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Recovery, self-stigma, quality of life, and the determinants among people with schizophrenia: a systematic review

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ABSTRACT

Recovery and quality of life for people with schizophrenia (PWS) are persisting challenges in mental health services. Therefore, this research aims to investigate factors contributing significantly to PWS recovery for quality-of-life enhancement. A comprehensive search across six databases, including Scopus, ScienceDirect, ProQuest, SpringerLink, Web of Science, and CINAHL generated 196, 122, 134, 79, 51, and 113 articles, respectively, for screening. These 695 articles focused on patients diagnosed with schizophrenia in recovery, as well as comprised journal publications from 2019 to 2023 and quantitative or qualitative research published in English. A total of 22 articles that met the inclusion criteria were subject to a review process. The results showed that PWS recovery was influenced by coping strategies, illness severity, treatment compliance, hope, spirituality, social support, and partnerships, while self-stigma hindered recovery and quality of life. However, spirituality was found to significantly foster hope, self-confidence, self-control, and meaning for PWS. Health professional played an important role in the recovery process through the establishment of partnerships, provision of coping skills, and empowerment of patients.

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1. INTRODUCTION

Recovery and quality of life of people with schizophrenia (PWS) is still a situation demanding significant attention. Mental disorders, including schizophrenia, rank among the most prevalent and chronic psychiatric conditions requiring a long recovery period [1], [2]. The prevalence of schizophrenia worldwide continues to increase, affecting 24 million people, with 0.45% being adults mostly identifying illness onset in late adolescence [3], [4]. Furthermore, in Indonesia, approximately 6.7 cases are reported per 1000 household members [5]. Schizophrenia is characterized by chronic mental illness along with functional disabilities in social, cognitive, and emotional aspects, impacting quality of life and recovery [6], [7]. Research showed that 12% to 18% of PWS experienced low to very low levels of quality of life [8], [9], while the rate of recovery ranged between 13.5% and 50%, respectively [10]. Functional disabilities in PWS influence self-confidence, hope, and coping abilities, and lead to high self-stigma [11]–[13] which acts as a barrier to recovery. This hindrance reduces the quality of life among PWS to low levels [14]–[16], and 48% of such cases are attributed to stigma [17].

High self-stigma initiates various consequences including worsening of negative symptoms, decreased quality of life, and non-compliance with treatment [13], [18]. Moreover, it reduces motivation for

interpersonal relationships, diminishes hope, elevates suicide risk, hinders recovery [13], [19], [20], and imposes economic and caregiving burdens on families [21]–[23]. Several interventions for PWS recovery have been carried out through psychoeducation, as well as cognitive, pharmacological, and cognitive behavioral therapy, or a combination of these therapies. Some research suggested the potential of pharmacological interventions to produce negative side effects and symptoms capable of increasing self-stigma in PWS [24], [25]. Psychoeducational interventions or combination with cognitive therapy failed to generate significant results [26], [27]. Meanwhile, integrated psychological interventions comprising psychoeducation, cognitive behavioral therapy, and supportive therapy show short-term effectiveness in reducing self-stigma and supporting recovery [28]. Both self-confidence and hope-building are identified as the main factors facilitating the recovery process [29]–[31].

The global trend in the treatment of severe mental disorders such as schizophrenia is shifting from biomedical to recovery method-oriented services [32]. PWS recovery is a long journey requiring adaptation and coping strategies to enhance quality of life amidst challenges posed by the illness [33]. This is initially influenced by self-stigma [15], while treatment factors, social support, self-evaluation, beliefs, and spirituality as well as physical and psychological stressors contribute more hindrance to the process [34]. Achieving recovery and good quality of life in PWS necessitates a collaborative effort across multiple sectors. Investigation of determinant factors affecting PWS recovery will provide insights crucial for improving holistic care, advancing knowledge in mental health recovery, modifying intervention strategies, and promoting multidimensional method implementation. Therefore, a comprehensive literature review is needed to understand the recovery process and identify determinant factors contributing significantly to quality-of-life enhancement.

2. METHOD

A systematic literature review is a method for identifying, evaluating, and interpreting relevant research related to a specific research question, topic, or phenomenon of interest [35]. This systematic review was used utilized as a synthesis of relevant studies on recovery, self-stigma, quality of life, and determinant factors in PWS. Criteria from the Centre for Review and Dissemination and the Joanna Briggs Institute, as well as the PRISMA checklist, are used to assess the quality of these studies.

2.1. Search strategy and inclusion criteria for systematic reviews

Literature searching conducted across six databases, including Scopus, Science Direct, ProQuest, SpringerLink, Web of Science, and CINAHL, identified articles published in 2019-2023. The determination of keywords was performed using the Boolean operators, namely AND and OR, to combine words when searching. Additionally, quotations or quotation marks (") were applied, along with a grouping of similar concepts symbolized by (). The keywords used were (“Quality of life") AND (“self-stigma") AND "recovery" AND “schizophrenia" OR "severe mental disorders," OR "mental illness," OR "psychotic". The inclusion criteria comprised patients diagnosed with schizophrenia in a recovery stage, journal publications from 2019 to 2023, and quantitative or qualitative research articles published in English. Meanwhile, the exclusion criteria were research unrelated to the topic, inappropriate investigation protocols, insufficient data, and duplicate articles.

2.2. Screening of articles

The search strategy consisted of four steps, comprising identification, screening, eligibility, and inclusion according to PRISMA guidelines [36]. Initially, the electronic database searches identified 695 records, and after removing duplicates (n=148), screening was performed for each document title and abstract (n=547). This was followed by the filtering of full texts to be included in the systematic review, with 498 records being excluded during the screening phase, and 22 articles were deemed eligible for the research as shown in Figure 1.

2.3. Data extraction

Data extraction was conducted with a structured form, and all reviewers organized the data collected from 22 selected articles using a grid synthesis format. The aim was to obtain information about the included studies in terms of their characteristics and the populations studied, as well as to synthesize the studies. This format contained information including i) title and authors, ii) year of publication, iii) research location, iv) research method, v) sample size, vi) measure, and vii) results as shown in Table 1 (see Appendix).

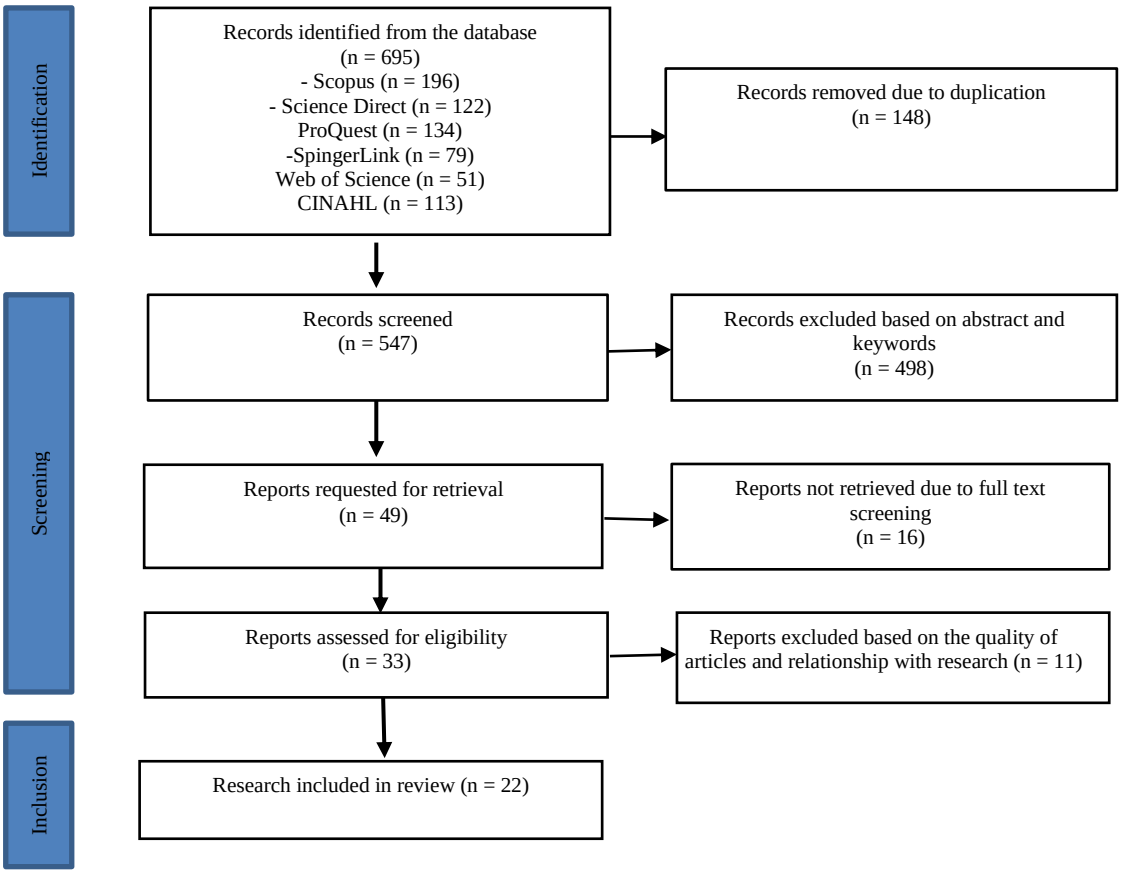

Figure 1. PRISMA flow diagram of included research

2.4. Quality appraisal

The methodological quality of the articles was assessed with the Joanna Briggs Institute's (JBI) Critical Assessment Checklist guidelines. The instruments used comprised two types adjusted based on the research design according to the screening system. These instruments were the JBI Critical Appraisal Checklist for Analytical Cross-Sectional Studies and Critical Appraisal Checklist for Qualitative Research consisting of 8 and 10 questions, respectively shown in Table 2 and 3.

Table 2. Quality assessment for cross-sectional research

Authors	Checklist criteria for cross-sectional research							
	1	2	3	4	5	6	7	8
Saiz *et al*. (2021)	Y	Y	Y	Y	Y	Y	Y	Y
Can Öz & Duran. (2021)	Y	Y	Y	Y	Y	Y	Y	Y
Jun & Yun. (2020)	Y	Y	Y	Y	Y	Y	Y	Y
Roosenschoon *et al*., (2019)	Y	Y	Y	Y	Y	Y	Y	Y
Young *et al*., (2020)	Y	Y	Y	Y	Y	Y	Y	Y
Çapar & Kavak, (2019)	Y	Y	Y	Y	Y	Y	Y	Y
Zhang *et al*., (2019)	Y	Y	Y	Y	Y	Y	Y	Y
Caqueo-Urízar *et al*., (2021)	Y	Y	Y	Y	Y	Y	Y	Y
El-Monshed & Amr, (2020)	Y	Y	Y	Y	Y	Y	Y	Y
Yu *et al*., (2022)	Y	Y	Y	Y	Y	Y	Y	Y
Sum *et al*., (2021	Y	Y	Y	Y	Y	Y	Y	Y
Hurmuz *et al*., (2022)	Y	Y	Y	Y	Y	Y	Y	Y

Y = yes; N = no; U = unclear.
1. Were the criteria for inclusion in the sample clearly defined?
2. Were the research subjects and the setting described in detail?
3. Was the exposure measured validly and reliably?
4. Were objective, standard criteria used for measurement of the condition?
5. Were confounding factors identified?
6. Were strategies to deal with confounding factors stated?
7. Were the outcomes measured in a valid and reliable way?
8. Was appropriate statistical analysis used?

Table 3. Quality assessment for qualitative research

Authors	Checklist criteria for qualitative research									
	1	2	3	4	5	6	7	8	9	10
Irawati *et al*. (2023)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Suryani *et al*. (2022)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Slade *et al*., (2019)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lee *et al*., (2021)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Islam, Rabiee and Singh. (2021)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Killaspy *et al*., (2023)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tuffour *et al*., (2019)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Glorney *et al*., (2019)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Kanehara *et al*., (2022)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ma *et al*., (2023)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Y = yes; N = no; U = unclear; NA= not applicable.

1. Is there congruity between the stated philosophical perspective and the research methodology?
2. Is there congruity between the research methodology and the research question or objectives?
3. Is there congruity between the research methodology and the methods used to collect data?
4. Is there congruity between the research methodology and the representation and analysis of data?
5. Is there congruity between the research methodology and the interpretation of results?
6. Is there a statement locating the researcher culturally or theoretically?
7. Is the influence of the researcher on the research, and vice-versa, addressed?
8. Are participants and the voices adequately represented?
9. Is the research ethical according to current criteria or, for recent research, and is there evidence of ethical approval by an appropriate body?
10. Do the conclusions draw in the research report flow from the analysis or interpretation of the data?

3. RESULT AND DISCUSSION

A total of 22 articles meeting the inclusion criteria were reviewed using cross-sectional research conducted in 13 countries and three continents including Asia (54.5%) [20], [31], [37]–[46], Europe (36.4%) [9], [30], [47]–[52], and America (9.1%) [24], [53]. Various research has been carried out and developed for measuring and assisting PWS recovery. Based on a systematic review, PWS recovery was found to be complex and commonly influenced by several factors including coping skills, self-stigma, spirituality, treatment compliance, as well as social support from family, groups, health workers, and the community. Several articles define recovery as the process of helping PWS discover the potential possessed through empowerment and the establishment of partnership relationships between patients and health workers, and this term also correlates with quality of life.

3.1. Coping

Coping is a cognitive and behavioral effort made to manage specific demands from both internal and external sources in addressing stress [54]. In this research, the skills used in recovering from schizophrenia included praying, reciting the Qur'an, fasting, and zikr [31], [44], [55], as well as yoga, meditation, engaging in worship, subjection to calming situations, working, making art, and reading books [55]. Coping is a crucial factor in schizophrenia recovery, helping individuals with schizophrenia improve their quality of life [47].

3.2. Self-stigma

Self-stigma is a condition where a person believes in being a victim of negative stereotypes associated with mental disorders [56]. In PWS, self-stigma is associated with feelings of insecurity concerning disability, difficulty in securing employment, social interaction limitations, and the development of social stigma. This condition hinders recovery and poses other barriers, hence, nurses or health workers are obliged to help PWS [20], [39], [40], [46], overcome self-stigma.

3.3. Severity, treatment compliance, hope, and meaning of life

The state of PWS mental disorders is related to severity levels, recurrence, and compliance with treatment. Severity levels resulting from positive and negative symptoms influence self-confidence, hope, and life goals. Schizophrenia severity affects self-confidence of patients, and according to research, greater severity levels lead to lower recovery [47], [53] while treatment adherence facilitates higher recovery [47].

3.4. Spirituality

Spirituality is a product of religion, belief, intuition, and personal strength, while key spiritual characteristics commonly found in people include belief, hope, and the meaning of life [57]. In recovery process of PWS, spirituality fosters hope and optimism toward the disability possessed [24], [30], [31], [39], [42], [44], [49]. Spirituality helps PWS find peace [49], happiness, gratitude, reduce anxiety [45], control anger [44], improve coping skills and resilience [52], as well as psychological well-being [30], [49], [58].

3.5. Social support and partnership relationships

PWS recovery process requires the support of family, friends, health workers, and the community to help nurture confidence, enthusiasm, and avenues for patients to fulfill social roles and derive meaning from life [9], [37], [39], [43], [47]. Social support is provided through establishing relationships between nurses and patients that prioritize openness, equality, and respect for spirituality, while also fostering optimism for the future based on their capabilities [48]. The partnership relationship between nurses/health workers and PWS is based on compassion and the principles of therapeutic communication which promote a sense of optimism and increase self-esteem among PWS [37], [48].

3.6. Quality of life

Previous research showed that approximately 15.4% and 12.8% of PWS reported very low and low quality of life, respectively. Factors such as family support, social skills, and a high recovery level positively correlate with an improvement in quality of life ($R2 = 0.379$, $F(9, 68) = 2.616$, and $p = 0.012$) [9]. Therefore, services attending to the needs of patients, empowering PWS with necessary capabilities, and working actively towards quality-of-life enhancement are crucial in promoting overall well-being [41].

4. DISCUSSION

This systematic review was conducted to analyze and summarize the available evidence on recovery-oriented practices/services for PWS. This aims to provide insights into determinants factor associated with the recovery-oriented services for PWS. The results were organized and discussed based on two major themes including i) barriers to recovery-oriented services implementation and quality of life of PWS and i) recovery-oriented services for PWS.

4.2. Barriers to recovery-oriented services implementation and quality of life of PWS

High self-stigma among PWS hinders the recovery process and leads to a reduction in quality of life of affected patients. This is commonly influenced by various determinants, including internal factors such as severity, treatment compliance, and spirituality [9], [59]. Specifically, spirituality serves as a coping mechanism that provides hope and self-confidence in combating self-stigma during recovery [60], [61], where hope remains an essential element facilitating the process [62]. External factors comprising the support of family, friends, health workers, and the community play a crucial role in coping with mental disorders, thereby promoting self-confidence and hope-building to enhance self-esteem [63]. Research showed a correlation between self-stigma and recovery level with a significant impact on quality of life of PWS. Higher levels of self-stigma correspond to lower quality of life, while those with better recovery experience an improved quality of life. Consequently, the role of nurses/health workers is to help PWS reduce self-stigma and achieve substantial recovery.

4.3. Recovery-oriented services for PWS

Recovery from mental disorders and physical illnesses are not identical because recovery from physical illnesses means being completely cured. Meanwhile, recovery from mental disorders such as PWS is a life journey to overcoming problems and gaining confidence, hope, and strength to live independently [31], [64]. This includes acquiring coping skills through strength development, hope-building, and empowerment, as well as the establishment of relationships between nurses/health workers and patients [65]. The focus of PWS recovery revolves around a patient-centered treatment method requiring social support from family, friends, health workers, and the community. Important elements stated in recovery theory include Working Alliance, Coping, and Self-Responsibility, as presented in Figure 2 [65].

A working alliance is a partnership relationship established between nurses, patients, and other health workers to determine positive goals for recovery. This incorporates activities including: i) maintaining consistent communication; ii) practicing purposeful and planned communication; iii) fostering therapeutic relationships to explore patient abilities; and iv) holistic perspective adoption for patient care [65]. Similar points are explained that the working alliance is built upon three elements: i) the relationship between nurse and patient based on love, faith, mutual respect, and shared responsibility and goals; ii) agreement between nurse and patient on the goals to be achieved; and iii) commitment between nurse and patient regarding the goals of psychotherapy [66]. Based on that, it illustrates that the therapeutic alliance has important components, namely agreement on setting goals, agreement on task implementation, and commitment.

Coping is an effort exerted by PWS to cognitively and behaviorally manage both internal and external stressors, with a tendency towards specific types. In the context of recovery from mental disorders, coping strategies implement problem and emotional-focused methods [65]. Nurses/health workers propelling the acquisition of coping skills should adhere to humanistic philosophy and recognize the common humanity

shared with WPS. Humanistic philosophy includes viewing PWS as social creatures with the potential for growth and interpersonal interaction, promoting self-awareness. PWS can successfully develop and practice decision-making in life due to the abilities possessed. Schizophrenia patients with disabilities have other abilities that can be nurtured, such as the pursuit of hobbies and interests. Moreover, common humanity is the development of mutual understanding principles, and building open communication with PWS to help identify life experiences. Nurses/health workers must realize that every human has weaknesses, pleasures, happiness, and sadness. Showing patience, compassion, appreciation for successes achieved, and empathy are crucial in building trust with PWS [65].

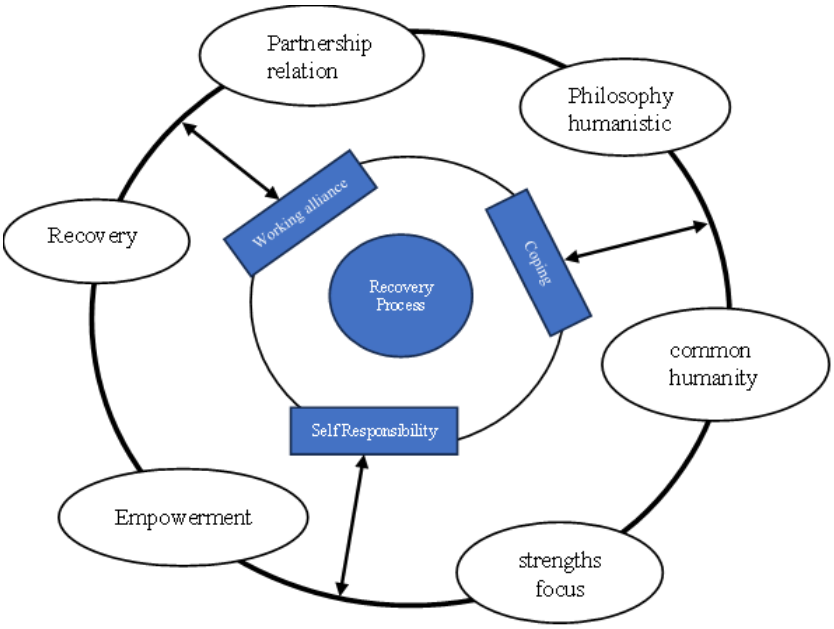

Figure 2. Theory model of recovery [65]

Self-responsibility includes empowering PWS to take charge of the recovery journey, hence, nurses/health workers play a crucial role in developing the strength and potential of patients. This helps PWS gain confidence in the abilities possessed and cultivate skills for independent living, interpersonal relationships, and coping mechanisms required to meet special needs [65]. The establishment of nurse/health worker-patient partnership relationships to promote recovery by building hope, self-confidence, coping skills, and strong focus, is a process for helping PWS attain a meaningful life. This intervention contributes to enhancing the self-confidence of PWS, leading to self-stigma reduction which includes decreasing negative self-evaluation to improve quality of life.

4.4. Strength and limitation

The strengths of this systematic review include i) the provision of essential information for healthcare professionals, particularly psychiatric nurses. ii) Imposition of significant focus on ensuring robustness in the method applied and research quality. iii) The use of reputable databases and a comprehensive method to guarantee thoroughness. The limitations comprised restriction to articles published in the last five years and reliance on English-language sources. Therefore, future research should consider scope broadening to overcome these constraints by incorporating investigations from various timeframes and languages to acquire a more comprehensive and global perspective.

5. CONCLUSION

In conclusion, the results showed that PWS recovery was identified as a complex journey influenced by many factors. Assisting with the acquisition of coping skills, building partnerships, and empowering PWS were essential factors in the recovery process. Nurses should intervene in building optimism and hope to reduce self-stigma based on the principle of partnership relationships with patients for quality-of-life enhancement.

APPENDIX

Table 1. Data extraction of the selected research (N=22)

Title and authors	Year Publication	Places of research	Research method	Sample size	Measure	Results
Determinants of clinical, functional and personal recovery for people with schizophrenia and other severe mental illnesses: A cross-sectional analysis [46].	2019	Dutch	Cross-sectional research design	187 severe and persistent mental illness (SMI)	IS, CES, MSPSS, SES, ASI, BSI, SFS, MHRM	There is a relationship between insight, treatment compliance, coping, and social support in clinical, personal, and functional recovery from schizophrenia. Functional recovery has a strong relationship with coping, a moderate relationship with social support, and a weak relationship with treatment compliance. Personal recovery is strongly related to coping, moderately to social support, and weakly related to insight and treatment adherence. Coping is a determinant of three recoveries, namely personal, functional, and clinical recovery.
Culture-dependent and universal constructs and promoting factors for the process of personal recovery in users of mental health services: qualitative findings from Japan [38].	2022	Japan	Qualitative _ research design	30 Mental disorders (50% schizophrenia)	Questionnaire, observation sheet, interview guide	Personal recovery from schizophrenia requires the love of others through support. Schizophrenia recovery is carried out by rebuilding self-confidence, overcoming stigma and support from groups, family, and other people as well as establishing therapeutic communication. Recovery exercises help give hope and optimism to a schizophrenic.
Predictors of personal recovery of people with severe mental illness in a chinese society: A cross-sectional study with a random sample [39].	2020	Hong Kong	Cross-sectional research design	266 severe mental disorders (62.1% schizophrenia)	RAS, ISMI, RSES	Respondents who have jobs have the strongest correlation with personal recovery. Self-esteem has a strong correlation to personal recovery and self-stigma has a negative correlation to personal recovery. Self-esteem is the strongest predictor of personal recovery from mental disorders
Effect of internalized stigma on functional recovery in patients with schizophrenia [20].	2019	Turkey	Cross-sectional research design	250 schizophrenia patients	FROGS, ISMIS	Respondents who had high internalized self-stigma had low functional recovery. Nurses need to help schizophrenic patients cope with the internalization of stigma
An integrative model of internalized stigma and recovery-related outcomes among people diagnosed with schizophrenia in rural China [45].	2019	China	Prospective longitudinal study	232 schizophrenia patients	ISMI, DSSI, GAF, PANSS	The internalized stigma of schizophrenia is negatively related to social support and social interaction abilities. Higher levels of stigma were associated with impaired social functioning, and lower social functioning was associated with more severe symptoms. Stigma as a barrier to schizophrenia recovery
Effects of adherence to pharmacological treatment on the recovery of patients with schizophrenia [52].	2021	Chile	Cross-sectional research design	151 schizophrenia patients	DAI-10, RAS-24, PANSS	15.2% of schizophrenic respondents did not adhere to antipsychotic medication, and most respondents were in the moderate compliance category. The higher the respondent's education, the higher the tendency for compliance. Negative symptoms are related to self-confidence, hope, and recovery goals. Treatment adherence has a positive relationship to the personal recovery of patients with schizophrenia.

Table 1. Data extraction of the selected research (N=22) (*Continue*)

Title and authors	Year Publication	Places of research	Research method	Sample size	Measure	Results
Association between perceived social support and recovery among patients with schizophrenia [42].	2021	Egypt	Cross-sectional research design	176 schizophrenia patients	RAS-DS, MSPSS	Social support has a significant relationship ($p \leq 0.001$) with recovery. The quality of social support plays an important role in the recovery of schizophrenia patients.
Spirituality and employment in recovery from severe and persistent mental illness and psychological well-being [48].	2021	Spanish	Cross-sectional research design	64 severe and persistent mental disorders	RAS, PBW, WMQ DSES FACIT-Sp12	Spirituality has a significant relationship with recovery and psychological well-being. A powerful relationship was found in the aspect of meaning or peace. Spirituality provided patients with peace and meaning in life. Integrating spirituality into mental disorders recovery programs was necessary to facilitate the recovery process and improve psychological well-being.
The effect of spirituality on the subjective recovery of psychiatric patients [41].	2021	Turkey	Cross-sectional research design	96 patient's psychiatric disorders	SWBS, SubRAS	Spirituality can help patients adapt to themselves, adapt to the environment, increase treatment compliance, and even help to recover from disorders. Education, gender, and spiritual well-being influence patient participation in recovery. Spiritual well-being was a predictor of recovery for patients with mental disorders.
Mental health recovery among hospitalized patients with mental disorders: Associations with anger expression mode and meaning in life [43].	2020	Korea	Cross-sectional research design	141 mental disorders (45.4% schizophrenia)	STAXI-K, TML, MHRM-K	Predictors of mental disorder recovery included helping to find meaning in life and controlling anger. Interventions to find meaning in life and controlling anger were beneficial in improving recovery from mental disorders.
The Indonesian Survivors' Perspective on Recovery from Schizophrenia: An Exploratory Study [31].	2022	Indonesia	Qualitative exploratory research _ design	7 participants schizophrenia survivors	Questionnaire, observation sheet, interview guide	Five themes emerged from this research, including 1) being a healing agent, 2) accepting yourself as you are, 3) keeping a smile in all situations, 4) seeking God's help as a way to heal, and 5) being ignored by the government. In the recovery process, survivors became agents of recovery, hence, patient-centered care was critical in providing nursing care.
Posttraumatic growth in mental health recovery: a qualitative study of narratives. [51].	2019	England	Qualitative _ research design	19 participants had mental disorders	Questionnaire, observation sheet, interview guide	Participants viewed that growth in recovery came from oneself and living life (meaning in life). Positive value changes focusing on self-management (well-being) through relationships and religious involvement (spirituality) had occurred.
Lived Experiences of a Sustained Mental Health Recovery Process Without going Medication Use [24].	2021	America	Qualitative _ research design	19 participants had mental disorders	Questionnaire, observation sheet, interview guide	Participants' experience of the recovery process was influenced by two factors, namely internal and external factors. Internal factors included changes in how participants viewed themselves and the symptoms, cognitive changes, emotional processes, as well as spirituality and faith. External factors include the support received from others, such as professional care and social support and giving back by accepting social roles, social giving, and finding meaning. Spirituality and faith were internal factors that fostered a sense of confidence and increased hope and optimism in recovery from disorders.

Table 1. Data extraction of the selected research (N=22) (*Continue*)

Title and authors	Year Publication	Places of research	Research method	Sample size	Measure	Results
Culture and Spirituality in the Process of Mental Health and Recovery: Users and Providers Perspectives [30].	2021	England	Qualitative _ research design	22 participants service users	Questionnaire, observation sheet, interview guide	Psychotic psychosocial well-being was influenced by many things. Spirituality and religion have an impact on the well-being of psychosis. Personal recovery from mental disorders was based on self-confidence, namely spiritual experience and religion.
Facilitating and hindering factors of personal recovery in the context of Soteria A qualitative study among people with (early episode) psychosis [47].	2023	Dutch	Qualitative _ research design	Ten psychosis participants	Questionnaire, observation sheet, interview guide	Recovery from psychosis requires a relationship between nurse and patient that pays attention to openness, equality, and spirituality and builds optimism for the future
Mental illness and recovery: An interpretative phenomenological analysis of the experiences of Black African service users in England [49].	2019	England	Qualitative _ research design	12 user services	Questionnaire, observation sheet, interview guide	Recovery was a pragmatic and subjective concept in various dimensions, including clinical, functional, spiritual, resilience, identity, and social and cultural dimensions. Religion and spirituality can provide optimistic hope and prosperity for mental disorders.
Religion, Spirituality, and personal recovery among forensic patients [50].	2019	England.	Qualitative _ research design	13 patients with mental disorders	Questionnaire, observation sheet, interview guide	There were organizational challenges to supporting religious/spiritual practices in recovery, but religion and spirituality helped improve coping skills and resilience to mental disorders. It is essential to include religion/spirituality in patient care and recovery programs.
Religious Practices and Spiritual Well-Being of Schizophrenia: Muslim Perspective [44].	2023	Indonesia	Qualitative research design	8 participants (6 schizophrenics and two nurses)	Questionnaire, observation sheet, interview guide	Five themes were found: frequency, time, obstacles in carrying out religious activities, impact on health status, and negative impacts if not carrying out religious activities. Religious activities were carried out when there were feelings of irritation, anxiety, happiness, gratitude, and loss of family, which were the reasons for patients carrying out religious activities. Religious activities such as prayer and zikr have a positive impact on patients' physical and mental health status, attention, and concentration. Prayers and zikr that were done on time and regularly have a positive impact on the physical and spiritual health of schizophrenic patients.
Recovery journey of people with a lived experience of schizophrenia: a qualitative study of experiences [36].	2023	China	Qualitative research design	11 participants schizophrenics	Questionnaire, observation sheet, interview guide	The main themes that influence schizophrenia recovery include the experience of trauma from the illness, family influence, motivation for recovery, and post-traumatic growth. Family is the main driver of recovery.
The relationship between clinical recovery and personal recovery among people living with schizophrenia: A serial mediation model and the role of disability and quality of life [37].	2022	China	Cross-sectional research design	356 schizophrenia patients	WHODAS 2.0, WHOQOL-BREF, BPRS-18, GAF	Schizophrenia functional disability is negatively correlated with clinical recovery, quality of life, and personal recovery. Quality of life is positively correlated with clinical recovery and personal recovery. Clinical recovery was associated with personal recovery ($r = 0.27$, $p<0.001$). Personal recovery is the main driving factor in improving the quality of life of schizophrenia patients. There is a need for physicians and clinical researchers to incorporate personal recovery indicators into monitoring the progress of an individual's condition.

Table 1. Data extraction of the selected research (N=22) (*Continue*)

Title and authors	Year Publication	Places of research	Research method	Sample size	Measure	Results
Relationship between subjective quality of life and perceptions of recovery orientation of treatment services in patients with schizophrenia and major depressive disorder [40].	2021	Hong Kong	Cross-sectional research design	179 schizophrenia patients	WHOQOL-BREF, RSA, CESD-10, CGI	The quality of life for schizophrenia is influenced by services that pay attention to patient needs, empowerment, and severity. Recovery that is oriented to the patient's needs is significantly related to his quality of life.
Quality of Life in Patients with Chronic Psychotic Disorders: A Practical Model for Interventions in Romanian Mental Health Centers [9].	2022	Romania	Cross-sectional research design	179 psychotics	PANSS, GAFS, QOLI	Respondents were 63% of patients with schizophrenia. The quality of life of 67.9% of respondents was in the average range, while 15.4% and 12.8% had very low and low quality. Quality of life is not influenced by symptoms, gender, and patient education level. Family support, social skills, and a high level of recovery correlate with improved quality of life, hierarchical multiple regression R2=0.379, F (9, 68)=2.616, and p=0.012.

Abbreviations : *IS:* Insight Scale , CSES: Coping Self -efficacy Scale, MSPSS Multidimensional Scale of Perceived Social Support, SES: Service Engagement Scale, ASI: Addiction Severity Index, BSI : Brief Symptom Inventory, SFS: Social Functioning Scale, RSES: Rosenberg Self-Esteem Scale, RAS: Recovery Assessment Scales, PBW: Psychological well-being scale, WMQ: Work Motivation Questionnaire, DSES: Daily Spiritual Experience Scale, FACIT-Sp12: Functional Assessment of Chronic Illness Spiritual Well-Being, SWBS: Spiritual Well-Being Scale, SubRAS : Subjective Recovery Assessment Scale, STAXI-K: The Korean State-Trait Anger Expression Inventory, TML: Tool meaning in life, MHRM-K: The Korean version of the Mental Health Recovery Measure, ISMI: Internalized stigma of mental disorders scale, PESWBS: Paloutzian and Ellison's spiritual well-being scale, TAQ: The treatment adherence questionnaire, DRI: Duke University Religion Index, RCOPE briefs: Religious Coping, DASS-21: Depression Anxiety Stress Scale, SAI: Spiritual Attitude Inventory, DUREL: Duke Religion Index, EWBS: Existential Well-Being Scale , NRCOPE: Negative Religious Coping, MHLC: Multiple Health Locus of Control Scale, FROGS: Functional Remission of General Schizophrenia , DSSI: Duke Social Support Index, GAF: Global Assessment of Functioning , PANSS : Positive and Negative Syndrome Scale , DAI-10: Drug Attitude Inventory , RAS-24: Recovery Assessment Scales-24, WHODAS 2.0: World Health Organization Disability Assessment Schedule 2.0, WHOQOL-BREF: World Health Organization Quality of Life Brief Scale (WHOQOL-BREF), BPRS-18: Brief Psychiatric Rating Scale, RSA: Recovery Self-Assessment, CESD-10: Center for Epidemiologic Studies Depression Scale, CGI: Clinical Global Impression scale, QOLI: Quality-of-Life Inventory

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