Research Article

Instruments for Measuring Recovery among Serious Mental Illness: A Systematic Review of Systematic Review

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ABSTRACT

Background: Indicators of recovery outcomes are selected by mental health nurses beginning with a commitment to a holistic and client-centered view of recovery. The purpose of the review aimed to bring together the results of previous systematic reviews on instruments for assessing the recovery of people with serious mental illnesses.

Methods: A systematic literature review was carried out using the guidelines of the Joanna Briggs Institute for systematic reviews. A literature search using The ScienceDirect, SpringerLink electronic databases, Google Scholar, and a Google search engine was used. Searching in literature published between January 2010 and December 2020, supplemented by reference tracking and Internet searches. The authors independently reviewed all titles, assessed articles' eligibility for inclusion, determined a methodological quality score for each included article and extracted relevant data.

Results: Out of 19,724 articles related to the title for potential inclusion in this review, four met the inclusion criteria. The eligibility tools appear to have been studied in various settings and with varied types of patients but are still congruent with SIM. Most importantly, the reviews identified several methodological limitations across the original studies. The lack of a 'gold standard. This review found twenty-two dimensions in personal recovery instruments and twenty-one in mental health services orientation. Also, many recovery assessment tools are available for the serious mental illness population. However, there is limited evidence about their psychometric properties.

Conclusion: Three instruments were found that could measure the personal recovery of people with serious mental illnesses. Those instruments' psychometric properties and cultural adaptation are recommended for further studies.

Keywords: recovery, personal recovery, serious mental illness, systematic review

Introduction

Late in the nineteenth century, Kraeplin and Bleuler were the first to classify a serious and persistent mental illness as psychosis. Furthermore, these diagnoses provided by the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition [1] and the National Institute of Mental Health proposed that serious mental illness (SMI) refers to schizophrenia and related disorders, bipolar disorder, and severe forms of major depression, panic disorder and obsessive-compulsive disorder [2]. All those SMI was believed to be a lifelong illness, which was progressive, uncertain, and debilitating. It has generally been considered a chronic and incapacitating condition that worsens as the person goes through life with SMI, which seems like it could not be recovered.

Conceptually, mental health systems must adapt to the change in focus from symptom management to a system that supports mental health consumers' recovery process [3]. Therefore, mental health nurses concerned with humans respond to mental health situations and conditions. They committed to patient-centered care and applying a patient experiential context to formulating nursing concepts and theories [4]. Regarding nursing for patients with SMI, mental health nurses realize that nurses should design nursing approaches to promote better mental health and how nurses can measure that those persons get into recovery. Therefore, mental health nurses must consider what instruments can measure recovery in SMI to evaluate the effectiveness of nursing implementation.

It is understood that recovery for people with SMI is just like the process of people with physical disabilities who have overcome limitations due to physical illness or trauma and may pursue specific life goals and roles with enough support [5]. Moreover, recovery is not the same as a remedy and is often seen as a continuing empowerment process through which people will feel more in charge of their conditions and lives. To the extent that the definition of recovery doesn't include restoration of complete functionality or the withdrawal of medications or other support, it does not rule out the possibility of a return to health.

Therefore, mental health nurses commit to a comprehensive and person-centered view of recovery as the starting point for selecting indicators of recovery outcomes. However, definitions and conceptualizations of recovery vary. This variety makes it difficult to make decisions about what should be measured. To measure recovery as an outcome of mental health, a conceptual framework must be developed that encompasses the best available evidence on recovery processes. Mental health problems and recovery are influenced by several factors. New measures for recovery outcomes, the recovery process, and the recovery stage are rapidly evolving, and research into recovery outcomes has begun considering the effect of different factors and determinants. The need is increasingly recognized for measures to monitor and improve quality and encourages responsibility in the delivery of nursing designed to initiate, sustain, and promote mental health recovery. Therefore, this study aimed to assemble the results of comprehensive studies on instruments for assessing the recovery of people with severe mental illnesses.

Methods

A systematic literature review was carried out using the guidelines of the Joanna Briggs Institute for systematic reviews: step-by-step [6]. It describes in detail the process of planning, undertaking, and writing a systematic review using JBI methods. There were eight steps consisting of 1.) Formulating a review question 2.) Defining inclusion and exclusion criteria 3.) Locating studies through searching 4.) Selecting studies for inclusion 5.) Assessing the quality of studies 6.) Extracting data 7.) Analyzing and synthesizing the relevant studies 8.) Presenting and interpreting the results potentially includes establishing certainty in the body of evidence.

Objective: this systematic review was to pool the findings of systematic reviews related to the instruments for measuring recovery among persons with serious mental illness.

Formulating a review question

In undertaking this meta-review, our review questions were the following

1) What is the recovery measurement for people with SMI?
2) Which instruments are available to assess recovery among SMI in nursing?

Criteria for considering reviews for inclusion Definitions of criteria for inclusion of reviews in the review followed an adapted PICO structure.

P: Participant: People with serious mental illness

I: Intervention: The recovery instruments

C: Comparison: None

O: Outcome: Dimensions or aspects of recovery, Psychometric properties of instruments

Defining inclusion and exclusion criteria

To fulfill the research aim, specific inclusion criteria were set as primary research studies on factors influencing recovery among persons with schizophrenia to ensure the data's relevancy. These were: (1) Peer-reviewed research articles; (2) written limited to the English language; (3) focused on Systematic reviews only to be included and related to recovery measurement among serious mental illness in general; (4) having established psychometric properties; (5) were freely available. Specific exclusion criteria were also determined; these were: (1) non-peer-reviewed articles; (2) written in a language other than English; (3) published before the year 2010.

Locating studies through searching

A systematic search was conducted in March 2021 to identify published articles (an updated search was conducted in April 2021). The ScienceDirect and SpringerLink electronic databases were searched using the following search terms to capture all potentially relevant studies. The title was searched using Google Scholar, and Google search engine for related electronic documents was also conducted for "recovery measurement," "recovery instrument," "severe mental illness," "serious mental illness," and "systematic review." Although these broad search terms identified some recovery measurement studies related solely to mental health and not substance use, these studies were reviewed based on the inclusion and exclusion criteria at the full-text screening stage from January 2010 to December 2020.

Selecting studies for inclusion

The studies that met all the inclusion criteria from primary research studies were chosen. These were selected using the flowchart shown below in Figure 1, based on the PRISMA model [7].

Search outcome: After the comprehensive literature search, all titles of the found articles were read. The title and abstract were read based on whether the article was considered relevant according to the inclusion criteria. Out of 19,724 articles from the electronic database and google scholar, 19,646 research articles were identified for inclusion in the review as they matched the inclusion criteria. The other 2,596 articles were excluded according to the duplicates. These articles were read thoroughly, and afterward, 17,033 were excluded as they were not relevant according to the not-on-topic recovery instrument and did not use the English language. The full text of was remaining 15 articles was included in the reading. However, 11 articles were excluded because they were not systematic reviews. Finally, four studies were included in the analysis. The articles were evaluated based on their aim, study group, data collection method, analysis, and findings. Out of these, 14 articles were evaluated, and it was found that none were excluded due to low quality. Figure 1 details the literature search audit, including the primary reason records were excluded. Table 2 contained a summary of all eligibility systematic review studies and four articles in this review and provided details regarded the instrument for measuring recovery among persons with SMI in each study.

Assessing the quality of studies

All relevant systematic reviews were independently appraised and used the Assessment of Multiple Systematic Reviews (AMSTAR) tool. These 11 close questions evaluation tool assesses methodological quality, presentation, and the risk of bias in systematic reviews, with possible answers: Yes, No, Can't Answer, and Not Applicable. The quality assessment we

carried out relied on the information reported in the review - we did not contact the authors of the reviews to gather the information that was missing or ambiguous in their publication. Consequently, it may be possible that the authors had performed, for example, a comprehensive literature search for their review, but they did not report this in sufficient detail in their publication. Systematic reviews that did not report a comprehensive search strategy or scored less than 5 out of 11 items were excluded [8]. (Table 1)
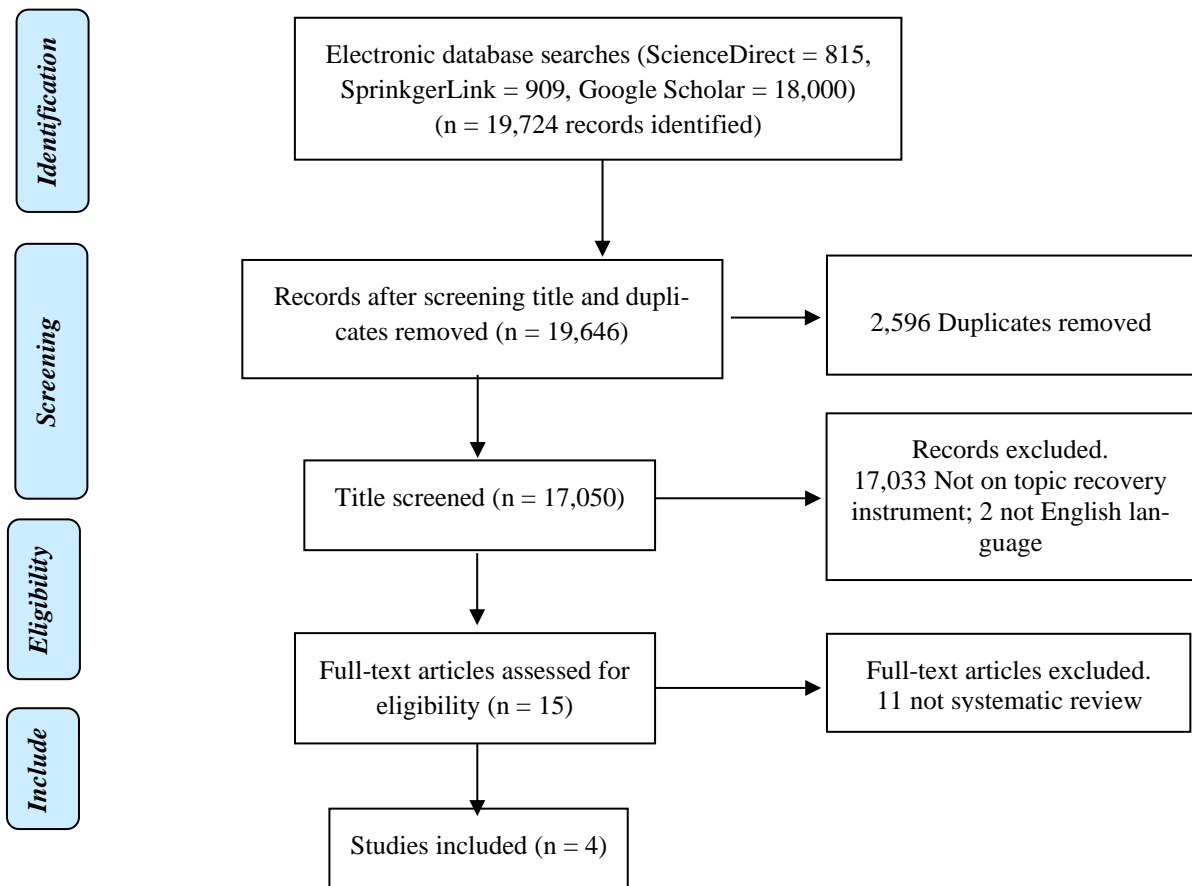

Figure 1. diagram of search strategy

Table 1. Summary of quality of systematic reviews

	Questions	[9]	[10]	[11]	[12]
1.	Was an 'a prior design provided	1	1	1	1
2.	Was there duplicate study selection and data extraction?	1	1	1	1
3.	Was a comprehensive literature search performed?	0	1	1	1
4.	Was the status of publication (i.e., grey literature) used as an inclusion criterion?	1	1	1	1
5.	Was a list of studies (included and excluded) provided?	1	1	1	1
6.	Were the characteristics of the included studies provided?	0	1	1	0
7.	Was the scientific quality of the included studies assessed and documented?	1	1	1	1
8.	Was the scientific quality of the included studies used appropriately in formulating conclusions?	1	1	1	1

Questions	[9]	[10]	[11]	[12]
9. Were the methods used to combine the findings of studies appropriate?	1	1	1	1
10. Was the likelihood of publication bias assessed?	0	0	0	0
11. Was the conflict of interest stated?	0	0	0	0
Total score	7	9	9	8

Data Extraction and Analyzes

The literature was drawn from a wide range of genres. The approach of thematic analysis was selected because of its convenience and adaptability. An inductive method was used for the study. The data in those articles were used to create a comprehensive picture of how people with severe mental illness can achieve personal recovery. The texts were then reread to ensure nothing was left out that was irrelevant to the main idea. The remaining assessments were reevaluated, and results were analyzed and interpreted to prove the study's relevance.

Extracting data

Author & Title	Aims	Sources & Time	Instruments	Criteria for analyzed	Finding
[9] **Measures of the recovery orientation of mental health services: a systematic review**	1. To identify measures that assess the recovery orientation of services 2. Discuss how these measures have conceptualized recovery (REFOCUS = CHIME) 3. characterize their psychometric properties	1. 7; MEDLINE, PsycINFO, EMBASE, CINAHL, CSA Illumina, TRIP and ASSIA. 2. Web search: Google Scholar and others 3. conference abstract 4. hand searching. From inception to February 2011	**6 instruments included:** 1. Aspect of service delivery or particular team (RSA) 2. Organizational system (ROSI, REE) 3. Relationship with a case manager (CRM) 4. Recovery-oriented practice (ROPI) 5. parallel version (RQI, CRM)	1. identified and evaluated different aspects of service delivery 2. Coverage of REFOCUS conceptual framework recovery process 3. Psychometric properties (conceptual model, content validity, criterion validity, construct validity, internal consistency, test-retest reliability, responsiveness, completion time, reading age)	- No measure was a good fit with the CHIME conceptual framework. - No measure had undergone extensive psychometric testing, and none had data on test–retest reliability or sensitivity to change. - According to this analysis, there are three significant information gaps in measuring the recovery orientation of services. First, there are currently no validated measures of recovery outcome assessment identifying a gold standard. Second, no one measure measures recovery processes well, which indicates that no one measure covers recovery processes.

Author & Title	Aims	Sources & Time	Instruments	Criteria for analyzed	Finding
					Finally, none of the measurements has shown appropriate reliability or sensitivity.
[10] **Instruments for measuring mental health recovery: a systematic review**	To identify mental health recovery instruments and evaluate their use appropriateness.	The Medline and Psych-INFO databases From June through August 2012	**13 instruments included:** 1. Mental health recovery outcomes (CROS, IMR, OHIO OUTCOMES SYSTEM, POP, RECOVERY PROCESS INTERVENTORY). 2. Mental health recovery dimensions (MARS, RAS). 3. Mental health recovery processes/ stages (MHRM, MHRS, MTR, STORI, Self-identified stage of recovery, stages of recovery scale)	1. Psychometric properties include internal consistency reliability, convergent and discriminant validity, and inter-rater and test–retest reliability. 2. Ease of administration (number of items, length of time to complete it, instrument translations, simple scoring and interpretation, the appropriate reading level of user. 3. Service user involvement	- Only three instruments have had their psychometric properties assessed in three or more unique samples of participants. The Recovery Assessment Scale (RAS) had the most robust psychometric support, followed by the Illness Management and Recovery (IMR) scale and the Maryland Assessment of Recovery in People with SMI (MARS). - MARS has been developed explicitly with SAMHSA's definition of mental health recovery, including RAS and the Mental Health Recovery Measure (MHRM), showing domains and items that address consistent constructs. - The instrument's ease of administration was vital for the IMR, MHRM, RAS, Self-Identified Stage of Recovery (SISR), and the Stages of Recovery Inventory (STORI). - The degree to which service users

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					were involved in the development of the instrument was vital for the IMR, MARS, and the Peer Outcomes Protocol (POP). - There is recommended to use RAS and MARS are highly recommended to assess mental health recovery dimensions and outcomes because the domains and corresponding items demonstrated very high levels of congruence with definitions of mental health recovery developed through service user advocacy. and some evidence supporting its psychometric functioning and ease of administration.
[11] **Measures of personal recovery: a systematic review.**	To identify measures of personal recovery focus on aspects of recovery defined by the CHIME framework and characterize the psychometric properties.	1. MEDLINE, PsycINFO, EMBASE, CINAHL, CSA Illumina, TRIP, CDSR, and DARE. 2. 11 Web-based repositories 3. a search on Google Scholar 4. abstract from three international conference series 5. search by hand 6. reference lists	**12 measures of personal recovery** (IMR, MARS, MHRM, PRI, QPR, RAS, RMQ, RPI, RS, SISR, SIST-R, STORI)	1.Recovery relevance to CHIME framework (Connectedness, Hope and optimism, Identity, Meaning and purpose, Empowerment. 2. psychometric assessment (content validity, criterion validity, construct validity, internal consistency, test-retest,	- No measure demonstrated all nine psychometric properties. However, STORI, MARS, QPR, and RAS demonstrated the widest range of psychometric properties. - RAS was the most widely published. - The Questionnaire About the Process of Recovery (QPR) was the only measure to

Author & Title	Aims	Sources & Time	Instruments	Criteria for analyzed	Finding
		From the date of inception to May 2012		reliability, responsiveness, time to complete, reading age, feasibility)	have all items map to the CHIME framework. - The Stages of Recovery Instrument demonstrated the most psychometric properties, followed by the Maryland Assessment of Recovery, the QPR, and the RAS. Criterion validity, responsiveness, and feasibility were particularly under-investigated properties.
[12] **How is evaluated mental health recovery? a systematic review.**	To update dimensions and instruments used to evaluate the recovery model concerning personal recovery and mental health services orientation in Spain.	SCOPUS, ProQuest, PsycARTICLES, PsycCRITIQUES, PsycINFO, EB-SCOHost and Science Direct Initially conducted between November and December 2016	1. **35 personal recovery instruments:** CHSS, RRI, RAQ, ARAS, CROS, OMH-COS, RSS, RAFRS, RPI, MPRM, SISR, MARS, QPR, I.ROC, RMI, CRM, RAS, RI, PVRQ, MHRM, IMR, POP, RMT, STORI, MORS, MHRS, RO, SRS, LORS, SCRO, PERS, MES, PORT-Scale, PRI, RSQ) **2. 18 mental health services' orientation instruments:** AACP ROSE, ROSI, RKI, RPRS, MRCRC, SRI, CRM, PORSAT, RCPR, REE,	1. Assesses domains related to personal recovery and services orientation 2. Easy to complete 3. Takes users' perspectives into account 4. Adequate development process 5. Quantitative data 6. Scientifically tested 7. Psychometric properties: reliability, internal consistency, convergent validity, construct validity, and assesses change 7. Spanish adaptation	- Lack of consensus on the recovery concept in personal recovery instruments and mental health services' orientation tools. - Of 35 personal recovery instruments, only eight tools showed psychometric properties (RAS, MHRM, IMR, STORI, SRS, QPR, MHRS, RPI) and found 22 dimensions consisting of symptom management, Spirituality, Hope, Responsibility, Relationships, Day-to-day support, Quality of life, Awareness, Empowerment, Strengths, Goals/self-management, Self-esteem, Knowledge, Redefinition of

Author & Title	Aims	Sources & Time	Instruments	Criteria for analyzed	Finding
			RSA, STARS, RBPI, ROPI, RPFS, ERFS, RIQ, INSPIRE.		oneself, Support, Intrapersonal, Daily functioning, Interpersonal, Work/Educational activities, Search for help, Wellbeing, Helping others, Active growth, Social activities, Self-confidence, Physical health, Medication, Addictions. - Of 18 instruments that evaluate mental health services' orientation illustrated, only RSA and INSPIRE showed psychometric properties. There were 21 dimensions peer/social support, Access, Recovery focus/possibilities, Choice, Organizational climate, Inclusion, Treatment, Orientation towards growth, Collaboration/Involvement, Self-care/wellness, Based on strengths, Meaningful activities, Self-monitoring/Self-determination, I services, Community-centered, Responsibilities, Goal striving, Basic needs,

Result

The data extraction table shows that the instruments themselves fall into one of two categories: measures of individual recovery and measures of recovery orientations' service. The instruments vary widely in their stages of development, ranging from those that have not yet been pilot tested to those that have

undergone considerable testing and have some established psychometric properties. The instruments also differ considerably in length, and their content reflects a variety of domains.

All included studies summarized that no validated measures of recovery outcome assessment identify a gold standard, and none of the measurements had shown appropriate complete nine psychometric properties (content validity, criterion validity, construct validity, internal consistency, test-retest, reliability, responsiveness, time to complete, reading age, feasibility). However, there is a similar finding by Sklar and colleagues, Shanks and team, and Moreno & Uriarte is The RAS was the most widely published, showed strong psychometric properties, and could be assessed mental health recovery dimensions and outcomes.

Discussion

Each instrument included in systematic reviews aimed at assessing mental health recovery had varying degrees of congruence with commonly used definitions. Although recovery has become a widely used term in health services research, inconsistency in its meaning and the operational definition has obscured the clarity of the concept. Therefore, previous research on tools for measuring recovery among SMI demonstrated that the scale had a low correlation with the construct of mental health recovery, either the CHIME conceptual framework or SAMHSA's definition of mental health recovery.

Moreover, all the measures presented in this review need additional psychometric evaluation [9-12]. This will require continued use and study of the measures, as well as the involvement of mental health nurses in these studies and the provision of valid ongoing data to organizations. After conducting a systematic review and applying the criteria outlined in the methods, the authors recommended three final individual recovery measures that are appropriate for the nursing field because they are nonproprietary, have well-published psychometrics, can be self-administered, use less clinical jargon, and have a publication record[13].

First, Recovery Assessment Scale (RAS) was the most cited individual recovery measure in the literature (according to our search).

It represented recovery holistically but did not include a subscale on symptom relationship with recovery. The RAS was non-proprietary and designed to assess various aspects of recovery from the person's perspective in services, emphasizing hope and self-determination. The strength was suggested by consumer feedback to be a sound assessment of recovery as a process. There are two versions, an original 41-item, and a new 24-item instrument. The measure can be self-administered by the individual receiving services. Each item is rated on a 5- point Likert agreement scale to provide an overall score and subscale scores (personal confidence and hope; willingness to ask for help; goal and success orientation; reliance on others; and no domination by symptoms). These can be assessed over time. The RAS has been widely used and published [14].

Second, the Maryland Assessment of Recovery (MARS) was developed using the [15] guiding principles of recovery (self-direction or empowerment, holistic, nonlinear, strengths-based, responsibility, and hope) and was used to measure the recovery of people living with serious mental illness. It was non-propriety and in the public domain, but permission from the authors is needed. It was a single factor measure with initially published psychometrics, but further study is needed since it is such a new measure and has less published evidence. It contained 25 items rated on a 5-point Likert agreement scale and self-administered by the person receiving services. A total score or individual item scores can be used for assessing recovery over time[16].

Lastly, the Mental Health and Recovery Measure (MHRM) showed domains and items that address consistent SAMHSA (2012) guiding principles of recovery, specifically designed to provide a comprehensive assessment of mental health recovery for persons with psychiatric disabilities, without relying on measurement of psychiatric symptom expression or symptom management. It comprised theory-grounded items based upon a specific recovery model developed from qualitative research into the phenomenology of recovery from the perspective of persons living with psychiatric disabilities. It was non-proprietary. It contained 41 items that assess seven domains:

overcoming stuckness; self-empowerment; learning and self-redefinition; basic functioning; overall well-being; new potentials; and advocacy/ enrichment. Each item is rated on a 5-point Likert scale of strongly disagree to agree strongly. A total score and subscale scores are calculated [17]

Therefore, mental health nurses should be recognized the need for measures to monitor and improve quality and foster accountability in delivering services designed to initiate, sustain and promote mental health recovery. This systematic review will probably be helpful to mental health nurses can be decided and identify measures that can be appropriate to assess the care and the holistic recovery of people with SMI receiving nursing implementation in mental health services.

Limitations

This review followed the CHIME conceptual framework or SAMHSA's definition of mental health recovery. Different analyses might happen if use other guidance. The number of articles was too high because of terms of keywords that might be related to many studies.

Implication for Nursing

This finding would be beneficial for nursing, specifically psychiatric nursing. All the instruments have strengths and weaknesses. The nurse can choose the appropriate instruments following the objective of their need. Besides, the dimension of each instrument might be necessary for nurse curricula related to the personal recovery of people with SMI. Each dimension must derive specific meanings and actions. Thus, it would become a specific intervention for nursing care.

Conclusion

The three measurements can measure personal recovery in people with SMI. RAS instrument was used in most of the study. Further study is needed for another instrument. However, perhaps those instruments could not apply in several countries because of different systems and services for mental health patients. Cultural adaptation is strongly recommended for the study that never uses these instruments in that country.

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