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Review Article

Occupational Therapy Interventions for Acute Psychiatric Inpatients: A Scoping Review

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ABSTRACT

Background: In recent decades, policy changes in many countries have significantly affected the treatment of people with mental illness (MI), particularly in reducing the length of hospitalization in acute psychiatric departments. Occupational therapists, as key mental health professionals, must consider the impact of these shifts in mental health care delivery and focus on evidence-based interventions suited to the acute psychiatric setting. This review aims to examine existing studies to assess the scope and nature of research on occupational therapy interventions for acute psychiatric inpatients through a scoping review.

Methods: The scoping review followed the PRISMA Extension for Scoping Reviews guidelines. The study comprised three stages: pre-search, search, and post-search, following the scoping review methodology. A structured search was performed using Web of Science, PubMed, and Scopus for items published up to April 5, 2023. Two independent reviewers evaluated the selected literature in two rounds of review.

Results: Articles meeting the inclusion criteria (n=13) were incorporated into the analysis. Most publications originated from Japan, followed by the United States and Germany. For the initial days of an acute inpatient stay, especially given the unpredictability of behavior, tolerance, and unstable symptoms, short individual sessions of 20 minutes or less were generally recommended. Treatment sessions in the selected studies typically ranged from three to five days per week, with each session lasting approximately 45 minutes to 2 hours. Flexible, one-on-one intervention structures appeared beneficial in the early hospitalization phase. Four main elements of occupational therapy interventions in acute mental health were identified: individual assessment and intervention, group therapy, and discharge planning. Interventions were compared with control groups who did not participate in these activities, revealing statistically significant Personal and Social Performance Scale improvements. Using weighted blankets in sensory rooms significantly reduced distress and disruptive behaviors. Studies on MetaCognitive Training (MCT), Cognitive Remediation, and Occupational Connections (OC) demonstrated significant differences in outcomes between intervention and control groups.

Conclusion: Occupational therapy interventions in acute psychiatric inpatient settings appear effective. Further studies are warranted to develop and refine these intervention methods for acute psychiatric inpatients.

Introduction

Severe Mental Illnesses (SMIs) are among the most debilitating mental disorders. SMIs encompass a heterogeneous group of individuals suffering from serious psychiatric conditions associated with long-term mental health issues. This population experiences varying degrees of disability and social inefficiency, requiring comprehensive support from social and healthcare resources [1]. SMIs include disorders such

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as schizophrenia, schizotypal personality disorder, schizoaffective disorder, delusional disorder, psychotic disorders, bipolar disorder, major depressive disorder, and obsessive-compulsive disorder [2]. Individuals with SMI, as well as those with common mental illnesses like depression and anxiety, often face limitations in daily life activities, including social participation, employment, self-care, and sleep [3]. Hospitalization is frequently necessitated by symptom exacerbation and the individual's diminished capacity to function adequately in the community. The acute inpatient mental health setting thus serves as an essential component of comprehensive mental health care [4].

Recovery is defined as a person's experience of life that feels meaningful and complete, transcending the limitations imposed by illness [5]. It is a multifaceted concept, with one of its primary dimensions being engagement in meaningful activity [6]. Individuals manage their illness by participating in purposeful occupations, which fosters empowerment. People with mental disorders often face restrictions in participating in tasks ranging from basic personal care to more complex activities such as work and education [7]. Personal, environmental, and occupational factors limit engagement in meaningful tasks [8].

In treating individuals with mental disorders, it is essential to offer interventions in an integrated format, combining various approaches such as medication, rehabilitation, and social support. Occupational therapy (OT), as a non-pharmacological intervention, can support recovery through engagement in meaningful activities [9]. The effectiveness of OT interventions in rehabilitating individuals with chronic illnesses, including psychiatric conditions, has been well-documented [10]. In acute psychiatric wards, OT services can be delivered individually or in groups. Studies have shown the effectiveness of group-based OT activities during hospitalization for patients with acute psychiatric conditions [11, 12].

In recent decades, policies concerning the treatment of people with mental illness have shifted significantly in most countries, leading to shorter hospital stays in acute care settings. As a primary professional group in mental health, occupational therapists must consider the implications of these ongoing changes and prioritize evidence-based interventions suitable for the acute mental health environment. This scoping review aims to assess the extent and nature of existing research on occupational therapy interventions for acute psychiatric inpatients.

Methods

The review followed Peter et al.'s nine-step method, which is generally organized into three stages: pre-search (defining goals, criteria, and search strategy), search, and post-search (selection, extraction, analysis, presentation, and summarization of evidence) [13]. Reporting and presentation were conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Extension for Scoping Reviews guidelines [14].

Determining Questions

The primary research question was:

What is the extent and nature of research in OT intervention for acute psychiatric inpatients?

Determining Criteria

Inclusion criteria: Peer-reviewed or preprinted original articles on OT interventions for acute psychiatric inpatients, published in English.

Exclusion criteria: Studies with designs other than interventions, studies involving adolescents with mental disorders, and articles published in languages other than English.

Determining Search Approach

Web of Science, PubMed, and Scopus were selected to conduct a structured search for articles dated through 5 April 2023. The search terms used were ("occupational therapy") AND ("intervention" OR "protocol") AND ("mental disorder" OR "schizophrenia" OR "psychotic" OR "major depressive") AND ("inpatients" OR "acute" OR "hospitalized patients" OR "psychiatric hospitals"). The PubMed search syntax is provided in Appendix 1.

Selecting Related Article

Database searches yielded 171 articles. After removing 31 duplicates using Endnote software, 140 articles remained. Two researchers (H.S. and F.H.) independently reviewed and screened these articles in two stages: first, by evaluating titles and abstracts, and then by reviewing full texts when needed to confirm the articles' eligibility. In cases of disagreement, a third researcher (Z.N.) was consulted to reach a final decision.

Extracting, Analyzing, Presenting, and Summarizing

Two researchers (H.S. and Z.N.) reviewed data related to the studies that met the eligibility criteria, and Table 1 summarizes the findings.

Results

Figure 1 shows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram for searching and selecting eligible studies.

By applying the search strategy appropriate to each database, a total of 171 studies were identified: PubMed (45 articles), Scopus (74 articles), and Web of Science (52 articles). A total of 31 duplicate articles were removed after examination by two researchers. The two researchers conducted the initial screening of titles and abstracts for the studies (n=140), excluding 115 studies based on irrelevant titles and/or abstracts, leaving 25 studies for further consideration.

In the second stage, a full-text screening was performed to assess compliance with the inclusion criteria; 15 studies were deemed ineligible and excluded. After reviewing the full texts, 10 articles were included in this research. Additionally, three articles were added to the selected studies through reference review. Thus, 13 articles were included in this scoping review (Figure 1).

Table 1: Extracted data from selected articles

First Author (Year)	Country	Study Design	Sample	Mean Age (Year)	Occupational therapy Services	Measurement Tool	Results
Çakmak [25] (2016)	Turkish	Quasi-experimental designs	Intervention group (N:48) control group. (N:43)	Intervention group ≤45 years (40 (83.3)) Control group ≤45 years (32 (74.4))	Drawing, handicraft, sport activities + psychosocial approaches.	IFS PSP	Significant difference in the PSP scores. significant ↑ in nonpsychotic patients versus psychotic patients in females versus males in unemployed patients versus employed patients in single patients versus married patients in less-educated patients versus high school graduates in patients younger than 45 versus those older than 45 years.
CHAN [16] (2007)	China	RCT	81 Schizophrenia	18 - 63 years	A ward-based illness management program – TRIP two-week, 10 sessions	Unawareness of Mental Disorder Scale the Hong Kong version of the Short Form-36	Insight (F=4.73; P=0.033) physical health component (F=8.75; P=0.004) mental health component (F=19.4; P=0.000) lower readmission rates to hospitals
Edel [21] (2017)	Germany	Pilot RCT	114 Major depression	45.7±11.8 years	Standard OT group control group (played board games) 2 h daily 5 days a week	HAMD-21 BDI HAMA PSP	Significant time-by-group interaction effect in HAMA total score in males after three weeks (F=5.226, P=0.031; d=1.23 vs. 0.48)
Gaudiano (24)(2020)	U.S.A	Open trial design	26 Psychotic-spectrum disorders	38±12.5 years	ACT-IN multiple times weekly	BPRS CORE	Significant ↑ (4 month follow-up) in symptoms and performance
Haga [15] (2022)	Japan	Pilot RCT	24 Schizophrenia	OT + MCT group: 44.25±8.58 years OT-only group: 43.25±7.98 years	OT+MCT (eight or more of the 16 MCT sessions 45–60 min) OT-only group	BACS PANSS BCIS IMI CSQ	Significant differences in cognitive function within subjects. significant within-subject ↑ Psychiatric symptoms (P=0.03) significantly different between subjects (cognitive insight and self-reflectiveness). lower readmission significantly in the OT + MCT group (2 [25%] vs. 6 [75%]; P=0.046).
Kopelowicz [20] (1998)	USA	RCT	59 28 (Community re-entry program) 31 (OT group)	35±11 years (20-64 years)	The community re-entry four days a week	Test of knowledge and performance. Attendance at aftercare service.	Test of knowledge and performance: significant mean scores for the community re-entry group (from 55% correct -81 % correct; t=5.3, df=27, P<0.001). significant scores between the two groups on the post intervention test (81 % correct for the community re-entry group versus 55 % for the OT group; t=5.1, df=56, P<0.001).

First Author (Year)	Country	Study Design	Sample	Mean Age (Year)	Occupational therapy Services	Measurement Tool	Results
Lipskaya [19] (2020)	Israel	Single-blind study	31 Schizophrenia	33.7±9 years	The OC intervention once a week-10 sessions -45 min).	IPA IP RSA	↑ in the study group: intention to participate in daily activities ($t(15)=-2.62$, $P<0.05$) participation diversity ($t(15)=-2.11$, $P<0.05$) experience the recovery orientation of the service ($t(15)=-3.15$, $P<0.01$) functional capacity ($t(15)=-3.44$, $P<0.01$) cognitive abilities of language understanding, memory and shifting ($-4.5<t(15)<3.3$, $P<0.05$) schizophrenia symptoms (positive, negative and general: $8.47<t(15)<9.12$, $P<0.01$) Significant differences between the groups: ↑ of executive functioning functional capacity all types of schizophrenia
Novak [26] (2012)	Australia	Pilot study (pre- and post)	75 Psychotic and nonpsychotic	20-39	A sensory room	Consumers rated their level of distress on a 10-point scale (1: not distressed at all; 10: extremely distressed) clinicians rated 11 common behavioral disturbances (also on a 10-point scale) before and after room use.	↓ in distress and ↑ in a range of disturbed behaviors
Rennhack [27] (2023)	Switzerland.	Prospective study	98 Acute psychiatric inpatient and day hospital settings	18−65 years	Pre-vocational therapy		58.5% retained ↑ productive activities
Shimada [17] (2018)	Japan	RCT	129 Schizophrenia	GOT + IOT (41.391) GOT alone (43.389)	GOT + IOT GOT 1–2 hours 3–5 times per week.	BACS-J the Schizophrenia Cognition Rating Scale the Social Functioning Scale the Global Assessment of Functioning scale IMI-J MMAS-8 PANSS CSQ-8J	Significant ↑: verbal memory ($P<0.01$) working memory ($P=0.02$) verbal fluency ($P<0.01$) attention ($P<0.01$) composite score ($P<0.01$) on the BACS-J interest/enjoyment ($P<0.01$) value/usefulness ($P<0.01$) perceived choice ($P<0.01$) IMI-J total ($P<0.01$) on the IMI-J; MMAS-8 score ($P<0.01$)

First Author (Year)	Country	Study Design	Sample	Mean Age (Year)	Occupational therapy Services	Measurement Tool	Results
Tanaka [18] (2014)	Japan	Pilot quasi-experimental controlled study	85	Intervention (37.2) Control group (38.4)	The early OT (intervention group)	FIM BPRS.	At three months: total FIM scores significantly higher (P=0.016) FIM cognitive scores significantly higher at one month (P=0.038, three months (P=0.012).
Trapp [23] (2016)	Germany	Pilot RCT	46 Depressed	Experimental group (34.26) Control group(36.87)	Three 60-minute training sessions per week - 4 weeks	WCST WMS-R TMT Part A and B CPT	Greater ↑ in neurocognitive measures of verbal and nonverbal memory working memory and executive function (Cohen's d effect sizes between 0.52 and 0.98).
Sachie Tanaka [22] (2015)	Japan	Nonrandomized controlled study	82 Depression	56.09±15.59 years	Three sessions - semi-closed group structure	SMSF	Significant change: depression/loss of self-confidence score (P1=0.001, d=0.35). significant ↑: depression/loss of self-confidence (P2=0.007, d=0.66) impatience (P2=0.009, d=0.53) brain/thought fatigue (P2=0.000, d=0.70) volition/vitality (P2=0.013, d=0.67). Effect size 2 was greater than effect size 1 for all items, increasing from 0.24 to 0.70.

IFS: Interpersonal Functioning Scale; PSP: Personal and Social Performance Scale; TRIP: Transforming Relapse and Instilling Prosperity; HAMD: Hamilton Depression Rating Scale; BDI: Beck Depression Inventory; HAMA: Hamilton Anxiety Rating Scale; ACT-IN: Acceptance and Commitment Therapy for Inpatients; BPRS: Brief Psychiatric Rating Scale; CORE: Clinical Outcomes in Routine Evaluation; MCT: Metacognitive training; BACS: Brief Assessment of Cognition in Schizophrenia; PANSS: Positive and Negative Syndrome Scale; BCIS: Beck Cognitive Insight Scale; IMI: Intrinsic Motivation Inventory; CSQ: Client Satisfaction Questionnaire; IPA: Impact on Participation and Autonomy; IP: Intention for Participation; RSA: Recovery Self-Assessment Scale; MMAS-8: Morisky Medication Adherence Scale-8; FIM: Functional Independence Measure; WCST: Wisconsin Card Sorting Test; WMS-R: Wechsler Memory Scale; TMT: Trail Making Test; CPT: Continuous Performance Test; SMSF: Scale for Mood and Sense of Fatigue

What Is the Extent and Nature of Research in OT Intervention for Acute Psychiatric Inpatients?

Thirteen studies were published between 2007 and 2023. The majority of publications were from Japan (n=4, 31%), followed by the United States (n=2, 15%) and Germany (n=2, 15%). Figure 2 illustrates the distribution of articles published across each continent.

The populations of the selected studies included individuals with schizophrenia [15-19], schizophrenia and schizoaffective [20], depression [21-23], psychotic spectrum disorder [24], and psychotic and non-psychotic inpatients [25-27].

One study investigated patients' attitudes in the acute psychiatric ward after discharge. The results indicated that 91.66% of patients reported that the occupational therapy department's occupational activities played a role in their treatment, and 81.25% expressed a desire to participate in such activities. Sport was identified as the most preferred occupational activity (35.4%) [25]. The primary occupational therapy interventions comprised basic handmade craft activities, such as painting and creating crafts with various materials [4].

One study compared the intervention that included occupational therapy (OT) with a control group that did not participate in such activities. A statistically significant difference was reported in the Personal and Social Performance Scale (PSP) scores [25].

In some studies, the OT intervention was combined with other approaches, such as psychosocial treatment, which demonstrated improvements in individual and social functioning [25]. Additionally, the use of a sensory room, including weighted blankets, in an acute inpatient psychiatric unit significantly reduced distress and a range of disturbed behaviors [26].

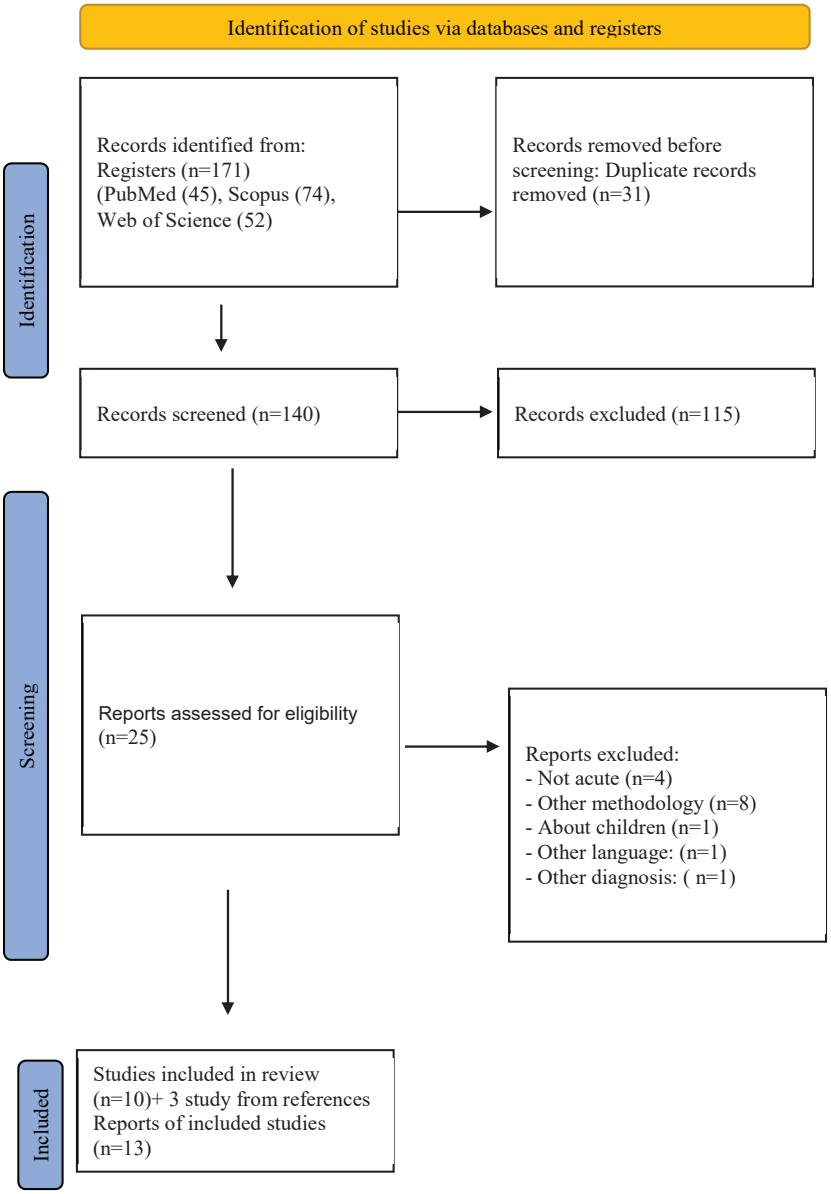

Figure 1: Illustration PRISMA flow diagram for the process of searching and selecting eligible studies

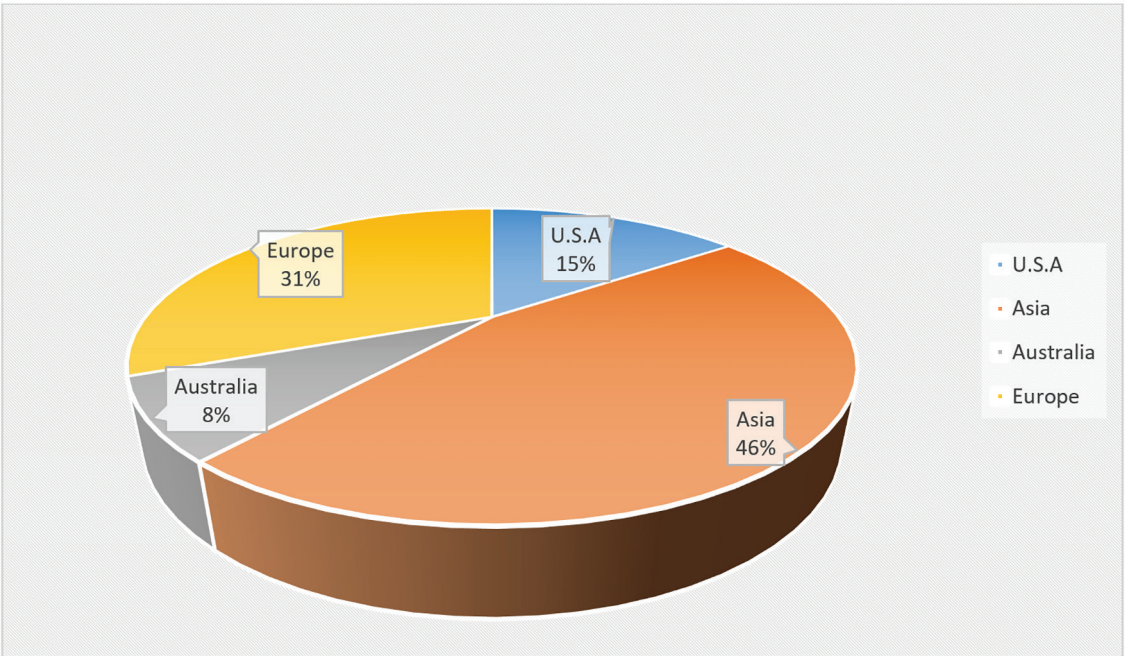

Figure 2: Number of Articles Published in Each Continent

The results of a study showed that early one-on-one, nonverbal occupational therapy (OT) intervention may increase the functional independence of patients with acute schizophrenia [18]. The effectiveness of individualized occupational therapy (IOT), in addition to group occupational therapy (GOT), was investigated regarding cognitive functioning. The combination of IOT and GOT demonstrated significant enhancements in cognitive functioning compared with GOT alone.

In the investigation of the effectiveness of MetaCognitive Training (MCT), it was concluded that MCT seems to be an efficacious treatment for preventing psychiatric symptoms, poor self-reflectiveness, and rehospitalization [15]. Additionally, Cognitive Remediation (CR) for depressed inpatients appears to be an effective treatment that improves cognitive achievement levels [23]. The investigation of "Occupational Connections" (OC) demonstrated significant effectiveness among the groups regarding executive function, functional capacity, and schizophrenia symptoms [19]. Participants in the Transformation of Relapse and Well-being Induction Program (TRIP) reported better insight and well-being and appeared to have significantly fewer rehospitalizations at the 12-month follow-up compared to those in a traditional ward occupational therapy (WOT) program [19].

Some studies compared the OT intervention with other activities, such as "board games." The results revealed that the OT intervention did not show a better effect in reducing depressive symptoms compared to "board game" activities. However, concerning measures of anxiety, significant effects were reported in favor of the OT group [21].

In comparisons between psychotic and nonpsychotic inpatients, significant improvements in the evaluation of the Personal and Social Performance (PSP) scale for occupational activities were reported for nonpsychotic patients compared to psychotic patients [25].

The number of treatment sessions in the selected studies was often three to five days a week [15-17, 20, 21, 23]. Additional intervention sessions were incorporated into the OT treatment as usual, with a frequency of one session per week [19, 22]. Each session lasted approximately 45 minutes to 2 hours, taking into consideration the individual's tolerance and concentration.

Discussion

The current study is the first scoping review to examine occupational therapy (OT) interventions for acute psychiatric patients. It is well established that stabilization needs to be the focus of acute psychiatric OT interventions. During the first day of a patient's stay in an acute inpatient ward, due to the unpredictability of behavior, tolerance, and unstable symptoms—especially in the first two days—short individual sessions of 20 minutes or less are generally recommended for at least the initial days of hospitalization. The frequency of these sessions is often determined based on team recommendations [28].

The number of treatment sessions in the selected studies was typically three to five days a week, each lasting approximately 45 minutes to 2 hours. This may be related to the patient's admission date to the study. However, when comparing the early OT intervention group with the non-early OT group at three months, the total scores on the Functional Independence Measure (FIM) of the study group were significantly higher than the control group. Furthermore, the scores in the cognitive domain of the study group were significantly higher than those of the control group at both one month and three months [18].

Thought disorder, confusion, agitation, and impulsivity are common symptoms experienced by acute psychiatric inpatients, and sometimes, verbal stimuli can exacerbate these symptoms in acute patients [29]. It appears that a flexible intervention structure, particularly one-on-one sessions, can be beneficial [18].

Four identified core elements of occupational therapy (OT) intervention in acute mental health include individual assessment and intervention, group therapy, and discharge planning [4]. In the selected study, the comparison of IOT+ GOT and GOT intervention showed significant improvements in cognitive functioning [17]. For individuals with mental illness in an inpatient setting, community reentry often means returning to poor occupational conditions, such as a lack of daily structure. Discharge planning was also included as part of the intervention planning [17, 28].

In the comparison of occupational therapy (OT) intervention with other interventions, such as "board game" activities, it was revealed that OT intervention was superior in addressing anxiety, loss of energy, sexual and general interest, and work-related skills. The nature of OT intervention focuses on personal, meaningful daily life occupations, contributing positively to the experience of inpatient stays [19, 21]. Additionally, the effectiveness of incorporating other interventions, such as MCT, CR, and OC, alongside standard OT practices has been demonstrated [15, 19, 23].

The challenges to recovery-oriented services in inpatient settings occur at three levels: environmental, personal, and provider. Environmental challenges include a poor physical environment and inflexible routines; personal challenges involve factors such as psychotic symptoms and cognitive impairment experienced by inpatients; and provider challenges relate to variations in recovery competence and negative attitudes among providers [30]. The results of the selected studies and the outcome measures seem to align with medical models.

The limitations of the present study included restricted access to search databases, lack of access to the full text of some articles, insufficient responses from authors regarding requests for full texts, and the low quality of certain articles.

Conclusion

Occupational therapy interventions for acute psychiatric inpatients appear to be effective. Further investigation is needed to develop safe treatment methods for this population.

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their full texts for this article.

Authors' Contribution

Z.N. and F.H. contributed to the literature search and resolved any disagreements. H.S. and Z.N. conducted the screening of articles in two stages. H.S. and Z.N. also contributed to data extraction. All authors participated in the preparation of the manuscript.

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Appendix 1: The PubMed syntax

#1
theory[Title/Abstract] OR models[Title/Abstract] OR "frame of reference"[Title/Abstract] OR intervention[Title/Abstract] OR protocol[Title/Abstract]
#2
"occupational therapy"[Title/Abstract]) OR "occupational therapy"[MeSH Terms]
#3
"Mental Disorders"[Title/Abstract] OR "Mental Disorders"[MeSH Terms]
#4
Inpatients[Title/Abstract]) OR Inpatients[MeSH Terms] OR acute[Title/Abstract] OR hospitalized patients[Title/Abstract] OR psychiatric hospitals[Title/Abstract]
#1 AND # 2 AND #3 AND #4