

# BMJ Open Scoping review exploring vocational rehabilitation interventions for mental health service users with chronic mental illness in low-income to upper-middle-income countries

Munyaradzi Chimara <sup>1</sup>, Lana Van Niekerk <sup>2</sup>, Hester M van Biljon <sup>2</sup>

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<sup>1</sup>Occupational Therapy & Physiotherapy Department, Faculty of Health Sciences & Veterinary Medicine, University of Namibia, Windhoek, Khomas, Namibia

<sup>2</sup>Division of Occupational Therapy, Department of Health and Rehabilitation Sciences, Faculty of Medicine and Health Sciences, Stellenbosch University, Cape Town, Western Cape, South Africa

## Correspondence to

Munyaradzi Chimara;  
[munyagreen@hotmail.com](mailto:munyagreen@hotmail.com)

## ABSTRACT

**Objective** To synthesise research published on vocational rehabilitation (VR) interventions offered in institutions, by occupational therapists, to mental health service users (MHSUs) with chronic mental illness, in low-income to upper-middle-income countries (L-UMIC).

**Design** This scoping review used Arksey and O'Malley's methodological framework, the Preferred Reporting Items for Systematic Reviews extension for Scoping Reviews and Joanna Briggs scoping review guidelines.

**Data sources** We searched PsycInfo, EBSCOhost, HINARI, Google Scholar, Medline, CINAHL, PubMed, Cochrane Library, Scopus, Science Direct and Wiley online library between 15 July and 31 August 2021.

**Eligibility criteria** Sources, published in English between 2011 and 2021, on institution-based VR in occupational therapy for MHSUs who had chronic mental illness in L-UMIC were included. We included primary studies of any design.

**Data extraction and synthesis** Three reviewers used Mendeley to manage identified references, Rayyan for abstract and full-text screening and Microsoft Excel for data extraction. Data were sifted and sorted by key categories and themes.

**Results** 895 sources were identified, and their title and abstracts reviewed. 207 sources were included for full-text screening. 12 articles from 4 countries (South Africa, India, Brazil and Kenya) were finally included. Types of VR intervention included supported employment, case management and prevocational skills training. Client centeredness, support and empowerment were the key VR principles identified. Teaching of illness self-management, job analysis and matching, job coaching, trial placement, and vocational guidance and counselling were the main intervention strategies reported.

**Conclusions** VR intervention in institutions for MHSUs in L-UMIC revealed the multidimensional uniqueness of individual MHSU's vocational ability, needs and contexts. The interventions allowed client-centred approaches that offer support and empowerment beyond the boundaries of the institutions. Occupational therapists offering VR need to expand their interventions beyond their institutions to contexts where MHSUs are working or intending to work.

## Strengths and limitations of this study

- ⇒ The study followed a scoping review protocol that was peer reviewed and published.
- ⇒ Prescheduled weekly meetings among the three authors were used to promote momentum and discussions throughout the project.
- ⇒ The authors used human and other library resources from two universities, namely the University of Namibia and Stellenbosch University.
- ⇒ Sources from non-English speaking countries might have been missed and many such countries fall within the socioeconomic inclusion criteria; the review was limited to English-language sources as there was no funding available for translation.
- ⇒ Due to the dearth of publications from low-income to upper-middle-income countries, the evidence presented in this article cannot be seen to represent vocational rehabilitation for mental health service users within the scope of occupational therapy globally.

## INTRODUCTION

Vocational rehabilitation (VR) among mental health service users (MHSUs) with chronic mental illness is an area of concern in low-income to upper-middle-income countries (L-UMIC). The majority of global burden of mental disorders is located in L-UMIC,<sup>1</sup> yet public expenditure on mental health, including rehabilitation services, is very low in these countries where less than one percent of total budget is allocated for mental health with resources predominantly directed to institution based care.<sup>2 3</sup> One such country is Namibia, located in the south-western part of Africa, and in which the first author (MC) resides. The estimated prevalence of mental illness in Namibia is 2 838, 71 per 100 000 population.<sup>3</sup> This scoping review forms the first phase of a four phased project, and the envisaged main outcome of the project is a

VR practice framework for MHSUs with chronic mental illness in Namibia.

The World Bank classifies countries according to their gross national income (GNI) per capita in US dollars.<sup>4</sup> There are four classes of economies. For 2022 fiscal year, the GNI per capita for low-income economies was US\$1046 or less; for lower-middle-income economies US\$1046 to US\$4095; upper-middle-income economies ranged from US\$4096 to US\$12 695; and high-income economies were those with GNI per capita of US\$12 696 or more.<sup>5</sup> Namibia was ranked as upper-middle-income country at the time of this study. Other countries ranked as upper middle income are South Africa, Botswana and Libya, whereas Zimbabwe, India and Kenya are examples of lower-middle-income countries. Examples of low-income countries are Malawi, Uganda and Burundi.<sup>5</sup>

Chronic mental illness can be defined using three criteria suggested by Bachrach<sup>6</sup> namely diagnostic criterion, duration of illness and disability criterion. The Diagnostic and Statistical Manual of Mental Disorders fifth edition (DSM-5) developed by the American Psychiatric Association is widely used in L-UMIC for the diagnostic criteria. Using the DSM-5, common mental conditions include schizophrenia spectrum and other psychotic conditions, bipolar and related disorders, depressive disorders and anxiety disorders.<sup>7</sup> In this review, duration of mental illness considered for chronicity was 2 years regardless of the number of relapses and remissions. The disability criterion, which is perhaps the most important of the three criteria for chronicity from the perspective of rehabilitation personnel, entails disturbing behaviour, impairment in work and non-work activities and mild impairment in basic needs.<sup>6</sup>

Occupational therapists are health and social care professionals who use occupations or activities to restore or maintain function in the areas of work, self-care and leisure for people with physical and/or psychosocial dysfunctions.<sup>8</sup> Occupational therapists play an important role in VR of MHSUs with chronic mental illness who are either employed, unemployed or on sick leave.<sup>9</sup> Through VR, occupational therapists help MHSUs to gain work, return to work or maintain an existing worker role.<sup>10</sup> Ross<sup>10</sup> highlights six stages followed in the VR process that are somewhat similar to the occupational therapy process. These are referral, assessment, prevocational phase, worksite visit, return to work plan, intervention, evaluation and discharge. Using the VR process, occupational therapists apply various VR strategies, and work with a variety of people and professions spanning both industrial and healthcare sectors.<sup>9</sup> They employ a variety of occupational therapy professional competencies that include activity analysis, job analysis, identification of essential job functions, knowledge of mental health conditions, functional capacity evaluations.<sup>11</sup> In the Namibian context, occupational therapists who provide VR service are institution based regardless of the clientele group they serve. MHSUs with chronic mental illness are an important clientele group for occupational therapist

practicing VR because of their high level of unemployment vulnerability. Often, MHSUs with chronic mental illness have to compete for employment in a Namibian economy where general unemployment rate stands at 33.4%.<sup>12</sup> It is therefore imperative that occupational therapists providing VR to MHSUs with chronic mental illness in L-UMIC such as Namibia are guided by a framework that is sensitive to contextual realities.

There is limited consensus in the literature on the definition of the concept and categorisation of VR interventions offered by occupational therapists. One plausible categorisation of VR types is by van Biljon *et al*<sup>13</sup> who identified six types, namely, prevention, screening, assessment, intervention, placement and follow-up. VR interventions focus on correcting or compensating for work ability deficits and improve work performance.<sup>13</sup> Suijkerbuijk *et al*<sup>14</sup> identified four types of VR interventions. These are (1) prevocational training, (2) transitional employment, (3) supported employment and (4) augmented supported employment. Prevocational skills training includes job-related skills training and symptom-related skills training, with the latter comprising cognitive training and social skills training. Transitional employment is a highly structured intervention programme where MHSUs who have expressed the desire to work are placed in the open labour market on a part-time basis for a period ranging from six to 9 months.<sup>15</sup> During the period of transitional employment, MHSUs receive on-the-job and off-site support from the VR team. Unlike transitional employment, supported employment usually has no time limit, MHSUs follow a competitive interview process for the position, and they are paid at the prevailing wage of the position.<sup>15</sup> Supported employment is a career-oriented VR intervention, where an MHSU is assisted accessing and being successful with employment through on-the-job and off-site support. Augmented supported employment is a combination of supported employment with either prevocational training or transitional employment. In addition to VR interventions identified by Suijkerbuijk *et al*<sup>14</sup> Swart and Buys<sup>11</sup> included work-hardening and case management. It is important to note that these VR intervention types do not necessarily follow a sequential process. Also, VR intervention categories seem to be overlapping. For example, Suijkerbuijk *et al*<sup>14</sup> categorised transitional and supported employment as VR intervention types, whereas van Biljon *et al*<sup>13</sup> categorised these under placement.

VR outcomes have been differentiated as hard outcomes or soft outcomes.<sup>10</sup> Ross<sup>10</sup> contends that soft outcomes are measures applicable to service users believed to be furthest away from labour market and therefore need a greater number of stepping stones. Examples of soft VR outcomes include engaging in voluntary work, doing a training course or achieving better quality of life. Examples of hard VR outcomes are; reduced number of days of absence from work, increased chances of returning to work and improved benefit-to-cost ratios.<sup>10</sup> Other VR outcomes include improved self-esteem and self-concept, reduced symptoms of mental illness, increased

personal empowerment and higher ratings of subjective well-being.<sup>16</sup>

### Rationale

This scoping review comprises the first of four phases the authors will follow in developing a contextually relevant VR framework for MHSUs with chronic mental illness in Namibia. The purpose of this scoping review was to map the current evidence on institution-based VR for MHSUs with chronic mental illness that fall within the occupational therapy scope of practice as defined by the World Federation of Occupational Therapists and originate in L-UMIC. The study aimed to identify VR interventions types, strategies, principles as well as VR outcomes. The authors focused on institution-based VR because of the current occupational therapy practice set-up in Namibia where therapists are institution-based. A scoping review was selected because it allowed for exploring the breadth and depth of available evidence for the given population, concept and context (PCC).<sup>16</sup> The review findings will inform the second phase of the primary author's doctoral study, which will focus on engaging with stakeholders to explore factors that should be considered by occupational therapists for their VR with MHSU's in Namibia.<sup>8</sup>

### Review question

What is known from the existing literature about health-care institution-based VR for MHSUs with chronic mental illness from L-UMIC?

### Objectives

1. Provide a detailed overview of all the studies on institution-based VR of MHSUs with chronic mental illness, in occupational therapy, in L-UMIC.
2. Identify institution-based VR interventions in occupational therapy for MHSUs who have chronic mental illness in L-UMIC.

## METHODS

### Study design

This scoping review followed a protocol<sup>8</sup> that was peer reviewed and published. As highlighted in the protocol, the scoping review was guided by a methodological framework originally suggested by Arksey and O'Malley<sup>17</sup> and subsequently refined by Levac *et al*<sup>18</sup> and Colquhoun *et al*<sup>19</sup>. The framework follows five successive steps namely: (1) defining the research question, (2) identifying relevant studies, (3) study selection, (4) charting the data and finally (5) collating, summarising and reporting the results. Reporting of the findings of this review was guided by the Preferred Reporting Items for Systematic Reviews extension for Scoping Reviews (PRISMA-ScR) proposed by Tricco *et al*.<sup>20</sup> The PRISMA-ScR checklist used is attached in online supplemental file 1. Two adjustments were done to the methodology, thus creating minor discrepancies between this study and its protocol. The first adjustment was the delay in identifying relevant studies because the authors had to wait for the publication of the protocol.

The second adjustment was the withdrawal of stakeholder engagement during the scoping review study. The authors will conduct a separate and comprehensive study where stakeholders in VR will be engaged to share their views on factors to be considered for institution-based VR of MHSUs with chronic mental illness in Namibia.

### Eligibility criteria

The PCC criteria<sup>21</sup> was used to define the eligibility criteria. The population (P) was MHSUs who had chronic mental illness. Chronic mental illness was based on three aspects, (1) diagnosis criteria, (2) period of illness and (3) the disability criteria.<sup>6</sup> In this review, chronic mental illnesses were identified as non-organic and personality disorders; long history (2 years or more) of previous hospitalisations or outpatient treatment; and disability criterion including disturbing behaviour, impairment in work and non-work activities and mild impairment in basic needs.<sup>8,22</sup> The concept (C) was institution-based VR provided for MHSUs by occupational therapists stationed at a facility. These facilities include clinics, hospitals or rehabilitation centres, day-care centres, half-way houses or home, sheltered employment facilities, correctional facilities and forensic mental healthcare settings.<sup>8</sup> In this study, VR is defined as evidence-based approach that is provided in different settings, services and activities to working age individuals with mental health-related impairments, limitations or restrictions with work, and whose primary aim is to optimise work participation.<sup>11</sup> The context (C) was L-UMIC as defined by World Bank income grouping. Sources published in English only between 2011 and 2021 were eligible for inclusion. The rationale for including sources from the last decade (2011–2021) was twofold. First, there was significant development that transpired in terms of VR during this period from 'train and place' to 'place first then train'. The second reason was that there has been an increase in the number of occupational therapists providing VR services to MHSUs in the last decade, therefore it was important for authors to focus on research produced in the same period. The authors included primary studies of any design that addressed VR interventions for MHSUs with chronic mental illness in L-UMIC.

### Search strategy

The search strategy was developed with the assistance of a qualified subject librarian from the University of Stellenbosch. A preliminary search was conducted on two databases, PubMed and CINAHL. Results of the preliminary search led to the refinement of the search strategy covering all the three elements (PCC) of the scoping review question. The following main search string was used for identifying relevant sources: (("Psychiatric Rehabilitation" OR "Rehabilitation, Vocational" OR "work rehabilitation" OR "Occupational Therapy") AND (mental disorders OR mental illness OR psychiatric disorders OR psychiatric illness) NOT (("North America" OR Europe\*)) AND ((severe OR chronic OR long-term OR



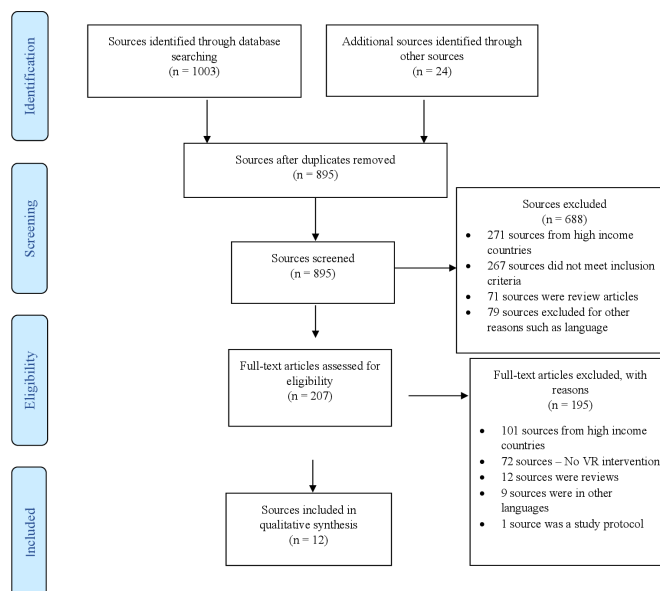
persistent)). Medical Subject Heading terms, Boolean operators (ie, AND, OR, NOT) and truncation strategy were used to refine the search.<sup>8</sup> The search strategy was refined and tailored to specific databases and run in each of the following electronic databases; PsycInfo, EBSCOhost, Google Scholar, Medline, CINAHL, PubMed, Cochrane library, Scopus, Science Direct, HINARI and Wiley online. Grey literature sources were searched through library links for universities subscribed to by all three authors engaged in this review. Additional search was done through checking bibliographies of all the included sources. The full search strategy is attached in online supplemental file 2.

### Screening and selection

Sources that were identified through the above-mentioned search strategy were uploaded in Mendeley Reference Manager<sup>23</sup> and initial deduplication was done. Sources were then exported from Mendeley to Rayyan<sup>24</sup> web application for systematic reviews where second deduplication was conducted. The first and third authors (MC and HMvB) independently performed title and abstract screening of the uploaded sources guided by the PCC and inclusion criteria. The authors included peer-reviewed sources on VR interventions that fit into the occupational therapy scope and were published in English between 2011 and 2021 from L-UMICs.<sup>8</sup> The second author (LVN) resolved conflicts and her vote was final in making the decision to include or exclude a source. A second project was opened in Rayyan<sup>24</sup> where sources that were screened for title and abstract were loaded for full-text screening. The first and third authors (MC and HMvB) did full-text screening of the first three sources together before they independently screened the rest of the sources. Conflicts were discussed and resolved with input from the second author (LVN), and the inclusion or exclusion criteria was regularly checked. **Figure 1** below is the PRISMA flow diagram illustrating the process of searching and selecting sources for inclusion in this review.

### Data extraction

Data were extracted from each of the 12 included sources using a data extraction form that was developed by the first author and independently reviewed by the second and third authors. The template for intervention description and replication (TIDieR) checklist<sup>25</sup> was incorporated in the data extraction form. Extracted data covered the following: author (s), year of publication, country of origin, aim/purpose, study population and sample size, methodology, VR intervention type, VR intervention principles, VR intervention strategies, outcomes of the interventions, main conclusions and type of mental healthcare settings. Also, a summary of the levels of evidence of included sources was presented. The extracted data were transferred to spreadsheet and all three authors reviewed the information.



**Figure 1** Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram. PRISMA flow diagram for a scoping review exploring vocational rehabilitation interventions for mental health service users with chronic mental illness in low-income to upper-middle income countries. VR, vocational rehabilitation.

### Data analysis

On conclusion of data extraction, a basic numerical and qualitative thematic analysis was done in Microsoft Excel. All three authors were involved in the analysis and met weekly on-line and through a WhatsApp group to discuss analysis issues and ensure uniform procedure. Qualitative data were extracted to show geographical origins of sources, demographic profile and socioeconomic features of participants, as well as methodological features of the sources. All three authors individually read and inductively coded the data, creating provisional categories. During discussions among the authors categories were refined, and through deductive thematic analysis themes were identified by consensus.

### Patient and public involvement

There was no patient or public involvement.

## RESULTS

### Characteristics of included sources

A total of 12 sources from 4 L-UMIC drawn from studies done in Africa, Asia and South America were included. The countries were South Africa—eight sources, India—two sources, Brazil and Kenya—one source each. All 12 sources were published between 2011 and 2020. The total number of study participants reported in the included sources was 1581, and only two sources reported the combined attrition of 108 participants. Age of the participants ranged from 18 to 60 years. Four studies<sup>22 26–28</sup> were conducted in urban settings, one in both urban and rural settings<sup>29</sup> and the rest of the included sources did not report on this aspect. In terms of socioeconomic status of

the participants, two sources<sup>26 28</sup> reported that participants were from low socioeconomic status stratum, whereas the rest of the included sources did not state this component. Diagnoses reported in the sources were: schizophrenia, schizoaffective disorder, anxiety disorder, bipolar type I disorder, intellectual disability, major depression and obsessive-compulsive disorder.

The included sources used the following study designs: qualitative design—4, quantitative design—3, mixed methods design—2, and Delphi Method—1. Two sources did not clearly state the design used. Qualitative designs included action research, phenomenology, interpretive biography, multiple collaborative research and focus group interviews. Single-blinded randomised control and longitudinal descriptive designs were employed in quantitative designs. Table 1 shows a summary of the characteristics of included sources.

### Level of evidence of included sources

Levels of scientific evidence can be reliably used to summarise the quality of the literature. There are five levels of scientific evidence.<sup>30</sup> Level 1 is the highest and it includes randomised control trials. Levels 2 and 3 include cohort and case-control studies, respectively, whereas level 4 encompasses non-experimental observational studies, case reports and case series.<sup>30</sup> Narrative reviews and expert opinions comprise the lowest level of scientific evidence, that is, level 5. In this study, one source by Vizzotto *et al*<sup>22</sup> is level 1, two sources by Engelbrecht *et al*<sup>26</sup> and van Niekerk *et al*<sup>28</sup> are level 2, and seven sources<sup>13 27 31–35</sup> are level 5. Two sources<sup>29 36</sup> did not specify methodology used.

### Review findings

The section presents the scoping review findings covering VR intervention types, VR intervention principles and outcomes, and recommendations from the included sources. A summary of the review findings is attached in online supplemental file 3.

### Intervention types

The included sources reported different VR types. Supported employment was the most common VR intervention cited by four sources.<sup>26–29</sup> This is a VR intervention type that promotes the inclusion of persons with disabilities in competitive employment.<sup>28</sup> It is based on the assumption that people with the most severe disabilities can be integrated into competitive employment if they receive the right support.<sup>28</sup> The ongoing support can be provided by family members of the MHSU, the employer, occupational therapist or a job coach.<sup>26 28 29</sup>

Two sources<sup>13 36</sup> categorised VR intervention types into six categories that were quite similar. These were: (1) prevention, (2) screening, (3) assessment, (4) intervention, (5) placement and (6) follow-up. Prevention included providing educative services for the prevention of injury at work, to create an awareness of good work practice, as well as avoiding development and/

or worsening of a condition. Screening entailed a short prescriptive process to filter and refer MHSUs to more specialised occupational therapists or facilities, whereas intervention services were programmes aimed at correcting or compensating for ability to work deficits.<sup>13 36</sup> van Biljon *et al*<sup>13</sup> stated that placement services focus on the return of MHSUs to their own, alternative or new work area in the open labour market. Placement also included placement of MHSUs in sheltered or protected workshops.<sup>13</sup> Follow-up was done for MHSUs who used VR services and could be done with employers, referral sources, family members of MHSUs and MHSUs themselves.<sup>13</sup>

Case management and Goal Management Training (GMT) methods were also identified as possible VR intervention methods.<sup>22 34</sup> Case management was used as an early intervention approach in VR of MHSUs once there had been an extended period of absence from work or a high rate of absence from work due to illness.<sup>34</sup> It involves developing a care plan, reskilling/training to aid in work re-entry and work visits to liaise with employer to aid in the transition of the MHSU back to work.<sup>34</sup> Vizzotto *et al*<sup>22</sup> tested the efficacy of Occupational Goal Intervention Method for the improvement of executive functioning in MHSUs with treatment-resistant schizophrenia (TRS). This intervention was delivered over 15 weeks via 30 sessions with each session lasting 90 min. The focus of the intervention was on activities of daily living and instrumental activities of daily living including money management and use of transportation. Their study concluded that Occupational Goal Intervention Method appeared to improve social and functional aspects of MHSUs with TRS. Other VR intervention types identified in this review were job seeker programmes and related support, prevocational skills training and support, and social networks.<sup>31 35</sup>

### Intervention principles

Five out of the twelve included sources stated a number of principles applied in VR.<sup>27 28 32–34</sup> Samuel and Jacob<sup>32</sup> in their study on the role of occupational therapy in bridging the gap between symptomatic improvement and functional recovery highlighted the following three principles: (1) patient and family empowerment, (2) focus on achieving functional recovery and (3) optimising the fit between an individual's abilities and the environmental demands. Buys<sup>33</sup> identified five principles in her study on professional competencies in VR, namely; client centred, objectivity, adaptability, professionalism and respect. Planning with the client, client advocacy and on-going individualised support were the principles specifically identified for case management and supported employment.<sup>28 34</sup> Van Niekerk *et al*<sup>27</sup> further reiterated the need to support MHSU goals and to empower them with choices and information, and they highlighted that support should be 'no more than needed and no less than necessary'.

**Table 1** Characteristics of included sources

Authors and year of publication	Country and region	Study design	Study participants/target population	Sample size	Gender	Age of the study participants/target population	Location	Socioeconomic status of the study participants/target population	Diagnosis of the study participants/target population
Vizzotto <i>et al.</i> 2016 <sup>22</sup>	Brazil, South America	Randomised controlled, single-blind pilot study comparing the OGI method with craft activities	Patients with treatment-resistant schizophrenia	30	Male 24, female 5.	18–55	Urban	Not stated	Schizophrenia
Van <i>et al.</i> 2015 <sup>35</sup>	South Africa, Africa	Action research phenomenology	Occupational therapists working in Gauteng's public healthcare, who were interested in vocational rehabilitation. Vocational rehabilitation experts	127 occupational therapists and 39 vocational rehabilitation experts	Not stated	Not stated	Not stated	Not stated	Not specified
Ebuenyi 2019 <sup>31</sup>	Kenya, Africa	A sequential mixed-method design	Persons with mental/psychosocial disabilities	14 individual interviews, 30 individuals in FGDs, 72 participated in quantitative study	Males and females	Mean age of 40 years	Not stated	Not stated	Depression, schizophrenia, bipolar mood disorder
Khare <i>et al.</i> 2020 <sup>29</sup>	India, Asia	Not specified	Psychiatric outpatients	552	Male 311, female 231	18–60	Rural and urban	Not stated	schizophrenia, schizoaffective disorder, bipolar disorder, major depression
Samuel and Jacob 2017 <sup>32</sup>	India, Asia	Narrative paper	Not stated	Not stated	Not stated	Not stated	Not stated	Not stated	Not specified

Continued

Table 1 Continued

Authors and year of publication	Country and region	Study design	Study participants/target population	Sample size	Gender	Age of the study participants/target population	Location	Socioeconomic status of the study participants/target population	Diagnosis of the study participants/target population
van Biljon <i>et al</i> 2016 <sup>13</sup>	South Africa, Africa	A multicollaborative action research approach	Occupational therapists working in Gauteng's public healthcare, who were interested in vocational rehabilitation. Vocational rehabilitation experts	14 VRIT group, 242 OT clinicians in Gauteng public sector, 26 OT working in academics. 39 VR experts	Not stated	Not stated	Not stated	Not stated	Not specified
Buys 2015 <sup>33</sup>	South Africa, Africa	A Delphi technique	Occupational therapists	35	Not stated	Not stated	Not stated	Not stated	Not specified
Govender <i>et al</i> 2018 <sup>34</sup>	South Africa, Africa	Quantitative and qualitative design using survey monkey	Qualified occupational therapists working in the private sector, those specialising in vocational rehabilitation in the private sector; working in health consulting and insurance sectors; occupational therapists involved in medicolegal work and work with RAF	180	Not stated	Not stated	Not stated	Not stated	Not specified
Occupational Therapy Association of South Africa 2020 <sup>36</sup>	South Africa, Africa	Not stated	Not stated	Not stated	Not stated	Not stated	Not stated	Not stated	Injury, illness, impairment or congenital or acquired disability.

Continued

Table 1 Continued

Authors and year of publication	Country and region	Study design	Study participants/target population	Sample size	Gender	Age of the study participants/target population	Location	Socioeconomic status of the study participants/target population	Diagnosis of the study participants/target population
Engelbrecht <i>et al</i> 2017 <sup>26</sup>	South Africa, Africa	Longitudinal descriptive design	Working age participants with a diagnosis of psychiatric disorder or intellectual disability	Group A—25, Group B—56	Not stated	Working age but not specified	Urban	Low socioeconomic group	Psychiatric disability, intellectual disability.
Van Niekerk <i>et al</i> 2011 <sup>27</sup>	South Africa, Africa	Focus group interview	Service providers who had initiated SE programmes in the Cape	8	Not stated	Not stated	Urban	Not stated	Not specified
Van Niekerk <i>et al</i> 2015 <sup>28</sup>	South Africa, Africa	longitudinal descriptive design	People with mental disabilities receiving SE in the Western Cape Province	Group A—29, Group B—56	Not stated	Not stated	Urban	Low socioeconomic group	Intellectual disability, psychiatric disability (schizophrenia, schizoaffective disorder, bipolar I)

FGDs, Focus Group Discussions; OGI, Occupational Goal Intervention; RAF, Road Accident Fund; SE, Supported Employment; VR, vocational rehabilitation; VRTT, Vocational Rehabilitation Task Team.



### Intervention strategies

All 12 included sources presented various VR intervention strategies. Khare *et al*<sup>29</sup> identified the following strategies: teaching illness self-management skills, systematic involvement of families and social networks to help with job finding, collaboration on mental illness management, and facilitating work in family business. Van Niekerk *et al*<sup>27</sup> and Engelbrecht *et al*<sup>26</sup> reported similar VR intervention strategies in their studies. These were job analysis and matching, job finding, job coaching, trial placement, simulated work, work in protective factories and sheltered workshops. Job analysis and matching involved evaluation of employment potential and goodness of job fit. Job advocacy at the job site with employers and coworkers was a strategy used in supported employment. Work visits were done to observe real work, to discuss reasonable accommodation and to assist with performance appraisals. Engelbrecht *et al*<sup>26</sup> further identified personal life skills training as an essential component of VR strategy. The personal life skills deemed essential in VR included money handling, grooming, use of transportation, time management and communication.

The Occupational Therapy Association of South Africa (OTASA)<sup>36</sup> position paper on VR stated a number of VR strategies that are applicable in various settings including mental healthcare settings. These strategies included sheltered workshops, entrepreneurship and self-employment initiatives, vocational guidance and counselling, as well as work adaptation. In addition, Buys<sup>33</sup> identified job description review, work hardening, work conditioning, stress management and job seeking skills training as other VR strategies.

### Intervention outcomes

VR intervention outcomes were reported for Supported Employment and Occupational Goal Intervention Method. Participants who engaged in supported employment earned more and worked more hours per month than those who had prevocational training.<sup>27</sup> More so, supported employed allowed MHSUs to integrate into mainstream society, provided income and arena for social and personal development including improved self-esteem. Improved income lessens the economic burden for government. Reduction in the consumption of mental health services was reported for MHSUs who entered employment.<sup>26</sup> A study by Vizzotto *et al*<sup>22</sup> showed that Occupational Goal Intervention Method appeared to improve social and functional aspects of patients with TRS.

### Summary of conclusions and recommendations

Overall, the included sources emphasised the need for contextually relevant VR practice and advocated for the adoption of supported employment VR intervention for MHSUs. Van *et al*<sup>35</sup> concluded in their study by stating that having a comprehensive and contextually relevant tool that effectively indicate what VR services look like will be helpful to occupational therapists offering VR services

in both public healthcare and in private practices. Khare *et al*<sup>29</sup> suggested in their conclusion that attention should be paid to adapting models of VR to the cultural context of developing countries to improve the employment outcomes of persons with serious mental illness. Buys<sup>33</sup> stressed the need for the occupational therapy profession to ensure that it provides competent, professional and contextually relevant VR services to clients which enables them to fulfil their roles as independent citizens. Similarly, the OTASA<sup>36</sup> position paper on VR concluded that the type of VR service that occupational therapists in South Africa offer should be dictated by the vocational needs and aspirations, social structures and contextual realities of MHSUs.

Three of the included sources concluded by advocating for supported employment as a model of choice in VR.<sup>26–28</sup> Engelbrecht *et al*<sup>26</sup> concluded that supported employment was cost-effective and would combat unemployment, work towards poverty reduction and redress inequality for people with mental disabilities, hence it was a viable strategy for return to work endeavours. In addition to proposing supported employment as a model of choice to drive the process of economic empowerment for persons facing disabling conditions, Van Niekerk *et al*<sup>27</sup> recommended a holistic approach to supported employment because it has components such as placement in suitable work and reasonable accommodation that do not necessarily follow a linear process. Van Niekerk<sup>28</sup> recommended the need for providers of supported employment to modify approaches in order to meet contextual realities.

### DISCUSSION

This study set out to scope the literature on VR for MHSUs with chronic mental illness, in occupational therapy, in L-UMICs. The study further identified the different types, principles and strategies of institution-based VR interventions for MHSUs. Types of VR intervention identified included supported employment, case management and prevocational skills training. Client centeredness, support and empowerment were the key VR principles identified. Teaching illness self-management, job analysis and matching, job coaching, trial placement, and vocational guidance and counselling, and work hardening were the main intervention strategies reported.

Overall, the majority of included sources were from South Africa with only one source from Kenya completing the representation from the African continent. Only two sources from India and one from Brazil represented the Asian and South American continents, respectively. The low number of sources possibly confirm limited research in the field of VR for MHSUs with chronic mental illness in L-UMIC, which could be attributed to a couple of factors. There is a high patient–therapist ratio in the field of mental health in L-UMICs, thus occupational therapists do not have sufficient time and skills to document and publish their work. Another possible contributing factor

to low number of sources could be the limited resources such as funding, publishing journals and tertiary institutions providing occupational therapy training. As a result, occupational therapists cannot afford the cost of publishing in journals from high-income countries and they lack academic support to help with their academic writing skills and ethical clearance for their research.

The main VR types identified in African and Asian sources were supported employment, case management, prevocational and vocational skills training. GMT<sup>22</sup> was the only intervention type identified from the one included source from South American continent. Using the categorisation of VR types suggested by van Biljon *et al*<sup>13</sup> supported employment fits in two categories, intervention and placement. Prevocational and vocational skills training fall under traditional VR intervention, which is a stepwise path that focuses on assessment and job matching prior to job search.<sup>37</sup> The included sources did not specify institution-based VR interventions. One possible reason for this observation could be due to the current set-up of occupational therapy practice in L-UMIC. Occupational therapists tend to be institution based regardless of the VR intervention type that they provide. Also, institution-based VR in L-UMIC lack human and capital resources such as therapists and transport needed to move beyond the institutions. Generally, due to a variety of reasons as alluded above, there is dearth of documented evidence supporting occupational therapists' involvement in VR.<sup>38</sup>

VR intervention principles identified in this review focused on client centredness, achieving functional recovery, as well as advocating for client and family support. These principles are well enshrined within the general occupational therapy intervention principles. Client centredness is a key element of occupational therapy practice that demands for the formation of partnerships with MHSUs, which allows for the exploration, understanding, and promotion of engagement in their chosen or expected occupations including work.<sup>39</sup> Applying the principle of client centredness in VR intervention five rules should be considered based on a framework suggested by Gretschel and Galvaan.<sup>39</sup> MHSUs should be considered holistically, they should be viewed as experts of their own occupational engagement, their values and goals must be respected, therapist-person partnerships should be facilitative and not directive, and contextual congruence must be inherent in the VR interventions designed.<sup>39</sup> Supportive relationship is another VR principle that is integral to the success of VR interventions. Occupational therapists, employers, coworkers and family members provide hope, empathy and encouragement, all resulting in enhanced confidence at work, increased work-related skills and greater ability of MHSUs to fit within a particular work/employment situation.<sup>40</sup> Also, given the reality that mental disability tends to be episodic and fluctuates over time, and due to limited understanding of mental illness in L-UMICs, it is imperative that VR intervention is structured to offer on-going support in and beyond institution boundaries.<sup>11</sup>

Regarding VR intervention strategies, the included sources clearly focused on simultaneously placing MHSUs in competitive work and providing support through networks and negotiating with employer and managing symptoms. This highlights a shift from the traditional VR strategies which focus on train-first-then-place. However, this strategy may pose a challenge in L-UMICs where unemployment rates are high, resulting in MHSUs competing for employment with the mainstream community.<sup>12</sup> Self-employment initiatives are therefore a realistic VR intervention strategy.<sup>38</sup> Occupational therapists are sufficiently skilled to facilitate self-employment and can contribute towards alleviating unemployment among MHSUs with chronic mental illness by identifying potential and encouraging entrepreneurship and self-employment opportunities.<sup>38</sup> Swart and Buys<sup>11</sup> contend that in addition to the various VR intervention strategies that occupational therapists use, traditional psychosocial intervention such as stress management, conflict management and relaxation therapy should be considered depending on client needs.

### Implications for research

The findings of the scoping review provide the authors with thematic areas to consider when developing the semistructured interview guide that will be used to explore factors to be considered for VR intervention in the Namibian context. The proposed thematic areas are: (1) VR interventions applicable to Namibia context, (2) VR principles to be applied, (3) VR intervention strategies, (4) VR stakeholders to be engaged in Namibia including their roles and (5) general recommendations for the implementation of VR in Namibia for MHSUs with chronic mental illness.

### Implications for practice

In terms of occupational therapy practice in VR, the findings of this review highlight the need to shift from the current practice to place and train models in L-UMIC. Institution based VR should take shorter time compared with the traditional VR approach and rather focus on identifying potential areas for placement and support in the natural work contexts for MHSUs. In the context of L-UMICs where unemployment rates are high, VR intervention may need to focus on strategies that support self-employment initiatives. Client centeredness is a key principle in planning for VR interventions and ensuring that intended VR outcomes are achieved. There is a need for occupational therapists to have insight into and adapt VR intervention strategies to the demographic and socio-economic context of the L-UMIC in which they practice.<sup>38</sup> Occupational therapists and other VR stakeholders should provide the right level of individual support to MHSUs in VR and be able to adapt this support according to the needs of the client.

### Strengths and limitations

Our study has several strengths. The authors followed a scoping review protocol<sup>8</sup> that was subject to peer review

and was published in July 2021. Prescheduled weekly meetings among the three authors were used to promote momentum and discussions throughout the project. In addition, the authors used human and other library resources from two different universities, University of Namibia and Stellenbosch University. However, there are also limitations to the present study. First, authors did not include studies published in languages other than English, therefore we concede that sources from L-UMIC in languages such as Spanish could have been missed. Second, due to the dearth of publications from L-UMIC the evidence presented in this article cannot be seen to represent VR for MHSUs in occupational therapy globally. The third limitation is that no quality appraisal was done on the included sources.

## CONCLUSION

This review mapped the current evidence in VR for MHSUs with chronic mental illness in L-UMICs. Review findings indicate the need for institution based occupational therapists in L-UMICs to shift from a traditional VR approach to interventions that do not cease on discharge but include place-train-and-support approaches. VR interventions should extend their focus on supporting MHSUs in their natural work settings or potential work settings. Such intervention should include factors such as getting to and from work, job seeking skills, upskilling within the larger labour market and it should include placement considerations such as self-employment and unpaid work. The authors recommend further studies on VR interventions and outcomes for MHSUs in low resourced communities focusing on practical and unique realities experienced by such communities. More so, it is imperative that researchers in the field of occupational therapy, mental health and VR strive for levels 1 and 2 of scientific evidence to inform practice.

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## ORCID iDs

Munyaradzi Chimara <http://orcid.org/0000-0002-5720-3867>

Lana Van Niekerk <http://orcid.org/0000-0003-0003-6006>

Hester M van Biljon <http://orcid.org/0000-0003-4433-6457>

## REFERENCES

- Patel V. Mental health in low- and middle-income countries. *Br Med Bull* 2007;81-82:81-96.
- Chibanda D. The future of psychiatry in Africa-thinking outside the box. *Lancet Psychiatry* 2017;4:741-2.
- World Health Organisation. *Mental health atlas 2017*. Geneva, 2018.
- Nguyen T, Holton S, Tran T, et al. Informal mental health interventions for people with severe mental illness in low and lower middle-income countries: a systematic review of effectiveness. *Int J Soc Psychiatry* 2019;65:194-206.
- World Bank. World Bank Country and Lending Groups [Internet]. World Bank Group, 2021. Available: <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups> [Accessed 21 Sep 2021].
- Bachrach LL. Defining chronic mental illness: a concept paper. *Hosp Community Psychiatry* 1988;39:383-8.
- American Psychiatric Association. *Diagnostic and statistical manual of mental disorders*. 5th edn. Washington, London: APA, 2013.
- Chimara M, van Niekerk L, van Biljon HM. Vocational rehabilitation for mental health service users with chronic mental illness in low-income to upper-middle-income countries: a scoping review protocol. *BMJ Open* 2021;11:e047781.
- Swart L, Buys T. Vocational Rehabilitation in Psychiatry and Mental Health. In: Crouch R, Alers V, eds. *Occupational therapy in psychiatry and mental health*. 5th edn. Chichester: Wiley Blackwell, 2014: 175-93.
- Ross J. *Occupational therapy and vocational rehabilitation*. West Sussex: John Wiley & Sons, 2007.
- Swart L, Buys T. Vocational Rehabilitation in Psychiatry and Mental Health. In: *Occupational therapy in psychiatry and mental health*, 2014: 175-93.
- Namibian Statistics Agency. The Namibia Labour Force Survey 2014 Report [Internet]. Windhoek, 2019. Available: [http://www.ilo.org/wcmsp5/groups/public/-africa/-ro-addis\\_ababa/-ilo-pretoria/documents/publication/wcms\\_368595.pdf](http://www.ilo.org/wcmsp5/groups/public/-africa/-ro-addis_ababa/-ilo-pretoria/documents/publication/wcms_368595.pdf)
- van Biljon HM, Casteljen D, J du Toit SH, et al. Opinions of occupational therapists on the positioning of vocational rehabilitation services in Gauteng public healthcare. *S Afr j occup ther* 2016;46:45-52.
- Suijkerbuijk YB, Schaafsma FG, van Mechelen JC, et al. Interventions for obtaining and maintaining employment in adults with severe mental illness, a network meta-analysis. *Cochrane Database Syst Rev* 2017;9:CD011867.
- Clubhouse International. How clubhouses work [Internet]. Clubhouse International, 2021. Available: <https://clubhouse-intl.org/resources/how-clubhouses-work/>
- Lloyd C. Vocational rehabilitation and mental health. *Journal of Petrology* 2010;369:1689-99.
- Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Methodol* 2005;8:19-32.
- Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implement Sci* 2010;5:69.
- Colquhoun HL, Levac D, O'Brien KK, et al. Scoping reviews: time for clarity in definition, methods, and reporting. *J Clin Epidemiol* 2014;67:1291-4.
- Tricco AC, Lillie E, Zarin W, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med* 2018;169:467-73.
- Institute TJB. *The Joanna Briggs Institute Reviewers' Manual 2015 Methodology for JBI Scoping Reviews* [Internet]. The Joanna Briggs Institute, 2015. [www.joanabriggs.org](http://www.joanabriggs.org)



- 22 Vizzotto ADB, Celestino DL, Buchain PC, *et al.* A pilot randomized controlled trial of the occupational goal intervention method for the improvement of executive functioning in patients with treatment-resistant schizophrenia. *Psychiatry Res* 2016;245:148–56.
- 23 Mendeley. *Mendeley reference manager*. Elsevier, 2020.
- 24 Mourad O, Hossam H, Zbys F. *Rayyan intelligent systematic review*, 2020.
- 25 Hoffmann TC, Glasziou PP, Boutron I, *et al.* Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide. *BMJ* 2014;348:g1687–12.
- 26 Engelbrecht M, VAN NIEKERK L, COETZEE Z, *et al.* Supported employment for people with mental disabilities in South Africa: cost calculation of service utilisation. *South African Journal of Occupational Therapy* 2017;47:11–16.
- 27 Van Niekerk L, Coetzee Z, Engelbrecht M. Supported employment: recommendations for successful implementation in South Africa. *Support Employ Recomm Success Implement South Africa* 2011;41:85–90.
- 28 Van Niekerk L, Coetzee Z, Engelbrecht M, *et al.* Time utilisation trends of supported employment services by persons with mental disability in South Africa. *Work* 2015;52:825–33.
- 29 Khare C, Mueser KT, Fulford D, *et al.* Employment functioning in people with severe mental illnesses living in urban vs. rural areas in India. *Soc Psychiatry Psychiatr Epidemiol* 2020;55:1593–606.
- 30 Bowen DM, Forrest JL. Translating research for evidence-based practice.: EBSCOhost, 2017. Available: <https://web-b-ebSCOhost-com.lopes.idm.oclc.org/ehost/pdfviewer/pdfviewer?vid=1&sid=f204616b-9cae-42e5-a8c2-7175df7b56ad%40sessionmgr101>
- 31 Ebuanyi I. Inclusive employment: understanding the barriers to and facilitators of employment for persons with mental disability in East Africa [Internet], 2019. Available: [https://research.vu.nl/files/87463718/complete\\_dissertation.pdf](https://research.vu.nl/files/87463718/complete_dissertation.pdf)
- 32 Samuel R, Jacob KS. Occupational therapy in India: focus on functional recovery and need for empowerment. *Indian J Psychiatry* 2017;59:242–6.
- 33 Buys T. Professional competencies in vocational rehabilitation: results of a Delphi study. *S. Afr. j. occup. ther.* 2015;45:48–54.
- 34 Govender K, Christopher C, Lingah T. The role of the occupational therapist in case management in South Africa. *S. Afr. j. occup. ther.* 2018;48:12–19.
- 35 Van BH, BOT U, MOT U. An action research approach to profile an occupational therapy VR service in public healthcare. *South African Journal of Occupational Therapy* 2015;45:40–7.
- 36 OTASA. Position statement on vocational rehabilitation. *South African J Occup Ther* 2017;47:63–4.
- 37 Vukadin M, Schaafsma FG, Vlaar SJ, *et al.* Work motivation and employment outcomes in people with severe mental illness. *J Occup Rehabil* 2019;29:803–9.
- 38 Monareng LL, Franzsen D, van Biljon H. A survey of occupational therapists' involvement in facilitating self-employment for people with disabilities. *S. Afr. j. occup. ther.* 2018;48:52–7.
- 39 Gretschel P, Galvaan R. Using a client-centred approach in occupational therapy. In: Dsouza SA, Gailvaan R, Ramugondo EL, eds. *Concepts in occupational therapy understanding southern perspectives*. First. Manipal: Manipal University Press, 2017: 237–47.
- 40 Dunn EC, Wewiorski NJ, Rogers ES. A qualitative investigation of individual and contextual factors associated with vocational recovery among people with serious mental illness. *Am J Orthopsychiatry* 2010;80:185–94.