - based logotherapy for patients with major depressive disorder should be considered in the mental health care system.	Theme 2: Technology used: Transcranial magnetic stimulation (TMS).	Technology-based therapies	Nursing care using technology in various nursing situations
50.	Taşdemir Yiğitoğlu et al. (2023)	To reveal the opinions of depression patients about Transcranial magnetic stimulation (TMS) application.	Descriptive and qualitative study/ original research article	Patients who are depressive (N=9)	Three main themes such as living with depression, the TMS implementation process, and the last words about TMS, were identified. It was also found that patients experienced anxiety, fear, and a lack of knowledge regarding TMS, a new application in Turkey.	Theme 2: Technology used: Transcranial magnetic stimulation.	Technology-based therapies	Nursing care using technology in various nursing situations

1) Theory-based in-service educational programs

The reviewed articles discussed educational programs in psychiatric care, including educational interventions (Rezayat et al., 2019), on-going in-service education (Letlape et al., 2014), educational technology (Liu et al., 2020), and e-learning packages (Meredith et al., 2018).

Educational intervention includes lectures, educational campaigns, and designing an instrument to measure the process of addressing stigma among people with schizophrenia spectrum disorders and their families, which aims to empower patients and families with the skills to address stigma (Rezayat et al., 2019).

In addition, educational technology, particularly mobile community learning, can improve psychiatric nursing care. The program had a positive effect on the learning experience of the experimental group, with the mean satisfaction score for the program reaching 4.27 (range, 1–5). Mobile community learning programs for psychiatric nurses can effectively improve case management knowledge and competence (Liu et al., 2020). Another educational intervention used an e-learning package. The custom-designed sensory-approach e-learning package is an effective, accessible, acceptable, and usable method for training health professionals in sensory modulation approaches (Meredith et al., 2018).

From the perspectives of nurses, a qualitative study by Letlape et al. (2014) found that psychiatric nurses raised the needs of on-going in-service education, particularly up to date developments and information. Furthermore, according to nurse participants, in-service education provided career advantages, social advantages, physical advantages, and psychological advantages for psychiatric nurses (Letlape et al., 2024).

2) Nursing care using technology in various nursing situations

Various technologies used in psychiatric nursing care were discussed in the reviewed articles. These technologies include video-based contact intervention (VBCI) (Ng et al., 2017), VR simulation program (Y. Lee et al., 2020), WeChat (Zhu et al., 2020), digitally assisted nursing observations (Barrera et al., 2020), electronic records (Brimblecombe et al., 2019), schizophrenia apps (Kwon et al., 2022), smartphone apps (K. Lee et al., 2019) mobile health applications (Li et al., 2020), e-mental health applications (Sprenger et al., 2017), electroconvulsive therapy (Knight et al., 2017), galvanic skin response (GSR), biofeedback (Markiewicz & Dobrowolska, 2021), and transcranial magnetic stimulation (TMS) (Shaygan et al., 2023; Yiğitoğlu et al., 2023).

A study by Moeller et al. (2022) found that videoconferencing-based psychotherapy for preventive relapse sessions is effective, and they believed a strong therapeutic relationship could be maintained when they were acquainted with their therapist.

Video-based contact intervention (VBCI) has been used to reduce mental illness-related stigma

among nurses (Ng et al., 2017). The mental health virtual reality (VR) simulation program was perceived as useful and exciting. Participants emphasized that the high realism of the simulation increased their engagement in and motivation to learn about mental health nursing. Some participants made suggestions, such as further refining the image and sound quality to improve educational outcomes (Y. Lee et al., 2020). Also, to reduce stress-related disorders and enhance mental health, cognitive-behavioral therapy helps individuals eliminate avoidant and safety-seeking behaviors, facilitating stress management (Nakao et al., 2021).

WeChat is a convenient and easy-to-use social media tool that can be used to remotely improve medication adherence and quality of life among discharged patients with schizophrenia (Zhu et al., 2020). Digitally assisted nursing observations could maintain patient safety while potentially improving patient and staff experience in acute psychiatric wards (Barrera et al., 2020). Mobile health can impact communication, boundaries, and privacy, thus it's crucial to evaluate applications to ensure they are evidence-based (Hilty et al., 2019).

Telepsychiatry helps overcome barriers for patients in rural and underserved areas, those with phobias, anxieties, or physical limitations that prevent them from leaving their homes, thus decreasing the stigma associated with mental care as patients can receive treatment discreetly from their homes (Hasselberg, 2020).

At present, several valuable technological “toolbox” options are available. As clinicians become more familiar with these methods, patients become more adept at seeking solutions to alleviate their symptoms, increasing the role in the treatment of depression (Callan et al., 2017). Electronic recording is used as a digital early warning system for physical deterioration. However, some inpatients expressed concerns about data confidentiality. Although most staff members held neutral or positive views about the planned change, they raised potential safety hazards and the risks of electronic recordings being misinterpreted by patients (Brimblecombe et al., 2019).

A literature review of schizophrenia apps by (Kwon et al., 2022) found that a total of 51.7% of research apps were built on psychosis-specific platforms, while 48.3% were built on non-specific platforms. Approximately 83.3% of research apps offered monitoring functionalities. Only nine apps—two designed for psychosis-specific platforms and seven for non-specific platforms—were easily accessible. The search of app marketplaces uncovered 537 apps; only six eligible marketplace apps were identified. 83.3% of the marketplace apps provided psychoeducation.

- 3) Nursing to promote the recognition of persons as participants in their care rather than as objects of care

To promote the recognition of persons being cared for as participants in psychiatric nursing care, various efforts have been made, including developing a model of dehumanization (Fontesse et al., 2021), promoting multimodal exercise (Yu et al., 2022), evaluating social media in dealing with stigma (Küçük Öztürk & Özdil, 2022a), and knowing patients through technologies using patient-authored medical records (PAMRs) (Tsubonouchi et al., 2022).

A model of dehumanization of psychiatric patients by nurses was developed based on literature and was tested (Fontesse et al., 2021). It was found that nurses feel dehumanized by their superiors, which is associated with increased dehumanization towards patients. Nursing to promote recognition of persons as participants in care and as advocates for more human and less stigmatizing practices in the field of health care to improve how employees and recipients of health care are treated (Fontesse et al., 2021). Yen et al. (2020) supported the importance to increase awareness of self-stigma and suggested effective measures to help patients with schizophrenia to deal with the stigma they experienced.

In dealing with stigma, content to improve psychiatric care related to social media use includes evaluating social media, its meaning to users, and its effects. Enhancing the positive aspects of social media that can be used to maintain and improve the mental health of individuals with mental disorders should tackle the negative effects of social media use, such as stigmatization, jealousy, and waste of time (Küçük Öztürk & Özdil, 2022a).

A study by (Yu et al., 2022) showed that multimodal exercise ranked best for treating depressive and negative schizophrenic symptoms, whereas resistance exercise seemed to be more beneficial for those with anxiety-related and positive schizophrenic symptoms. Mind-body exercise was recommended as the most promising type of exercise for the treatment of post-traumatic stress disorder. Results suggest that the importance of exercise interventions as adjunctive therapy in mental disorders should be determined by selecting an exercise program (Yu et al., 2022).

Furthermore, patient-authored medical records (PAMRs), beneficial for patients because they create space for new interpretations, are also a strategy to know patients through technology. PAMRs help patients externalize their problem instead of personalizing them. The analysis of qualitative data strongly suggested that the approach had therapeutic effects on each patient (Tsubonouchi et al., 2022).

National and global initiatives are taking place to incorporate technology into everyday life, including health care. Telemental health is an opportunity for advanced practice nurses to provide relevant care to patients (Schröder & Ahlström, 2004).

Another strategy to enhance the recognition of persons as participant of care is shown by Chaffin and Adams (2013)'s study in which they used Simulated Experience of Hearing Voices in mental health skill lab to investigate students' empathy. Their study found that students intended to demonstrate more understanding and kindness toward patients after hearing-voices stimulation. In addition, Sarikoc et al. (2022) and Ellis & Alexander (2016) explained how contemporary psychiatric-mental health nurses can eliminate barriers to mental health by developing a contextual understanding of the concepts of collaboration, integration, and service expansion into a conceptual model of care and incorporating a new paradigm into contemporary quality and evidence-based care delivery systems.

- 4) Measures that ensure patient safety, such as prevention of falls and medication errors

The reviewed articles discussed several measures to ensure patient safety, including the Ethical Approach Toward Psychiatric Evaluation Scale (Özalp, 2022), video monitoring (Abbe & O'Keeffe, 2021), the creation of a ward environment (Ha et al., 2021), and referrals and collaboration to enhance medication adherence (Clifford et al., 2020).

Özalp (2022) developed the Ethical Approach Toward Psychiatric Evaluation Scale to evaluate the ethical approaches of health professionals working in the psychiatric unit. Video monitoring was used to enhance patient safety and prevent mistreatment. Continuous video monitoring is a tool for the nursing staff to enhance patient safety and provide additional safety intervention when the use of a sitter is not appropriate (Abbe & O'Keeffe, 2021).

Ha et al. (2021) emphasized the creation of a ward environment where inpatients can feel safe and the staff can actively engage in therapeutic communication, while Clifford et al. (2020) highlight the importance of health professionals considering referral and collaboration with peer workers and the value of exploring to medication adherence.

Meanwhile, in the area of research, Walker (2022) proposed life course theory (LCT) with four ethical principles of vulnerability, veracity, non-maleficence, and autonomy to establish person-centered care in mental health nursing.

- 5) Psychiatric nurses' roles and responsibilities in addressing ethical and legal issues in the care of patients with mental illness

The most frequently encountered ethical issue was in the care of patients with mental illness "protecting patients' rights and human dignity," and the most disturbing ethical issue was "providing nursing care with possible health risks." Forensic psychiatric nursing-related ethical distress and conflicts: difficulty in discharge management, prevention of violence and self-harm, compulsory treatment, patient care, and negative emotions toward patients (Tsunematsu et al., 2021).

Current realities in the field often create complex situations that can challenge the nurse's

beliefs, values, emotions and actions and ultimately compromise the quality of care delivered to the patient. Additionally, psychiatric nurses must be advocates for patients and engage in community and mental health advocacy activities that reflect both personal and professional commitments to the vulnerable population for whom they care (Stuart, 2016).

Also, people with mental illness are subjected to stigma and discrimination, thus, mental health nurses have a vital and key role in ensuring that their interventions are based on ethical and human rights principles (Ventura et al., 2021). In addition, an urgent need to incorporate ongoing psychiatry-related training for mental health nurses to help improve patient care and outcomes (Ng et al., 2017).

From the viewpoint of nurses, a qualitative phenomenological study by Alyousef and Alhamidi (2023) found that nurses faced obstacles during their experiences of psychiatric care provision. Those obstacles included policy at institutions, low professional self-confidence, job roles, and inadequate supports such as stigmatization, insecure, stressed, and feeling unsafe. This study also suggests that maintaining high-quality nursing standards in inpatient settings requires a consistent and accountable organizational structure which leads to the development and improvement of relevant nursing skills through continuing education, improved awareness of mental health disorders and care within community.

6) Technological competence and caring in psychiatric nursing

This last theme discussed findings of reviewed studies regarding technological competence and caring in psychiatric nursing. A study by Hsiao et al. (2023) demonstrated that mental health nurses in general were negatively disposed to individuals with mental illnesses especially those caring for persons with substance abuse. Nursing education and training programs should aim to equip mental health nurses with empathic and positive attitudes toward patients. Nurses with professional knowledge and positive character can be educated to practice therapeutic communication, building on the nurse-patient relationship and improving quality care (Xue & Heffernan, 2021). Kaite et al. (2015) shed light on various aspects of the lived experience of people with serious mental illness, highlighting the importance of self-identity throughout the illness continuum, particularly how altered self-identity can become a means of reconciling the self with the demands of illness. In addition, nurses must be able to respond and engage in science a technology and still remember the daily experiences of people with mental illness (Bostrom, 2016).

A study by (Delaney et al., 2017) suggests that interpersonal skills and experienced nurses have the language to explain their inpatient role. Investment of the self in the nurse-patient relationship is pivotal to establish therapeutic relationship including knowing

and connecting with patients (Mirhaghi et al., 2017). Meanwhile, Kelly et al. (2019) highlighted that psychotherapeutic skills that nurses need include: engaging with patients, responding to resistance, problem solving, reminiscence, relaxation, and cognitive behavior therapy. Also, Sveinbjarnardottir et al. (2013) found that families who received a brief therapeutic conversation intervention perceived significantly more cognitive and emotional support from nurses than families who received standard care.

Despite the informative findings revealed in this review, some limitations were also highlighted. Limitation in this study included only English-language studies and restricted studies published within the last decade, combining both theoretical and empirical sources, and the possibility of publication bias since this study mostly published the positive findings of the technology used in psychiatric nursing.

Furthermore, the studies included in this review provide diverse insights into psychiatric nursing practices, especially regarding technology integration and educational interventions. However, a notable limitation is the lack of comparisons between studies that address similar themes. For instance, some studies have emphasized the effectiveness of in mental health education by enhancing learner engagement and motivation (K. Lee et al., 2019), other focus on simpler video-based interventions for stigma reduction (Ng et al., 2017). Despite both targeting nursing competency, the studies did not address how the complexity of tools affect accessibility and scalability, leaving room for future research on resource-efficient educational technologies. There were also studies with diverse methodologies ranging from qualitative designs to experimental approaches that suggested the strengths of the integrative review but also introduced inconsistencies. (Ng et al., 2017) provided measurable outcomes for the reduction of stigma, offering practical application for nursing education. Also, technology-focused interventions such as WeChat-based programs for medication adherence (Zhu et al., 2020) demonstrate innovative approaches to patient engagement and continuity of care. On the other hand, some studies have small sample sizes (N=12), which limit their generalizability like the study of (Küçük Öztürk & Özdil, 2022b). Also, the lack of longitudinal data (Barrera et al., 2020), make it difficult to assess the long-term impact of interventions like digitally assisted nursing observations.

There were significant gaps that remain in the integration of emerging technologies into psychiatric nursing such as, advanced technologies like artificial intelligence and augmented reality receive limited discussion. For example, while telepsychiatry is mentioned as a strategy for overcoming barriers (Hasselberg, 2020), there is little examination of its integration into routine nursing practice. Tools such as mobile applications (Li et al., 2020) are underexplored in terms of their usability and impact across diverse patient populations.

Emerging technologies such as artificial intelligence (AI) in psychiatric diagnostics address the potential early detection, personalized treatment and efficiency in mental health care. AI applications like predictive analytics and symptom tracking are already showing promise but require ethical and practical guidelines to ensure equitable use (Barrera et al., 2020).

Considering our behavior and gender norms are based on culture. Understanding the personal and cultural meaning of the patient's situation is a great help in understanding the patient's experience (Gordon, M. (1994), n.d.). Also, nurses take the time to know the patient's cultural background, personal preferences, and values. This allows nurses to respond to the patient's unique needs and desires, allowing for the provision of more individualized, culturally sensitive care (Swanson, 1991). Moreover, the nursing workforce competencies are important because they ensure that nurses have the knowledge and abilities necessary to provide care that is safe, effective and centered on the patient. The purpose of technology integration is to maximize the potential of technology to enhance process, collaboration, communication and overall performance. Nurses who made use of technology to assist them in their work exhibited higher levels of competency than their counterparts who did not make use of technology. The incorporation of technology is necessary component that has the potential to greatly influence nursing workforce competence (Alshammari & Alenezi, 2023). While it is understood that technology drives advances in nursing and the health sciences, would it be possible that nursing can or will also drive technological advancements in human caring? All too often, nurses are employed in healthcare as simply the end-users of technologies. We nurses must engage a discourse towards advancing nursing as driving technological improvements aimed for human caring (Pepito & Locsin, 2018). In rapidly changing health care systems, digitalization, e-health and robotization are gaining influence. Information and Communication Technology (ICT), AI and robotization are one way to support health care professionals, enhance interprofessional cooperation and patients' safety. However, healthcare professionals who use ICT complain about the lack of skills and tailored training for their needs. Usually, nurses must learn ICT related skills on the job within their working duties (Mink et al., 2021)

As mentioned above, it is important for us to explore new technologies. However, it is also important for us nurses to understand these technologies and adapt them to the culture and social situation of each country.

To ensure the reliable execution of the challenging nursing practices for patients with acute stroke, hospitals must establish a system that enables the strengthening of current nursing education. This includes enhancing knowledge about nursing practices for patients with acute stroke, as well as nursing methods. This system should also provide

implementable procedures through training and develop personnel capable of applying all nursing skills into practice.

CONCLUSION

The synthesis of recent research on psychiatric care and interventions underscores the complexity and importance of addressing various aspects of mental healthcare delivery. Educational programs targeting stigma reduction, in-service education and technological innovations such as VR simulations and mobile apps play pivotal roles in enhancing patient care experiences.

Innovative approaches to patient-centered care emphasize the need to recognize patients as active participants in their care and to use technology to improve outcomes. Similarly, patient safety strategies are critical to ensuring patient well-being and promoting quality care.

Ethical challenges underscore the need for nurses to navigate complex ethical dilemmas while upholding patients' rights and dignity. Furthermore, addressing negative attitudes towards patients is paramount in fostering empathetic and positive care environments.

The findings emphasize the dynamic nature of psychiatric care and the ongoing efforts to improve patient outcomes through multi-dimensional interventions and ethical practice. To address negative attitudes towards individuals with mental illness, nursing education and training programs should be prioritized giving empathetic and positive attitudes among psychiatric nurses towards their patients. By prioritizing patient care, leveraging technological advancements, and fostering positive attitudes among healthcare professionals, caring in psychiatric nursing continues to evolve toward better mental health outcomes.

The integration of technology in psychiatric nursing improves efficiency and safety but risks dehumanizing patients. Locsin's theory emphasizes using technology to enhance understanding of patients as individuals, not objects (Locsin, 2005, 2017). Tools like the Ethical approach towards Psychiatric Evaluation Scale help uphold patient dignity amid ethical dilemmas (Özalp, 2022). Technologies such as VR simulations and patient-authored medical records (PAMRs) foster empathy and engagement, while telepsychiatry and forensic applications require vigilance to protect privacy and rights (Y. Lee et al., 2020; Tsubonouchi et al., 2022; Ventura et al., 2021). Balancing innovation with ethics ensures technology enhances quality of psychiatric care without compromising its humanistic core.

Further, policies should include standardized guidelines to ensure the responsible use of technologies like video monitoring and telepsychiatry while safeguarding patient privacy and dignity (Abbe & O'Keeffe, 2021; Ventura et al., 2021). Data security regulations must address risks associated with

electronic records and mobile health applications to prevent breaches (Brimblecombe et al., 2019; Li et al., 2020). Additionally, financial and logistical support should be provided to promote equitable access to innovative technologies, particularly in underserved areas as seen with telepsychiatry potential (Hasselberg, 2020). Training programs for psychiatric nurses should incorporate ethics-focused modules to navigate dilemmas such as balancing autonomy with safety and courses on technological competencies (Barrera et al., 2020) together with empathy focused training, such as patient-authored medical records (PAMRs) and hearing voice simulations can strengthen nurse-patient relationships (Chaffin & Adams, 2013; Tsubonouchi et al., 2022). Continuous education programs are vital to keeping nurses updated, thus these measures empower nurses to integrate technology into psychiatric care responsibly.

Conflict of Interest

The authors declare no conflict of interest.

Funding

The authors received no funding for this research.

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