Rehabilitation of Individuals With Schizophrenia: a Scoping Review Protocol of Evidence From Sub-saharan Africa

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Protocol

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Abstract

Background: The rehabilitation of an individual with mental illness is an evidenced-based approach to reducing the burden of the illness and the associated stigma globally. Specifically, in Africa, it has promising value for African life and the African economy. Psychosocial rehabilitation is described as a set of approaches that aim to assist an individual in achieving restoration from a state of dependency caused by schizophrenia to a state of being an independent decision-maker. However, there seems to be a dearth of literature and implementation of psychosocial rehabilitation in Africa. Therefore, it is necessary to map articles on how rehabilitation is conducted for people living with the most chronic form of mental illness, schizophrenia, in Africa.

Methods: This study will adopt the Arsey and O’Malley scoping review framework to search and compile relevant articles. This process will involve three steps: title screening, which will be performed solely by the principal investigator, followed by abstract and full-text screening, which will be performed independently by two reviewers (the principal investigator and co-investigator). The data charting form will be used by both reviewers for screening, while Rayyan QCRI, a systematic reviews web app, will be used for tracking the screening records. The quality of articles identified for screening will be assessed by the Mixed Method Appraisal Tool (MMAT), and content analysis of the screened articles will be performed with NVivo.

Discussion: This study has the likelihood of revealing a research gap in rehabilitation approaches and methods. The results of the review will constitute part of the available evidence that the researchers aim to adopt in the broader part of the project, which aims to develop implementation strategies for the rehabilitation of chronic mental illnesses, specifically schizophrenia, in Sub-Saharan Africa. The implementation process also encompasses the dissemination of the findings of this review to stakeholders, which will enhance their knowledge of the current state of Sub-Saharan Africa and may stimulate support for the implementation of rehabilitation strategies.

Background

Mental illness can be expressed as a sudden or transient change in thoughts, emotions and behaviour that adversely affects the social functions and disposition of an individual. Particularly in Africa, individuals with mental illness experience social dysfunction more than they do in any other part of the world. Cultural misconceptions in Africa, such as the belief that mental illness is communicable and caused by evil spirits, encourage social isolation and result in social dysfunction. Such misconceptions explain why the stigma of mental illness is most pronounced in Africa and, specifically, Sub-Saharan Africa. Findings show that in Sub-Saharan Africa, individuals with mental illness and their families are labelled with derogatory names such as witches and are told that they are wicked and victims of the wrath of the gods. Schizophrenia has been declared the most stigmatized mental illness and the mental illness that attracts the most self-blame in Sub-Saharan Africa, as opposed to alcoholism and drug addiction, which are most stigmatized and attract the most self-blame in Western countries. The stigma of mental illness in Sub-Saharan Africa also affects care-seeking behaviour, as most of the individuals are taken to traditional healers or left to suffer due to the belief that the wrath of the gods will stop once the gods are satisfied. Traditional healers in Sub-Saharan Africa declare that mental illness is treated through concussion, divination and rituals to appease the gods. This suggests that individuals with mental illness are liable to chronicity and have an increased burden from delayed treatment in Sub-Saharan Africa. Considering the burden, mental illness constitutes 14% of the global burden of disease and 30% of the burden of non-communicable diseases, with schizophrenia being the most chronic form of the illness, contributing to approximately 7% of the global burden. However, there is a dearth of resources for estimating the burden of schizophrenia in Sub-Saharan Africa. The rate of the global burden of mental illness is considered significant since it has the highest rate of disabling effect (regarding low or no productivity) on individuals globally. Specifically, in Africa, mental illness accounts for 18% of a life lived with disability, meaning if an individual has a mental illness for ten years, the person will be utterly dependent for 730 days (2 years) of his/her life. Moreover, there is a 40-60% chance of premature death in people with schizophrenia.

The disabling effect of schizophrenia not only affects individuals but also affects their families and health practitioners. The burden on families stems from monitoring: the personal hygiene of the patient, the use of medication, comportment at social gatherings, follow-up with health care providers, and the need to deal with mood, cognitive and behavioural changes. The burden of care on families with mental illness causes emotional distress in family members and increases their chances of also developing mental illness. Specifically, in Africa, the family burden is compounded by family labelling. Members of the community segregate families of individuals with schizophrenia by refusing to allow them to live within their neighbourhood. Additionally, community members refuse to enter into marital relationships with the siblings of individuals with schizophrenia even when those siblings do not have schizophrenia, and they divorce those who are already married. This implies that individuals with schizophrenia and their families have little or no chance of getting married and procreating in Sub-Saharan Africa. According to Orjiakor and colleagues, societal behaviour towards individuals with schizophrenia causes challenges with social interpretation and violence in Sub-Saharan Africa, which in turn constitutes another burden.

The burden of schizophrenia on health practitioners is related to the scarcity of human resources, which the World Health Organization declared a significant requirement for quality care in mental health. Health practitioners engage in diverse methods to achieve recovery. This involves pharmacological (antipsychotics) and non-pharmacological (family therapy, individual therapy, group therapy, occupational therapy) methods, but
these methods do not reduce the burden. The World Health Organization, in view of the burden of mental illness, recommends psychosocial rehabilitation. Psychosocial rehabilitation (PSR) is described as a set of approaches that aim to assist an individual in achieving restoration from a state of dependency caused by schizophrenia to a state of being an independent decision maker. It encompasses promoting quality of life and is considered the most significant health care action for facilitating and sustaining the recovery of persons with mental illness, including schizophrenia. PSR promotes the holistic view of the person by providing vocational, educational, residential, social/recreational and personal adjustment services.

Evidence from global research shows that over two hundred (251-261) mental illness disability-adjusted life years (DALYs p.a./1 million pop.) may be averted through psychosocial rehabilitation interventions compared with 149-160 DALYs averted through medication alone. Specifically, the World Health Organization emphasizes that PSR should be contextually relevant for practice in each country. Despite the available evidence about the effectiveness of PSR, there seems to be a dearth of PSR implementation in Sub-Saharan Africa. Global studies reveal only two African countries (Botswana and South Africa) that have the standard psychosocial rehabilitation practice guide. Additionally, the World Health Organization, through the Mental Health Action Plan 2013-2020, has declared that there is a need for increased service coverage through integrated and responsive rehabilitation. Over the decades, high-income countries have managed to implement context-specific psychosocial rehabilitation. However, Sub-Saharan African countries still struggle with the implementation of rehabilitation for individuals with schizophrenia. The struggle is defined in terms of a dearth of literature and scientific know-how and a dearth of implementation of psychosocial rehabilitation in Africa. However, some studies reveal that some countries in Sub-Saharan Africa engage in rehabilitation despite the identified limitation. In view of this, this study intends to scope and review the available evidence of rehabilitation in Sub-Saharan Africa as a first step to assessing practice strategies that are geared towards instituting scientific implementation strategies at a broader scope of this study.

**Review objectives**

The objectives of the scoping review are as follows:

- To explore the existing evidence on psychosocial rehabilitation of schizophrenia and its approaches in Sub-Saharan Africa.
- To examine the expectations of individuals with schizophrenia and the outcomes of studies in Sub-Saharan Africa.
- To examine the findings and use the results to formulate or expand the research questions of the researchers' project on rehabilitation at a broader scope.

**Methods**

**Design**

The protocol is geared towards conducting a scoping review of articles generated in Sub-Saharan Africa on the PSR of individuals with schizophrenia. The review will be guided by the Arksey and O'Malley framework. This framework involves the following sequence:

1. Setting the research question
2. Identifying the relevant studies
3. Selection of studies by inclusion and exclusion criteria
4. Data charting
5. Collation, summary generation and report writing

**Setting the review question**

The review is underpinned by the following question: what work has been done in terms of the psychosocial rehabilitation of people living with schizophrenia in Sub-Saharan Africa?

**The sub-questions are as follows:**

1. What is the existing evidence on the psychosocial rehabilitation of schizophrenia and its approaches in Sub-Saharan Africa?
2. What are the expectations of individuals with schizophrenia and the outcomes of studies in Sub-Saharan Africa?
3. What are the findings of the available resources in Sub-Saharan Africa, and how will the findings be useful in formulating or expanding the research questions of the researchers on rehabilitation at a broader scope in Sub-Saharan Africa?
Eligibility of the review question

The 2015 study population concept and context (PCC) scoping review framework by Arsey and O’Malley, shown in Table 1 below, will be used to determine the eligibility of the research question.

| Criteria | Determinants | Main concept | Alternate keywords | Subject headings |
|----------|--------------|--------------|--------------------|------------------|
| Population | Schizophrenia | Chronic mental illness OR chronic psychiatric illness OR chronic Insanity OR Chronic Mental disorder OR dementia praecox OR schizophrenic psychosis | Individuals with schizophrenia disorders |
| Concept | Rehabilitation | Productivity OR re-integration OR reformation OR habilitation OR Recovery functioning OR Halfway housing OR re-establishment OR occupational skills OR vocational skills OR independent living skills OR reclamation OR improvement | Psychosocial rehabilitation |
| Context | Sub-Saharan Africa | Sahara Africa OR Black Africa OR southern Africa OR Africa OR south of the Sahara OR Africa OR developing countries OR low economies countries OR third world countries | Africa |

Identification of the relevant studies

Primary data that address the research question and are published in a peer-reviewed journal or grey literature will be identified for possible review. The searches will be performed using the LibGuides online bibliography and six databases: PubMed, ProQuest, PsycINFO (Psychological Information), Scopus, and Sabinet. In addition to the electronic search of databases, the search approach will include checking the references of included studies and related reviews as well as contacting experts and searching grey literature sources such as conference proceedings. The search terms will include psychosocial rehabilitation AND rehabilitation AND schizophrenia AND Sub-Saharan Africa. Three library experts from different countries were consulted (a medical school librarian and two librarians from schools of public health) to provide guidance for search terms for “schizophrenia”, “rehabilitation”, and “Sub-Saharan Africa”. According to reports, schizophrenia can also be conceptualized as chronic mental illness, chronic psychiatric illness, chronic insanity, chronic mental disorder, schizophrenic disorders, dementia praecox, and schizophrenic psychosis, while rehabilitation is conceptualized as productivity, re-integration, reformation, habilitation, recovery functioning, halfway housing, re-establishment, occupational skills, vocational skills, independent living skills, reclamation, and improvement. As alternate words, Sub-Saharan Africa is also regarded as Black Africa, Southern Africa, Sahara Africa, and South of the Sahara, with broader terms including Africa, developing countries, low economies, and third world countries. These variant terms will also be considered in the article search. Duplicates will be removed, and eligibility criteria will be applied for the selection of articles that will be reviewed in the study.

Selection of studies

Eligibility criteria (inclusion and exclusion)

The search strategy for this review will be guided by a specific duration, and articles before 2000 will not be considered for review because the global advocacy of the mental health burden and rehabilitation started in 2000\(^\text{24}\). Specifically, articles from 2000-2019 will be included. Access to full texts will also be considered. Articles that are not available through the South African inter-university library system will be searched for with the assistance of the librarians of the Consortium for Advanced Research Training in Africa (CARTA) and African Population and Health Research Center (APHRC), while articles not available within all these possible facilities will be excluded. The context of the articles will also be considered, and articles that are generated outside Sub-Saharan Africa will be excluded. Articles written in English language alone will be included, this is because of misinterpretation that may arise from seeking interpreters for other languages, also because English is the official language of all Sub-Saharan Africa countries, It is expected that all articles written in other languages will be outside sub-sahara and will waste effort of interpretation.

Search strategy

The search strategy for this review will consist of three phases.

Phase 1: This phase is operationalized in this protocol as pilot testing. Existing reviews on both schizophrenia and psychosocial rehabilitation were consulted to elaborate the searches for each of those concepts, and the findings are presented in Table 2 and 3. The search terms were piloted as indicated in Tables 2 and 3 to ascertain the appropriateness of the search terms.
Table 2a: Piloted database search results

This table shows the summary of articles generated after initial limit setting. The details of the limit set are displayed in Table 2b.

| Date of search | Keywords                          | Search engine | Publication retrieved | Link                                      | Search terms                                                  |
|----------------|----------------------------------|---------------|-----------------------|-------------------------------------------|--------------------------------------------------------------|
| 17 July, 2020  | Schizophrenia AND Rehabilitation  | PubMed        | 123                   | https://www.ncbi.nlm.nih.gov/pubmed       | (schizophrenia OR “chronic mental illness” OR “chronic psychiatric illness” OR “chronic insanity” OR “chronic mental disorder” OR “schizophrenic disorders” OR “dementia praecox” OR “schizophrenic psychosis”) AND (rehabilitation OR productivity OR re-integration OR reformation OR habilitation OR “Recovery functioning” OR “Halfway housing” OR re-establishment OR “occupational skills” OR “vocational skills” OR “independent living skills” OR reclamation OR improvement) AND (“Sub-Saharan Africa” OR “Black Africa” OR “southern Africa” OR “Sahara Africa” OR Africa OR “south of the Sahara”) |
Table 4: This table shows the process of the article generation with and without limit settings. The limit set are: Language (English Alone), Species (Human Alone), Year (2000-2019) 17-07-2020

| Search | Query                                                                 | Builder | Result   | Add/Reduce |
|--------|------------------------------------------------------------------------|---------|----------|------------|
| #1     | (schizophrenia OR "chronic mental illness" OR "chronic psychiatric illness" OR "chronic insanity" OR "chronic mental disorder" OR "schizophrenic disorders" OR "dementia praecox" OR "schizophrenic psychosis") | Concept | 145,285  | Add         |
| #2     | (schizophrenia OR "chronic mental illness" OR "chronic psychiatric illness" OR "chronic insanity" OR "chronic mental disorder" OR "schizophrenic disorders" OR "dementia praecox" OR "schizophrenic psychosis") AND (rehabilitation OR productivity OR re-integration OR reformation OR habilitation OR "Recovery functioning" OR "Halfway housing" OR re-establishment OR "occupational skills" OR "vocational skills" OR "independent living skills" OR reclamation OR improvement) AND (OR Africa OR "south of the Sahara") | Concept and Concept description | 29,015  | Add         |
| #3     | (schizophrenia OR "chronic mental illness" OR "chronic psychiatric illness" OR "chronic insanity" OR "chronic mental disorder" OR "schizophrenic disorders" OR "dementia praecox" OR "schizophrenic psychosis") AND (rehabilitation OR productivity OR re-integration OR reformation OR habilitation OR "Recovery functioning" OR "Halfway housing" OR re-establishment OR "occupational skills" OR "vocational skills" OR "independent living skills" OR reclamation OR improvement) AND (OR Africa OR "south of the Sahara") | Concept, Concept description and Context | 280  | Full        |
| #4     | (schizophrenia OR "chronic mental illness" OR "chronic psychiatric illness" OR "chronic insanity" OR "chronic mental disorder" OR "schizophrenic disorders" OR "dementia praecox" OR "schizophrenic psychosis") AND (rehabilitation OR productivity OR re-integration OR reformation OR habilitation OR "Recovery functioning" OR "Halfway housing" OR re-establishment OR "occupational skills" OR "vocational skills" OR "independent living skills" OR reclamation OR improvement) AND (OR Africa OR "south of the Sahara") | Concept, Concept description and Context variation | 280  | Full        |
| #5     | (schizophrenia OR "chronic mental illness" OR "chronic psychiatric illness" OR "chronic insanity" OR "chronic mental disorder" OR "schizophrenic disorders" OR "dementia praecox" OR "schizophrenic psychosis") AND (rehabilitation OR productivity OR re-integration OR reformation OR habilitation OR "Recovery functioning" OR "Halfway housing" OR re-establishment OR "occupational skills" OR "vocational skills" OR "independent living skills" OR reclamation OR improvement) AND (OR Africa OR "south of the Sahara") | Setting ten years limit | 169  | Reduce 10years |
| #6     | (schizophrenia OR "chronic mental illness" OR "chronic psychiatric illness" OR "chronic insanity" OR "chronic mental disorder" OR "schizophrenic disorders" OR "dementia praecox" OR "schizophrenic psychosis") AND (rehabilitation OR productivity OR re-integration OR reformation OR habilitation OR "Recovery functioning" OR "Halfway housing" OR re-establishment OR "occupational skills" OR "vocational skills" OR "independent living skills" OR reclamation OR improvement) AND (OR Africa OR "south of the Sahara") | Setting Specie limit | 132  | Reduce results-Human |
| #7     | (schizophrenia OR "chronic mental illness" OR "chronic psychiatric illness" OR "chronic insanity" OR "chronic mental disorder" OR "schizophrenic disorders" OR "dementia praecox" OR "schizophrenic psychosis") AND (rehabilitation OR productivity OR re-integration OR reformation OR habilitation OR "Recovery functioning" OR "Halfway housing" OR re-establishment OR "occupational skills" OR "vocational skills" OR "independent living skills" OR reclamation OR improvement) AND (OR Africa OR "south of the Sahara") | Setting language limit | 123  | Reduce results-English |
| #9     | The total number of documents eligible for article screening | 123  | 17-07-2020 |

Phase 2: This involves the title screening of the articles from each database. The keywords with the variant search terms as displayed in Table 2 will be input into each database without modification for consistency of the search terms. The titles of the resultant pool of articles will be assessed one by one, which will be performed by one of the reviewers (the principal investigator). Titles with the population and concept of the study will be selected. It is important to assess the population because the researcher has a population of interest, that is, individuals with schizophrenia. Therefore, the researcher also has a concept of interest, that is, rehabilitation. Assessing the titles one by one for these two indices, schizophrenia and rehabilitation, is necessary to streamline the selected titles to titles of interest.

The eligible titles that have the concept and the population will be exported into a storage file (Rayyan QCRI, a systematic reviews web app), which will be created solely for the review to have a definite record of screening without a mix of articles from other write-ups. Titles with the population and concept of the study will be selected and forwarded to the Reviews web app. The records of the titles screened will be documented as shown in Table 4.
Table 4: Electronic records of the titles screened
Below, the records of the titles screened will be kept in three columns. The first column consists of the keywords inserted into the search space, the second column consists of the records of each database where the search was conducted, and the last column consists of the number of articles retrieved from each database.

| Keyword | Database used | Number of studies retrieved |
|---------|---------------|----------------------------|

Phase 3: This involves abstract and full article screening. The articles with screened titles that were exported into Rayyan QCRI, a systematic reviews web app, by the principal investigator will be shared with the co-investigator. A form for assessing the articles will also be created on google (Google Forms) and shared with the co-investigator. The abstract and full-text screening will be performed by two screeners (the principal investigator and co-investigator). Tables 5 and 6 represent the format of tabulation of both screenings. The two reviewers will conduct an independent screening of the abstracts and full texts and compare the results. Rayyan QCRI, a systematic reviews web app that has been generated by the principal investigator during title screening, will be shared with the co-investigator for co-screening. Where there are discrepancies between the two screeners, they will be resolved by critically looking at the areas of differences together for resolution and agreement. In situations where agreement is not reached, a third screener will be incorporated, and the three reviewers will screen independently. Of the three results, two similar results will be considered. The display of the search result at each step will follow the systematic process of the PRISMA flow-chart, as indicated in Figure 1.

Table 5: Abstract screening table

| S/N | Author & Date | Is the study from Sub-Saharan Africa | Does the study include individuals with schizophrenia | Does the study include psychosocial rehabilitation | Initial of the screener | Report of screener A | Report of screener B |
|-----|---------------|-----------------------------------|--------------------------------------------------|------------------------------------------------|------------------------|---------------------|---------------------|
|     |               | Yes or No                          | Yes or No                                        | Yes or No                                        |                        | Yes or No            | Yes or No            |

Table 6: Full article screening table

| S/N | Author & Date | Study title | Are there formal or informal personnel involved in the process of rehabilitation? | What is/are the study setting(s)? | What is/are the pattern(s) of communication in the rehabilitation setting? | Does the study include feedback on the effectiveness of the rehabilitation? | Initials of the screener |
|-----|---------------|-------------|--------------------------------------------------------------------------------|-----------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------|
|     |               |             | Yes or No                                                                         | Yes or No                         |                                                                            | Yes or No                                                               |                        |

Charting of data

The data charting form indicated in Table 7 below will be used to assess the basic information in each of the articles. The variables in the charting form are suitable for answering the research questions and will be modified as deemed fit during the charting process.

Table 7: Data charting form

Author and date of publication

Title of the study

The aim of the study

Country of the study/location

Method/methodology

Population/participants
• Formal and informal health care providers
• Individuals with schizophrenia

Research question/objective

Study setting/context

• Clinical
• Community

Study design

Data collection methods

Study limitations/challenges

Data analysis

Study outcomes/results

Quality appraisal

Significant findings

Conclusions/recommendation

**Collation, summary generation and report writing**

The articles screened for inclusion in the study will be collated in NVivo. The content analysis approach will be used to analyse each of the articles in NVivo. Themes will be derived from the categories of meaning units of each of the articles. The theme derivation will evolve from the meaning units in each category. The report will be written based on the themes generated, which will inform the conclusion and recommendations of the review.

**Quality appraisal**

The quality of the articles will be assessed using the Mixed Method Appraisal Tool (MMAT) version 2011. The tool will serve as a scientific assessment instrument for checking the rigour of qualitative methodologies, the validity of quantitative instruments, the suitability of methodologies, and the appropriateness of mixed-method approaches. The principal investigator will use the tool to assess the designs, data collection methods, analytical approaches and their suitability, the presentation of the findings, the discussion and conclusions derived from the studies that will be included in the scoping review. Doing so is critical for the quality of the review and the report derived from the articles that will be included in the review.

**Discussion**

In view of the identified need to concentrate effort on the rehabilitation of individuals with schizophrenia, the investigators are interested in knowing the scientific work that has been performed in terms of the psychosocial rehabilitation of people living with schizophrenia in Sub-Saharan Africa. The scoping review has the potential to reveal the gap in rehabilitation in Sub-Saharan Africa and to provide information on available strategies. The results of this scoping review will form part of the research questions of the main study that the investigators plan to conduct in the most populous country in Sub-Saharan Africa, Nigeria.

**Abbreviations**

PSR: Psychosocial rehabilitation

PCC: Population concept context

MMAT: Mixed Method Appraisal Tool

PRISMA: Preferred reporting items for systematic reviews and meta-analyses

**Declarations**

**Patients and public involvement:** Not applicable
Ethical consideration: Not applicable

Consent for publication: Not applicable

Conflict of interests: The author declares no conflicts of interest.

Author contributions

The manuscript was drafted and designed by O.O. The revision was performed by N.G. Both authors agreed on the protocol submission for publication in an accredited open access journal.

Conflict of interests

The authors declare that they have no conflicts of interest.

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Figure 1

A PRISMA Flow-chart.