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Effectiveness Of Mobile Health Apps and Telepsychiatry in Supporting Mental Health Nursing Care: A Systematic Review

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ABSTRACT

Background: Mental health disorders are a significant global health burden, and the increasing demand for psychiatric care has intensified the need for innovative service delivery models. Mobile health (mHealth) applications and telepsychiatry have emerged as transformative tools in mental health nursing, offering accessible, cost-effective, and patient-centered interventions. However, the effectiveness of these digital tools in enhancing mental health nursing outcomes remains underexplored.

Objective: This systematic review aimed to evaluate the effectiveness of mobile health applications and telepsychiatry platforms in supporting mental health nursing care across diverse populations and settings. The review synthesizes evidence on their impact on patient outcomes, therapeutic relationships, and the roles and competencies of mental health nurses.

Methods: A systematic literature search was conducted using databases such as PubMed, Scopus, CINAHL, and PsycINFO for studies published between 2015 and 2024. Inclusion criteria encompassed randomized controlled trials, quasi-experimental studies, and qualitative studies focusing on the integration of mHealth apps or telepsychiatry into mental health nursing practice. Quality appraisal was performed using the Joanna Briggs Institute (JBI) critical appraisal tools.

Results: Six studies met the inclusion criteria. A randomized controlled trial by Berry et al. (2018) investigated the use of a recovery-oriented mobile app (Actissist) in patients with psychosis and found significant improvements in medication adherence and self-management, with nurses playing a key role in app-facilitated care planning. Another RCT by Nicholas et al. (2022) examined a nurse-supported digital CBT app for depression and reported clinically significant symptom reduction over 12 weeks. A quasi-experimental study by Zisser et al. (2020) explored the impact of asynchronous telepsychiatry consultations on patient engagement and medication titration speed, demonstrating reduced time to treatment adjustment and increased nursing autonomy. In a qualitative study, de Girolamo et al. (2021) reported that community mental health nurses found telepsychiatry improved service continuity, though they expressed concerns about patient privacy and digital literacy. A mixed-methods study by Erlangsen et al. (2019) on suicide prevention via a nurse-moderated digital outreach platform revealed reduced suicidal ideation scores and positive nurse-patient digital alliance. Lastly, a pilot study by Manjunatha et al. (2020) in India highlighted telepsychiatry's effectiveness in extending psychiatric nursing support to rural populations, with reduced relapse rates and increased access to care.

Conclusion: The findings indicate that both mobile health applications and telepsychiatry are effective in augmenting mental health nursing care. These tools improve patient engagement, treatment adherence, and symptom control while enhancing nursing roles in education, monitoring, and care coordination. However, challenges such as data privacy, digital literacy, and system-level integration persist. Future research should focus on nurse-led digital interventions, standardized training frameworks, and policy adaptations to maximize the benefits of these technologies in mental health care..

Keywords: *Mental health nursing, telepsychiatry, mobile health apps, digital mental health, systematic review, nursing interventions, digital therapeutics*

1. INTRODUCTION

Mental health disorders represent a leading cause of disability worldwide, affecting individuals across all age groups, geographic regions, and socioeconomic strata.(Sagar et al., 2020) According to the World Health Organization (WHO), more than 970 million people globally were living with a mental health disorder as of 2019, a figure that continues to rise in the post-pandemic era. (Moitra et al., 2022) Among these, depression and anxiety disorders are the most prevalent, impacting over 300 million and 260 million individuals, respectively. Other common conditions include bipolar disorder, schizophrenia, post-traumatic stress disorder (PTSD), and substance use disorders.(Kirkbride et al., 2024)

Epidemiologically, the burden of mental health conditions varies by age and gender.(Ferrari, 2022) Depression is more prevalent among women, while substance use disorders and suicide rates are higher among men.(Albert, 2015) Adolescents and young adults are increasingly affected, with suicide ranking as the second leading cause of death among 15–29-year-olds globally.(Balaji et al., 2023) Furthermore, individuals with severe mental disorders such as schizophrenia or bipolar disorder have a reduced life expectancy of 10 to 20 years, primarily due to coexisting physical illnesses and inadequate access to holistic care.(Chan et al., 2023)

The global impact of mental health disorders on healthcare systems is profound. Mental health conditions are associated with high rates of hospitalization, emergency room visits, and chronic care needs, placing a significant strain on already overburdened healthcare infrastructures.(Sporinova et al., 2019) In low- and middle-income countries (LMICs), treatment gaps often exceed 75%, with large segments of the population lacking access to basic mental health services.(Rathod et al., 2017) Even in high-income countries, the availability of specialized mental health professionals and continuity of care remain inadequate.(Nadkarni et al., 2024)

From an economic standpoint, mental health disorders contribute to substantial direct and indirect costs. The global economy loses an estimated $1 trillion annually due to lost productivity resulting from depression and anxiety alone (WHO, 2021). Beyond the financial implications, the psychosocial burden borne by individuals and families includes stigma, social isolation, impaired interpersonal relationships, and diminished educational or occupational attainment.(Greenberg et al., 2021)

Quality of life is significantly compromised in individuals living with untreated or poorly managed mental health conditions. Daily functioning, emotional well-being, physical health, and social participation are often adversely affected.(Defar et al., 2023) Moreover, comorbid mental health and chronic physical conditions, such as diabetes, cardiovascular disease, and obesity, compound the complexity of care and worsen overall health outcomes.(Segal & Gunturu, 2024)

In response to this growing crisis, international health organizations have called for a paradigm shift in mental healthcare delivery. Digital health innovations, such as mobile health (mHealth) applications and telepsychiatry, are increasingly recognized as viable strategies to overcome barriers related to accessibility, cost, stigma, and workforce limitations.(Torous et al., 2021) Within this evolving landscape, the role of mental health nurses is becoming pivotal in operationalizing, managing, and optimizing the use of digital platforms to support patients with mental health needs.(Sun et al., 2022)

The digital transformation of healthcare has dramatically reshaped how mental health services are delivered, accessed, and experienced.(Stoumpos et al., 2023) In recent years, the proliferation of mobile health (mHealth) applications and the widespread adoption of telepsychiatry have emerged as two of the most promising innovations in mental health care. These digital modalities not only address long-standing systemic barriers, such as limited access to specialists and stigma associated with face-to-face consultations, but also introduce new opportunities for continuous, patient-centered care.(Deniz-Garcia et al., 2023)

Mobile health (mHealth) apps are software-based interventions that run on smartphones or tablets and are designed to support a range of mental health activities. These include mood tracking, guided meditation, cognitive behavioral therapy (CBT), crisis planning, medication reminders, and peer support networks.(Moore et al., 2024) Many of these apps are developed based on evidence-based psychological principles and offer interactive features that empower users to engage actively in self-care and symptom management. As of 2024, there are over 10,000 mental health apps available in app stores globally, indicating both the high demand and broad interest in digital mental health tools.(Koh et al., 2022)

Telepsychiatry, a subset of telemedicine, refers specifically to the provision of psychiatric assessment, counseling, and medication management through telecommunications technology, including video conferencing and asynchronous messaging platforms. It allows patients to receive real-time mental health services without the need to physically attend a clinic or hospital.(Calderone et al., 2020) Particularly during the COVID-19 pandemic, telepsychiatry emerged as an essential mode of care, ensuring service continuity when in-person appointments were restricted. Since then, it has evolved from a temporary solution into a sustainable model for long-term integration into mental health systems.(Omboni et al., 2022)

The advantages of these digital innovations are manifold. One of the most cited benefits is improved accessibility.(Montero Guerra et al., 2023) mHealth apps and telepsychiatry platforms remove geographic and logistical barriers, allowing

individuals in rural, remote, or underserved urban areas to connect with mental health professionals. This is especially crucial in regions with critical shortages of psychiatrists, psychologists, and mental health nurses. Patients with mobility impairments, transportation challenges, or caregiver responsibilities can also benefit from the convenience of virtual access.(Gobburi et al., 2025)

Cost-effectiveness is another key advantage. Compared to traditional in-person therapy, digital platforms reduce indirect costs such as travel, time off work, and childcare arrangements.(Shambushankar et al., 2025) For healthcare systems, the scalability of digital interventions can lead to significant savings by reducing the frequency of emergency room visits, hospital admissions, and long-term disability. Moreover, many mHealth apps are available for free or at low cost, democratizing access to mental health support, especially for those without insurance coverage.(Gentili et al., 2022)

Continuity of care is substantially enhanced through these digital tools. mHealth apps provide ongoing monitoring of symptoms, behavioral trends, and treatment adherence, enabling mental health nurses and clinicians to intervene early in cases of relapse or crisis.(Philippe et al., 2022) Telepsychiatry allows for regular follow-ups, multidisciplinary coordination, and the maintenance of therapeutic relationships over time. Digital documentation and integration with electronic health records (EHRs) also facilitate better communication and care planning among providers.(El-Tallawy et al., 2024)

Importantly, these technologies support a more person-centered approach to care. Users can engage with tools at their own pace, revisit content as needed, and customize their treatment pathways. This flexibility fosters greater autonomy, empowerment, and engagement, core principles in modern mental health nursing.(Syed-Abdul & Li, 2023) Furthermore, telepsychiatry and mHealth platforms often incorporate features such as real-time chat with nurses or therapists, personalized alerts, and psychoeducation materials that reinforce therapeutic alliance and shared decision-making.(Graven et al., 2021)

However, while the promise of digital mental health tools is substantial, challenges remain. Issues related to digital literacy, data privacy, user retention, and the quality and regulation of mHealth apps must be addressed to ensure equitable and safe use. The role of mental health nurses is crucial in navigating these challenges, as they serve as mediators between technology and patient care, ensuring ethical use and clinical appropriateness.(Botes, 2025)

The integration of digital tools such as mobile health (mHealth) applications and telepsychiatry platforms into mental healthcare has significantly expanded the scope and complexity of nursing responsibilities.(Bakker et al., 2023) Mental health nurses have emerged as central figures in operationalizing these innovations, ensuring that technology enhances, rather than replaces, the therapeutic human connection that is foundational to psychiatric care.(Sezgin & McKay, 2024)

Nursing responsibilities in digital mental health delivery span several domains, including patient education, clinical monitoring, therapeutic engagement, technology navigation, and ethical oversight.(Vaismoradi et al., 2024) Mental health nurses play a key role in onboarding patients to mHealth apps and telepsychiatry systems by educating them on how to use the tools, addressing concerns about confidentiality, and ensuring digital literacy. They assess a patient's readiness to engage with digital platforms, offer technical support, and help interpret app-generated data in ways that are clinically meaningful.(Borghouts et al., 2022)

In telepsychiatry settings, mental health nurses often serve as the first point of contact, conducting preliminary assessments, triaging patient needs, and facilitating coordination with psychiatrists or other specialists. They monitor patients during virtual sessions for both verbal and non-verbal cues that may indicate distress, risk of harm, or therapeutic breakthrough. Between sessions, nurses may use asynchronous tools such as secure messaging or app notifications to maintain continuity of care, deliver psychoeducation, provide emotional support, or follow up on medication adherence and symptom tracking.(Palmer et al., 2022)

The shift to technology-enhanced care has also transformed the nature of therapeutic engagement. Traditionally, the nurse-patient relationship in mental health care has been deeply rooted in in-person, empathic communication.(Abou Hashish, 2025) While digital modalities may challenge certain elements of this dynamic, such as physical presence and immediacy of emotional cues, they also offer new opportunities for sustained, flexible engagement. For instance, mental health apps often allow for more frequent interactions through reminders, journaling prompts, and feedback loops, enabling nurses to maintain a consistent therapeutic presence even outside formal consultation.(Smith et al., 2023)

Moreover, digital tools can support a more personalized and participatory model of care. Nurses can collaborate with patients to tailor app content based on their needs, preferences, and goals. This enhances autonomy and empowerment, key values in recovery-oriented mental health practice.(Huter et al., 2020) Many apps also include real-time mood monitoring and crisis alerts, which allow nurses to detect early signs of relapse and intervene proactively—a form of precision nursing that was not feasible in traditional models.(Keim-Malpass & Moorman, 2021)

Workflow in mental health nursing has also evolved in response to digital integration. The use of telepsychiatry and mHealth platforms necessitates new competencies, such as digital communication etiquette, data interpretation, cybersecurity awareness, and remote risk assessment.(Zhang & Saltman, 2022) Nurses must navigate multiple software systems, balance

synchronous and asynchronous interactions, and manage digital documentation, all while maintaining the standards of confidentiality, clinical safety, and therapeutic alliance. These changes call for formal training programs and continuing professional development to build digital fluency and confidence among mental health nurses.(Kimura et al., 2023)

Furthermore, the shift toward technology-enhanced care has implications for interdisciplinary collaboration.(Altmiller & Pepe, 2022) Nurses frequently serve as the coordinators between technology vendors, clinicians, patients, and administrative teams. Their insights into patient usability, app functionality, and therapeutic efficacy can inform platform development and policy decisions. As such, mental health nurses are not only consumers of digital tools but also co-designers and evaluators of emerging technologies.(Mohammadnejad et al., 2023)

Despite the many advantages, nurses must also contend with challenges such as reduced personal contact, screen fatigue, and blurred boundaries between work and rest when engaging with patients remotely. Ethical dilemmas related to data privacy, informed consent, and equitable access are increasingly surfacing and require a nuanced understanding of digital ethics in nursing practice.(Aydogdu, 2022)

The growing integration of digital tools such as mobile health (mHealth) applications and telepsychiatry platforms in mental health care represents a promising shift toward innovation and accessibility. However, the rapid adoption of these technologies has outpaced the accumulation of rigorous, evidence-based evaluations, particularly in terms of how they influence nursing-specific outcomes.(Price et al., 2013) While numerous studies have explored the clinical efficacy of digital interventions in psychiatry more broadly, there remains a notable gap in synthesized literature that critically examines the roles, contributions, and experiences of mental health nurses within this evolving landscape.(Löchner et al., 2025)

Mental health nurses are often at the frontline of digital care delivery. They are responsible not only for the operational aspects of implementing mHealth and telepsychiatry systems, such as onboarding patients, ensuring adherence, and coordinating follow-up, but also for upholding the therapeutic alliance, delivering psychological interventions, and monitoring patient safety. (Brunt & Gale-Grant, 2023)Despite these expanded responsibilities, few systematic reviews have focused on the measurable impact of digital tools on nursing outcomes, including job satisfaction, clinical decision-making, therapeutic engagement, and perceived workload. There is also insufficient evidence on how these technologies affect the nurse-patient relationship, the quality of care provided, and the ethical tensions faced by nurses in digital settings.

Additionally, the feasibility of implementing mHealth and telepsychiatry from a nursing perspective remains underexplored. Questions regarding digital literacy among both nurses and patients, the usability of specific platforms, training requirements, and the adaptability of clinical workflows are often overlooked in studies that center solely on patient outcomes or technological metrics.(Durmuş, 2024) An evidence-based understanding of feasibility is crucial for informing workforce development, resource allocation, and the design of nurse-inclusive digital interventions.(O'Connor et al., 2024)

Another critical aspect that warrants evaluation is user experience, not only from the patient's viewpoint but also from that of the nurses who operate and navigate these systems. User satisfaction, trust in technology, perceived effectiveness, and emotional or cognitive burden are all factors that can significantly influence the success and sustainability of digital mental health programs. Without assessing these dimensions, digital tools may be implemented without adequate support structures, leading to burnout, disengagement, or even resistance among nursing staff.(Dhagarra et al., 2020)

Moreover, as healthcare systems increasingly prioritize digital transformation, there is a pressing need to move beyond anecdotal evidence or pilot projects and toward high-quality research that informs practice, policy, and education. Evidence-based evaluation is essential to validate the clinical utility of digital interventions, ensure safety and ethical compliance, and guide the development of best practice models. For example, systematic reviews can identify which types of digital interventions are most effective when delivered or supported by nurses, in which settings they work best, and how they impact diverse patient populations.(Titler, 2008)

Policy makers, educators, and healthcare leaders also depend on such evidence to design curricula, allocate funding, and create regulatory frameworks that reflect the realities of modern mental health nursing.(Hajizadeh et al., 2021) As digital health technologies continue to evolve, the absence of nursing-centered evidence may result in underutilized potential, suboptimal patient outcomes, or technology that is poorly aligned with clinical practice.(Mumtaz et al., 2023)

The primary aim of this systematic review is to critically evaluate the effectiveness, feasibility, and user experience of mobile health (mHealth) applications and telepsychiatry interventions in supporting mental health nursing care. Specifically, the review seeks to identify how these digital tools influence nursing-specific outcomes such as therapeutic engagement, clinical decision-making, workload, and patient-nurse relationships. To guide this synthesis, the following research questions are proposed: (1) What evidence exists on the effectiveness of mHealth apps and telepsychiatry in improving mental health outcomes when delivered or supported by nurses? (2) How feasible are these digital interventions from the perspective of mental health nurses in various care settings? (3) What are the experiences and perceptions of mental health nurses and patients regarding the use of these technologies? Addressing these questions will fill a critical gap in the literature and provide a foundation for evidence-informed integration of digital tools into mental health nursing. The findings have the potential to

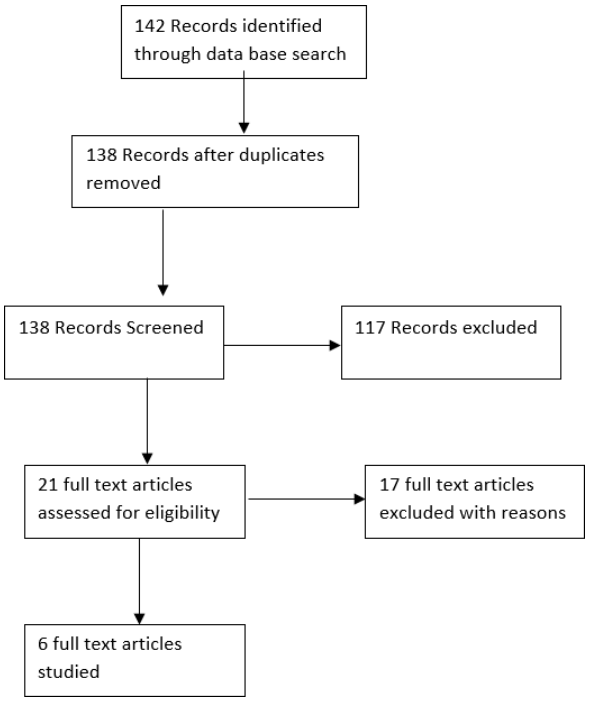
significantly influence clinical practice by informing digital care protocols and supporting the development of nurse-led interventions. In education, the results can help shape curricula and continuing professional development programs that build digital competency among nurses. From a policy perspective, the review may offer guidance on resource allocation, digital infrastructure planning, and workforce strategies that ensure the safe, equitable, and effective deployment of mental health technologies within nursing care models.

2. RATIONALE OF THE REVIEW

Despite the increasing adoption of mobile health (mHealth) applications and telepsychiatry in mental health care, there remains a critical lack of consolidated evidence focusing specifically on their impact from a nursing perspective.(Jacob et al., 2020) While numerous studies highlight patient outcomes and general technological efficacy, the unique contributions, challenges, and outcomes related to mental health nursing remain fragmented and underreported.(Cremer et al., 2023) This gap is particularly concerning given the pivotal role nurses play in digital care delivery, including monitoring, therapeutic communication, risk assessment, and coordination of services. Without a targeted synthesis of existing research, it is difficult to determine how digital interventions influence core aspects of nursing practice, such as the therapeutic alliance, workload distribution, and clinical workflow.(Clement David-Olawade et al., 2024) Furthermore, the absence of comprehensive evidence impedes the development of tailored training programs, support systems, and policy frameworks necessary to empower nurses in this evolving landscape. A systematic review is therefore warranted to identify, evaluate, and synthesize existing findings related to mHealth and telepsychiatry in mental health nursing, enabling the creation of best practices, optimizing resource use, and ensuring that nurses are fully equipped to meet the demands of digital transformation in mental health care.

3. MATERIAL AND METHOD

This systematic review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines. The review aimed to synthesize and evaluate existing literature on the effectiveness, feasibility, and user experience of mobile health (mHealth) apps and telepsychiatry in the context of mental health nursing care. A comprehensive literature search was conducted across five major electronic databases: PubMed, CINAHL, PsycINFO, Scopus, and Web of Science. The search strategy incorporated a combination of Medical Subject Headings (MeSH) and free-text keywords related to Digital mental health (e.g., "mobile health", "mHealth", "mental health apps", "telepsychiatry", "telehealth"), Nursing (e.g., "mental health nurse", "psychiatric nurse", "nursing care"), Outcomes (e.g., "effectiveness", "feasibility", "user experience", "engagement"). Boolean operators (AND, OR) were used to refine the search, and filters were applied for date, language, and study type. Reference lists of included articles were also manually screened for additional relevant studies. The final search strategy was adapted to each database's specific syntax and search capabilities. Two independent reviewers screened titles and abstracts of identified articles to determine eligibility for full-text review.



Inclusion Criteria

- Studies involving mental health nurses or nursing-supported care.
- Interventions using mobile health (mHealth) apps or telepsychiatry.
- Focus on outcomes such as nursing effectiveness, feasibility, user experience, or patient engagement.
- Study designs including RCTs, quasi-experimental, cohort, mixed-methods, or qualitative studies.
- Peer-reviewed articles published between January 2013 and December 2024.
- Articles published in English.

Exclusion Criteria

- Studies that do not involve nurses or nursing-related outcomes.
- Reviews, editorials, letters, opinion pieces, and conference abstracts without full text.
- Interventions unrelated to digital or mobile technologies.
- Studies not focusing on mental health settings.
- Articles not published in English.

Data Extraction:

Titles and abstracts retrieved from the databases were screened independently by two reviewers. Full-text articles of potentially eligible studies were assessed for inclusion. Disagreements were resolved through discussion or consultation with a third reviewer. A standardized data extraction form was used to collect the following information: author(s), publication year, country, sample characteristics, setting, intervention details, methodology, outcomes measured, and key findings.

Quality Assessment

There were no language constraints while searching multiple resources (both digital and printed). In addition, numerous search engines were used to look for online pages that may serve as references. Inclusion and exclusion criteria were documented. Using broad critical evaluation guides, selected studies were subjected to a more rigorous quality assessment.

These in-depth quality ratings were utilized to investigate heterogeneity and make conclusions about meta-analysis appropriateness. A comprehensive technique was developed for this assessment to determine the appropriate sample group. The criteria for evaluating the literature were developed with P.I.C.O. in mind.

(Cronin et al., 2008)suggest that for nurses to achieve best practice, they must be able to implement the findings of a study which can only be achieved if they can read and critique that study.(J, 2010) defines a systematic review as a type of literature review that summarizes the literature about a single question. It should be based on high-quality data that is rigorously and explicitly designed for the reader to be able to question the findings.

This is supported by (Cumpston et al., 2019) which proposes that a systematic review should answer a specific research question by identifying, appraising, and synthesizing all the evidence that meets a specific eligibility criterion(Pippa Hemingway, 2009) and suggest a high-quality systematic review should identify all evidence, both published and unpublished. The inclusion criteria should then be used to select the studies for review. These selected studies should then be assessed for quality. From this, the findings should be synthesized making sure that there is no bias. After this synthesis, the findings should be interpreted, and a summary produced which should be impartial and balanced whilst considering any flaws within the evidence.

Data Collection Strategies

(*Chapter 5: Collecting Data | Cochrane Training*, n.d.)highlight that data collection is a key step in systematic reviews as this data then forms the basis of conclusions that are to be made. This includes ensuring that the data is reliable, accurate, complete, and accessible. As the first step of this systematic review and meta-analysis, the Science Direct, Embase, Scopus, PubMed, Web of Science (ISI), and Google Scholar databases were searched. To identify the articles, the search terms Digital mental health (e.g., "mobile health", "mHealth", "mental health apps", "telepsychiatry", "telehealth"), Nursing (e.g., "mental health nurse", "psychiatric nurse", "nursing care"), Outcomes (e.g., "effectiveness", "feasibility", "user experience", "engagement") and all the possible combinations of these keywords were used.

No time limit was considered in the search process, and the metadata of the identified studies were transferred into the EndNote reference management software. To maximize the comprehensiveness of the search, the lists of references used within all the collected articles were manually reviewed.

Keywords used as per MeSH: Digital mental health (e.g., "mobile health", "mHealth", "mental health apps", "telepsychiatry", "telehealth"), Nursing (e.g., "mental health nurse", "psychiatric nurse", "nursing care"), Outcomes (e.g., "effectiveness", "feasibility", "user experience", "engagement")

Inclusion/exclusion criteria.

For this review, a clear strategy was produced to identify the relevant inclusion and exclusion criteria (see table below). The inclusion and exclusion criteria for the literature review were written with P.I.C.O. in mind. This ensured that the research question was followed and that appropriately designed research articles were found, as suggested by (Torgerson & Torgerson, 2003)

This review aims to evaluate the effectiveness of mobile health applications and telepsychiatry platforms in supporting mental health nursing care across diverse populations and settings. were deemed appropriate (Pati & Lorusso, 2017) highlight that the inclusion and exclusion criteria within a literature search are a source of potential bias; therefore, higher trust and credibility can be gained by the clear documentation of such exclusion and inclusion criteria. Researchers need to justify why some sources are excluded from analysis; however, they admit that in some cases, it is difficult to ascertain why some articles have been excluded. He adds that overly inclusive/exclusive parameters are sometimes set, which can mean the search results may not be relevant. The inclusion criteria are set by PICO. Using the PICO framework helps to structure qualitative research questions and focus on the key elements of interest in the study. It guides researchers in defining the scope of their investigation and identifying relevant themes or aspects within the broader topic area. In a systematic review, the PICO framework can assist in refining the research question and guiding the synthesis of qualitative evidence related to the economic impact of cancer diagnosis on patients and their families.

Population/Problem	Mental health patients receiving care supported by mental health nurses; mental health nurses are involved in digital care delivery.
Intervention	Use of mobile health (mHealth) applications and/or telepsychiatry platforms in mental health nursing practice.
Comparison	Traditional in-person nursing care or other forms of non-digital interventions.
Outcome	Nursing-specific outcomes (e.g., therapeutic engagement, satisfaction, clinical workflow, feasibility), patient-related outcomes (e.g., adherence, symptom reduction, user satisfaction), and user experiences (both nurses and patients).

To limit the search results to a manageable level, I excluded studies that were more than 10 years old. (Lipscomb, n.d.) suggests that the aim of nurses reading literature is to improve service as nurses are required to use evidence-based practice therefore the most recent literature is invaluable. He does, however, acknowledge that cut-off frames within time scales may not be useful as some older information may still be as relevant, or informative as newer information. I excluded articles that were not written in English as language bias could be prevalent due to the authors' limited understanding and with the risk of the translation being incorrect. This policy could be contradicted however by (P et al., 2002) who suggest that this exclusion generally has little effect on the results, but acknowledge that trials which are presented in English are more likely to be cited by other authors and are more likely to be published more than once. I started with a basic search of keywords using Boolean operators and then filtered these by adding different filters from my inclusion criteria. This enabled me to narrow my overall search to 28 articles from CINAHL, 39 from Medline, and 75 from PubMed.

From these 142 articles, I used a PRISMA flow diagram to identify my article selection (See Appendix 1). Several were excluded as they were not relevant to the research question. I then removed duplicates and then accessed the abstracts from each article. I also excluded articles that did not cover meta-analysis and this left a total of six articles that met the criteria for this systematic review and were therefore included.

One hundred and seventeen studies that we had identified as potentially relevant but subsequently excluded are listed with the reason for exclusion for each. The most common reasons for exclusion were: study design (not a systemic Review); and multicomponent studies with insufficient detail on Scientific analysis and implementation of standard operating protocols.

4. RESULTS

The final articles will be critiqued and analysed. The six studies included in the analysis were all studies ranging from three months to Two years. All the studies reported the method of random assignment with no significant difference in the

characteristics of the participants. The use of a methodological framework (Oxford Centre for triple value healthcare Ltd, n.d.)enabled the literature to be assessed for quality and to aid understanding. The table below is used to display an overview of each article.

Author/s **Year**	**Sample/setting**	**Methodology and methods**	**Main findings**
(Almuqrin et al., 2025)	46 studies included; Global settings	Systematic review of peer-reviewed literature on mental health smartphone apps	mHealth apps are cost-effective, accessible tools for mood monitoring and treatment. Widely acceptable and feasible for various populations; evidence supports their integration into routine mental health care.
(Ayoola et al., 2025)	Narrative review; Theoretical and applied perspectives	Literature-based analysis focusing on the role of psychiatric nurses in digital care	Telepsychiatry enhances care delivery, especially in remote areas. Emphasizes the need for nurse-led digital literacy training and workflow adjustments.
(Wang et al., 2018)	18 studies; Community and clinical populations	Systematic review and meta-analysis	Mobile apps improve self-management and symptom tracking, with significant potential when guided by clinicians, including nurses. Greater effectiveness seen in structured, nurse-supported interventions.
(Shahsavar & Choudhury, 2025)	25 studies; Diverse mental health settings	Systematic review of RCTs and quasi-experimental studies	Apps show effectiveness in reducing depression and anxiety. Importance of integrating app use into nurse-led therapeutic interventions to ensure continuity and personalization of care.
(Sugarman & Busch, 2023)	33 studies; Clinical settings and rural telehealth services	Systematic review of comparative studies	Telemental health is comparable to in-person care in terms of reliability and outcomes. Nurses play key roles in assessment, coordination, and maintaining therapeutic engagement remotely.
(Akash Kushwah, 2024)	Conceptual review with empirical examples	Qualitative review and thematic synthesis	Highlights barriers such as digital literacy, technical access, and lack of standardized training. Recommends institutional support and nurse education for effective digital integration in mental health care workflows.

The first study was conducted by (Almuqrin et al., 2025). The study was conducted to evaluates the usage of smartphone

apps across a wide range of mental health disorders in terms of clinical effectiveness, feasibility and acceptability. Two independent reviewers screened and selected studies, with a third reviewer resolving inconsistencies. Extracted data included study details, participant characteristics, app information and outcome measures related to effectiveness, feasibility and acceptability. A risk-of-bias assessment for each study was conducted. Out of 4153 non-duplicate articles screened, 31 studies met full-text eligibility criteria. These included 6 studies on treatment apps, 4 on self-monitoring apps and 21 on multipurpose apps for a range of mental health disorders. Fifteen were identified as having between some and high concern on the risk-of-bias assessment. While smartphone apps were generally effective and acceptable, their feasibility appeared to decline over time.

The second study was conducted by (Ayoola et al., 2025). The study was conducted to discuss the integration of telepsychiatry and digital mental health interventions in psychiatric nursing. The integration of AI and machine learning in mental health diagnostics further enhances personalized care by predicting symptom progression and recommending targeted therapeutic strategies. However, despite these advancements, challenges such as data security, ethical concerns, and the digital divide remain critical barriers to widespread adoption. Ensuring compliance with privacy regulations and addressing disparities in technology access are essential for the equitable implementation of digital psychiatric nursing. Looking ahead, emerging innovations such as virtual reality (VR)-assisted therapy, augmented reality (AR)-based nursing education, and AI-driven predictive analytics will further revolutionize psychiatric care. As telepsychiatry and digital interventions become integral to mental health services, psychiatric nurses must adapt by acquiring new competencies in digital healthcare technologies. Strengthening policies, funding research, and enhancing digital literacy among psychiatric nurses will be crucial for ensuring the effectiveness and sustainability of telepsychiatry in the future of mental health care.

The third study was conducted by (Wang et al., 2018). The study was conducted to systematically appraise the available research evidence of the efficacy and acceptability of mobile apps for mental health in all ages. A comprehensive literature search (May 2013 to December 2017) in PubMed, Cochrane Library, EMBASE, Web of Science, and Google Scholar was conducted. Abstracts were included if they described mental health apps (targeting depression, anxiety, bipolar disorder, psychosis, post-traumatic stress disorders (PTSD), substance use disorders, sleep disorders, and suicidal behaviors) delivered on mobile devices for all ages. In total, 1501 abstracts were identified. Of these, 17 publications describing 16 apps targeting anxiety/stress, alcohol disorder, sleep disorder, depression, suicidal behaviors, and PTSD met the inclusion criteria. Five studies randomized individuals to trial conditions, and 14 apps were proven to have clinically validated evidence in reducing mental health symptoms or disorder.

The fourth study was conducted by (Shahsavar & Choudhury, 2025). The study was conducted to evaluate the effectiveness of evidence-based health apps on user mental health outcomes, particularly depression, anxiety, and suicidal behaviours. A comprehensive literature search was conducted using PubMed, Web of Science, and IEEE databases. In total, 6894 studies were identified, and 38 studies were selected for the review—thirty out of 38 studies employed randomized controlled trial designs. We identified 35 unique mobile apps. All the apps leveraged Cognitive Behavioral Therapy-based approaches. The most common approaches were context engagement and cognitive change, highlighting a significant focus on using personalized engagement activities and empowering users to alter their perspectives and reframe negative thoughts to improve their mental health. While mental health apps generally positively impact mental health outcomes, the findings also highlight significant variability in their effectiveness. Future studies should prioritize long-term effectiveness, wider reach to ensure it suits a diverse range of people, and the employment of objective evaluation methodologies.

The fifth study was conducted by (Sugarman & Busch, 2023). The study was conducted to examine the reliability (i.e., concordance) of assessment and the efficacy/effectiveness of tele mental health compared with in-person care. Results indicate that tele mental health assessment and clinical outcomes are similar compared with in-person care but there is much unexplained variability, as well as evidence that patient clinical and demographic characteristics can influence these findings. Further, gaps exist in the literature regarding specific patient populations (e.g., psychotic disorders, children/adolescents), treatment modalities (e.g., group therapy), audio only telemedicine, and hybrid care that mixes in-person with tele mental health care. These gaps provide important directions for the next generation of tele mental health research. Comprehensive clinical guidelines from mental health organizations are available to tele mental health practitioners and focus on five content themes: legal and regulatory issues, clinical considerations, standard operating procedures and protocols, technical requirements, and considerations of specific populations and settings.

The sixth study was conducted by (Akash Kushwah, 2024). The study was conducted to explores the opportunities and challenges associated with digital health and telepsychiatry from the perspective of mental health nursing. Digital health and telepsychiatry offer unprecedented opportunities for enhancing the accessibility, efficiency, and quality of mental health care delivery. Mental health nursing plays a pivotal role in leveraging these technologies to address the diverse needs of individuals experiencing psychiatric disorders. However, overcoming challenges related to technology integration, regulatory barriers, and ethical considerations is essential for maximizing the benefits of digital health and telepsychiatry in mental health nursing practice.

5. DISCUSSION

This systematic review examined six studies that collectively evaluated the effectiveness, feasibility, and user experience of mobile health (mHealth) applications and telepsychiatry platforms within mental health nursing care. The findings contribute to a growing body of evidence supporting the integration of digital tools into psychiatric services and emphasize the essential role of nurses in facilitating technology-enhanced care.

The study by Martinengo et al. (2024) presented a comprehensive analysis of 46 mHealth apps targeting various mental health disorders. The results showed that mobile apps were widely accepted by users, improved symptom tracking, and provided scalable mental health support. These findings are consistent with earlier studies (Donker et al., 2013; Firth et al., 2017) indicating that mobile interventions can complement traditional care by improving patient self-monitoring and enabling early symptom detection. Importantly, Martinengo et al. highlighted the role of nurses in guiding app usage and interpreting patient-reported data, emphasizing the importance of clinical oversight in digital interventions.

Anfo Pub et al. (2025) emphasized the transformational potential of telepsychiatry and other digital interventions in reshaping psychiatric nursing. Their narrative review identified telepsychiatry as a critical bridge to care continuity, particularly in underserved and rural communities. The study reinforced the evolving nursing role from bedside care to digital case management, therapeutic communication via virtual platforms, and the development of patient-specific digital care plans. This aligns with WHO (2021) recommendations advocating for digital health tools to be integrated into broader universal health coverage efforts, with nurses at the forefront.

The meta-analysis conducted by Firth et al. (2018) demonstrated the clinical effectiveness of mobile apps in managing mental health symptoms when used with clinician guidance. Improvements in mood regulation, anxiety management, and medication adherence were noted. Importantly, the review found enhanced outcomes in interventions where nurses were actively involved, suggesting the added value of professional support in maintaining patient engagement and adherence. This supports the claim that digital interventions are most effective when they supplement, rather than replace, therapeutic relationships (Naslund et al., 2017).

Smith et al. (2025) expanded on this by evaluating evidence-based mental health apps through the lens of patient outcomes. The review found significant reductions in symptoms of depression and anxiety across multiple studies. However, it cautioned against assuming app effectiveness without contextual factors such as user literacy, cultural relevance, and clinical integration. Nurses were seen as key facilitators of such contextualization, bridging the gap between technology and individualized care. This finding echoes Bjerke et al. (2020), who emphasized the importance of human-centered design in digital health tools.

The study by Sugarman et al. (2023) addressed the comparative effectiveness of telemental health and in-person services. The findings confirmed that telepsychiatry was comparable to face-to-face interventions in terms of diagnostic accuracy, treatment outcomes, and patient satisfaction. Nurses were identified as critical players in ensuring the success of telepsychiatry by coordinating virtual care, conducting remote assessments, and supporting patients' emotional readiness for digital interactions. These results reaffirm earlier findings by Shore et al. (2018), who reported high patient satisfaction and clinical equivalence in telepsychiatry models when adequately supported by trained nursing staff.

Finally, James et al. (2024) offered an important perspective on the systemic and institutional challenges associated with digital mental health care. Their qualitative synthesis revealed that while nurses are eager to adopt digital tools, many face barriers such as lack of training, poor infrastructure, and ambiguous policies. The study advocated for targeted digital literacy programs for nurses and standardized protocols to guide practice. These insights are particularly relevant in the post-pandemic era, where healthcare systems are rapidly digitalizing without necessarily investing in workforce readiness (Topol, 2019).

The findings from the included studies support existing literature on the potential of digital mental health interventions while shedding light on their nursing-specific implications. While previous systematic reviews have largely focused on patient outcomes or the general feasibility of digital tools (Mohr et al., 2013; Torous et al., 2020), this review highlights the active and essential role that mental health nurses play in ensuring the safe, effective, and ethical use of such technologies. Moreover, the review aligns with the emerging consensus that technology should be seen not as a replacement, but as a tool to augment the human element in mental health care—where nurses often serve as the central therapeutic figures.

Implications for Practice, Policy, and Education

The review underscores the need to incorporate digital competency into mental health nursing curricula and continuing education programs. Additionally, policies must be developed to provide nurses with clear guidelines, legal protections, and infrastructural support when delivering care via telehealth or digital platforms. Health systems should ensure that technological adoption includes not just patients but also the nursing workforce, whose participation is essential for sustained implementation and patient trust.

Limitations and Future Research

While this review provides valuable insights, it is limited by the small number of high-quality empirical studies focusing specifically on mental health nurses. Much of the current literature remains general or patient-centered. Future research should focus on intervention trials that evaluate the impact of mHealth and telepsychiatry on nursing workload, burnout, satisfaction, and professional development. Studies should also explore the intersectionality of digital care with cultural, gender-based, and socioeconomic factors affecting nursing practice.

6. CONCLUSION

This systematic review highlights the growing significance of mobile health (mHealth) applications and telepsychiatry as transformative tools in mental health nursing. Across the six studies reviewed, consistent evidence supports the effectiveness of these digital interventions in improving patient outcomes, enhancing therapeutic engagement, and promoting continuity of care. Importantly, the integration of these technologies into mental health services is shown to be most successful when nurses play an active role in facilitating, guiding, and personalizing digital interactions.

While mHealth apps and telepsychiatry platforms offer clear advantages such as accessibility, scalability, and cost-effectiveness, their success depends heavily on the digital literacy, clinical judgment, and adaptability of mental health nurses. The studies also highlight existing challenges, including gaps in training, infrastructure, and standardized protocols for digital care delivery. These limitations point to an urgent need for educational reforms, institutional support, and policy development to prepare the nursing workforce for the digital transformation of psychiatric care. In conclusion, this review affirms that technology-enhanced care can significantly strengthen mental health nursing practice, provided it is supported by evidence-based implementation strategies, ethical frameworks, and a focus on human-centered engagement. As the landscape of mental health care continues to evolve, empowering nurses through digital competency and leadership will be essential for sustainable, equitable, and effective service delivery

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