

BMJ Open

BMJ Open is committed to open peer review. As part of this commitment we make the peer review history of every article we publish publicly available.

When an article is published we post the peer reviewers' comments and the authors' responses online. We also post the versions of the paper that were used during peer review. These are the versions that the peer review comments apply to.

The versions of the paper that follow are the versions that were submitted during the peer review process. They are not the versions of record or the final published versions. They should not be cited or distributed as the published version of this manuscript.

BMJ Open is an open access journal and the full, final, typeset and author-corrected version of record of the manuscript is available on our site with no access controls, subscription charges or pay-per-view fees (<http://bmjopen.bmj.com>).

If you have any questions on BMJ Open's open peer review process please email info.bmjopen@bmj.com

BMJ Open

Workplace-based occupational therapy for mental health in Africa: a scoping review protocol

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2021-054821
Article Type:	Protocol
Date Submitted by the Author:	24-Jun-2021
Complete List of Authors:	Hoosain, Munira; Stellenbosch University Faculty of Medicine and Health Sciences, Occupational Therapy Plastow, Nicola Ann; Stellenbosch University Faculty of Medicine and Health Sciences, Occupational Therapy
Keywords:	Depression & mood disorders < PSYCHIATRY, REHABILITATION MEDICINE, PREVENTIVE MEDICINE, OCCUPATIONAL & INDUSTRIAL MEDICINE

SCHOLARONE™
Manuscripts

ARTICLE TITLE

Workplace-based occupational therapy for mental health in Africa: a scoping review protocol

CORRESPONDENCE

Munira Hoosain

BSc Occupational Therapy, M Occupational Therapy

munira@sun.ac.za; Tel.: +27 21 938 9308

Stellenbosch University, Faculty of Medicine and Health Sciences, Division of Occupational Therapy, PO Box 241, Cape Town, 8000, South Africa

<https://orcid.org/0000-0001-5449-143X>

OTHER AUTHORS

Dr Nicola Ann Plastow

BSc Occupational Therapy, PGCert (Teaching and Learning in Higher Education), MSc, PhD
(Clinical Sciences)

<https://orcid.org/0000-0002-3536-9129>

AFFILIATION OF ALL AUTHORS

Division of Occupational Therapy, Department of Health and Rehabilitation Sciences,
Stellenbosch University, Cape Town, South Africa

WORD COUNT

1839 words

Workplace-based occupational therapy for mental health in Africa: a scoping review protocol

ABSTRACT

Introduction

Although mental health at work is a pressing and growing concern, mental health care accounts for less than 2% of global health care, with marked inequality across continents. Africa has the smallest proportion of mental health workers, and the highest rate of out-of-pocket expenditure for mental health service users. Poor mental health at work results in costs to workers, employers and the economy. This review aims to collaborate with stakeholders to identify literature on workplace-based occupational therapy interventions supporting the mental health of workers in Africa.

Methods and analysis

We will search Medline (Pubmed), EBSCOhost (Academic Search Premier, AfricaWide Information, CINAHL, Health Source: Nursing/Academic), Scopus, Web of Science, Sabinet, Cochrane and OTSeeker for qualitative and quantitative primary research studies. Grey literature will be searched via Sabinet and ProQuest. No language or date restrictions will be applied. Title and abstract screening as well as full text screening will be done independently by two reviewers. Data extracted will include information about the articles, characteristics of studies and interventions, and findings. PRISMA-ScR guidelines will be used for reporting results. Three groups of stakeholders will be consulted throughout the review process: service users/workers, employers and service providers/occupational therapists.

Ethics and dissemination

This scoping review does not require ethics approval. Findings of the review will be disseminated through stakeholder engagements, peer reviewed publications and conference presentations.

Keywords

Depression, promotion, prevention, rehabilitation, return-to-work

ARTICLE SUMMARY

STRENGTHS AND LIMITATIONS OF THIS STUDY

- This review protocol follows the PRISMA-ScR and JBI guidelines for scoping reviews.

- Article selection will be conducted independently by two reviewers, both at title and abstract selection stage and at full text review stage.
- Grey literature and articles of all languages will be included, with no date limitations.
- Stakeholders will be consulted at review design, production and dissemination stages.
- This review is limited to evidence from Africa only.

INTRODUCTION

Mental health problems are the leading cause of absenteeism from work globally, and are associated with direct, indirect and intangible costs to workers and their employers.[1] These include healthcare costs, higher staff turnover, and emotional strain. The global Covid-19 pandemic has led to an alarming increase in the number of adults reporting symptoms of anxiety and depression.[2] Some are even suggesting a mental health pandemic to follow.[2]

Mental health is not only restricted to the management or absence of psychiatric illness, but rather refers to “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community”. [3, p6] The WHO developed the Mental Health Action Plan 2013-2020 [3] to address the world’s growing mental health concerns. Strategies included developing community-based mental health services and implementing mental health prevention and promotion programmes.[3]

Mental health care is a growing and pressing need, both internationally and on the African continent. According to the WHO Mental Health Atlas 2017,[4] the median global mental health care expenditure per capita is USD 2.5, while general government health care expenditure averages USD 141 per capita. Mental health care expenditure thus accounts for less than 2% of total health care expenditure internationally. Marked inequality between regions is compounding this problem: while Europe spends USD 21.7 per capita on mental health care, Africa spends around USD 0.1 per capita on the same.[4] The report further notes that Africa and South East Asia have the highest rates of out-of-pocket expenditure for mental health services, indicating less financial support and increased burden for mental health service users in these areas.[4] Africa also has the smallest proportion of mental health workers: 0.9 mental health workers per 100 000 population, compared with the global median of 9, and 50 in Europe.[4] Mental health promotion and prevention continue to be a challenge in Africa, with less than 50% of countries reporting at least two functioning promotion/prevention programmes, compared with more than 70% in all other regions.[4]

The importance of mental health at work has long since been recognized by both WHO and the International Labour Organization.[5] Work environments can either have positive effects

1
2 on mental health;[1] or contribute to poor mental health through job stress, conflict with peers
3 and supervisors at work, non-supportive work cultures and work overload.[5] Poor mental
4 health at work can result in a multitude of issues for both workers, employers and the
5 economy.[1] These can include work absenteeism, reduced work performance, strained
6 relationships at work, loss of motivation and behavioural problems; as well as productivity
7 losses, loss of human capital and reduction in Gross Domestic Product.[1, 5]
8
9

10
11
12 Considering that working age adults often spend the majority of their waking hours at work,
13 the workplace provides a unique and potentially underutilised setting for interventions
14 supporting health. Public health interventions are often most effective when situated in the
15 environments where people spend most of their time.[6] The WHO global strategy on health,
16 environment and climate change recognises workplaces as an important setting for
17 prevention and management of non-communicable diseases, such as mental health
18 disorders.[7] However, workplace programmes account for only 7% of functional international
19 mental health promotion/prevention programmes.[4] A recent Cochrane systematic review on
20 interventions for return to work among people with depression found a combination of work-
21 directed and clinical interventions probably reduces the number of days off sick, but also that
22 further research is needed to identify the combination of interventions that works best.[8]
23
24
25
26
27
28
29

30 Occupational therapists are ideally placed to offer work-directed interventions to support
31 mental health. Occupational therapists are skilled at enabling people and communities to
32 participate in activities of their choice, using evidence-based interventions.[9] The role of
33 occupational therapy is well recognised in both mental health [9] and work-related practice
34 [10]. There are very few occupational therapists and speech therapists working in mental
35 health internationally; less than 0.25 per 100 000 people.[3] In the workplace, occupational
36 therapy interventions focus on the impact of health and wellness on an employee's ability to
37 meet the demands of their job; and can include collaboration with workers and employers
38 towards health promotion, workplace modification, improving access and recommending or
39 providing assistive devices, and case management.[10] There is a growing need for
40 organizational workplace-based mental health programmes, which may require occupational
41 therapists to focus on group or population-based programmes that consider both the needs
42 of the workers and employers.[11]
43
44
45
46
47
48
49
50

51 Several reviews have attempted to highlight and evaluate the evidence on workplace-based
52 mental health interventions, [12-20] but to our knowledge none have focused on synthesizing
53 evidence about occupational therapy from the African continent. The practice of occupational
54 therapy in Africa has unique contextual considerations due to the difference in mental health
55 care service provision, poverty and associated malnutrition and low education levels,
56 violence and political instability, mental health stigma, wide variety of cultures and
57 languages, and community-centredness.[21]
58
59
60

1
2 This scoping review thus aims to identify literature on workplace-based occupational therapy
3 interventions supporting the mental health of workers in Africa. The objectives of the review
4 are:
5

- 6
7 1. To provide a detailed overview of all studies about workplace-based interventions
8 supporting mental health conducted by occupational therapists in Africa.
- 9
10 2. To identify trends and gaps in the types of interventions, practitioners involved,
11 mental health conditions, types of work, geographic location, anticipated outcomes
12 and effectiveness of interventions.
- 13
14 3. To identify barriers and facilitators in implementing these interventions on the African
15 continent.
16
17
18
19

20 21 **METHODS AND ANALYSIS**

22 The PRISMA guideline for reporting on scoping reviews (PRISMA-ScR) [22] and the Joanna
23 Briggs Institute (JBI) guideline for conducting scoping reviews [23] will be used to design and
24 report on this review.
25

26 27 **Patient And public involvement**

28 The involvement of stakeholders in reviews has been suggested as a potential method of
29 optimizing the real-world impact and increasing uptake of review findings, particularly in
30 reviews with a rehabilitation focus.[24] Kayes et al recommend that researchers engage with
31 stakeholders within review design, production and dissemination stages.[24] In line with this
32 recommendation and the ACTIVE framework for stakeholder involvement in systematic
33 reviews,[25] we plan to consult with three groups of stakeholders at the design, production
34 and dissemination stages of the review. At review design stage, we consulted with a group of
35 63 occupational therapists situated in Africa with an interest in workplace-based interventions
36 for mental health, as well as a group of 10-15 managers and supervisors at a large South
37 African factory where occupational therapy services are provided. Recommendations from
38 these two groups of stakeholders were integrated into the review design. While we planned
39 to also consult with a group of service users (factory workers who had previously participated
40 in workplace-based occupational therapy) at the review design stage, this was not possible
41 after a key gatekeeper resigned. We plan to consult with all three groups of stakeholders at
42 the production and dissemination stages of the scoping review.
43
44
45
46
47
48
49
50
51
52

53 54 **Inclusion criteria**

55 In accordance with the JBI guideline on scoping reviews, the review parameters were
56 determined using the “PCC” framework.[23] This framework considers participants included
57 in research, the concept of interest, and the context in which research was completed.
58
59
60

Participants

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Studies involving interventions with any working population will be included. This includes formal and informal employment. Child labour will not be excluded. Participants must be actively engaged in work, preparing for work or returning to work.

Concept

All research highlighting any interventions supporting worker mental health, offered by occupational therapists, including intervention mapping, effectiveness studies, rehabilitative or preventative studies. Interventions offered in a multi-disciplinary team (MDT) that includes an occupational therapist will be included. Interventions must be at least partly based at a workplace. Studies based at onsite clinics, e.g. occupational health centres based at workplaces, will be included. Return to work interventions will be included, provided these are at least partly workplace based. Diagnosed and undiagnosed mental health conditions will be included.

Context

Studies conducted in any African country at any type of workplace will be included.

Types of studies

Qualitative and quantitative primary research will be considered in order to get a broad overview of existing knowledge in the field.

Exclusion criteria

Studies that do not describe or evaluate an intervention, including opinion articles, commentaries and editorials.

Search strategy

A search strategy has been designed with the help of an expert librarian at [Blinded for Review] University. A variety of search terms connected by Boolean operators, using truncation, MeSH terms, synonyms, lay and medical terminology and variant spellings will be used (see Table 1). Several databases will be searched, including Medline (Pubmed), EBSCOhost (Academic Search Premier, AfricaWide Information, CINAHL, Health Source: Nursing/Academic), Scopus, Web of Science, Sabinet, Cochrane and OTSeeker. Grey literature will be searched via Sabinet and ProQuest. No language or date restrictions will be applied. The researchers will also personally source articles through key contributors to the field, e.g. through networks such as the Occupational Therapy Africa Regional Group (OTARG).

CONCEPT	ALTERNATIVE WORDS
Mental health	“Mental disorder*” OR burnout OR stress OR psychosocial OR wellbeing OR well-being OR wellness OR recovery OR “substance abuse” OR “alcohol abuse” OR “drug abuse” OR “post

	traumatic stress disorder” OR “post-traumatic stress disorder” OR PTSD OR depression OR anxiety OR schizophrenia OR suicide
Occupational therapy	“occupational therap*” OR rehabilitation OR prevention OR promotion OR habilitation OR assessment OR “supported employment” OR “return-to-work” or “return to work” OR treatment OR intervention OR effectiveness OR effect OR counselling OR “work ability” OR mindfulness OR “nature-based”
Workplace	“workplace based” OR “workplace-based” OR organisational OR organizational
Africa	Botswana OR Ghana OR Kenya OR Madagascar OR Malawi OR Mauritius OR Morocco OR Namibia OR Nigeria OR Rwanda OR Seychelles OR “South Africa” OR Tanzania OR Tunisia OR Uganda OR Zambia OR Zimbabwe

Table 1: Search strategy

Study selection

Articles will be screened by title and abstract independently by two reviewers (Peters et al., 2020) using the online software platform, Covidence. Search and review dates will be recorded. The full text of potentially suitable articles will be retrieved and assessed using the inclusion criteria. This stage will be conducted independently by the same two reviewers. Reasons for exclusion at this stage will be recorded. The references of included articles, as well as relevant systematic, scoping and literature reviews, will be screened for additional articles (pearling). Disagreements between reviewers will be resolved through discussion and consensus, and if necessary through a third reviewer. Articles in languages other than English will be translated using the [Blinded for review] Language Centre. The results of title and abstract screening, full text selection and pearling will be recorded in a PRISMA flow diagram.[22]

Data extraction

Data will be extracted by two reviewers, with random accuracy checks, and recorded in purpose-built spreadsheets on Covidence. Data will be collected on the items outlined in Table 2.

Bibliometric information	Characteristics of the studies	Characteristics of the interventions	Findings
Title	Study design	Type of practitioner(s) offering the intervention	Outcomes assessed

Author(s)	Study aim / research question	Frequency	Assessment instruments
Affiliation of Author(s)	Study population (Using the PROGRESS-Plus framework) [26]	Duration	Results of intervention
Year of publication	Sample size	Treatment modalities/ techniques	Facilitators and barriers
Source/Journal	Health conditions	Location	Service users' experiences/ perspectives
Country		Utility/feasibility of intervention	
		Theoretical/conceptual framework used for intervention	

Table 2: Data extraction framework

Data analysis, synthesis and presentation

Methodological quality of individual studies will not be assessed, in keeping with scoping review methodology.[23] However, study design will be recorded using the NHMRC hierarchy of evidence.[27]

Data will be mapped by geographic location or type of intervention, as appropriate. Results will be charted diagrammatically as well as in text, with bar charts or graphs as appropriate. Key findings will be highlighted, along with main focus areas and gaps in the research. The findings will be presented in a narrative summary, in line with the objectives of this review. Depending on the type of research identified, the scoping review may be followed by a systematic review and meta-analysis of effectiveness studies, or a qualitative research synthesis of the findings from qualitative studies.

ETHICS AND DISSEMINATION

Ethics approval is not required for this scoping review, as it involves secondary analysis of primary research. Results of the review will be shared in stakeholder meetings, at conferences and through publication in a peer-reviewed journal.

FUNDING STATEMENT

This study is supported by the HB & MJ Thom award research grant (no grant number received).

AUTHOR CONTRIBUTIONS

Both authors contributed to the conceptualization of this protocol and drafting of the manuscript.

COMPETING INTERESTS STATEMENT

The authors declare that they have no competing interests.

WORD COUNT

1839 words

REFERENCES

1. Wall T, Cooper CL, Brough P, editors. The SAGE Handbook of Organizational Wellbeing. United Kingdom, SAGE Publications, 2021.
2. Panchal N, Kamal R, Orgera K, Cox C, Garfield R, Hamel L, Chidambaram P. The implications of COVID-19 for mental health and substance use. Kaiser family foundation. 2020.
3. World Health Organization. Mental health action plan 2013-2020, 2013. Available: <https://www.who.int/publications/i/item/9789241506021>
4. World Health Organization. Mental health atlas 2017. 2018 Available: <https://www.who.int/publications/i/item/mental-health-atlas-2017>
5. Harnois, Gaston, Gabriel, Phyllis, World Health Organization & International Labour Organisation. Mental health and work: impact, issues and good practices. World Health Organization. 2000. Available: <https://apps.who.int/iris/handle/10665/42346>
6. Goetzel RZ, Roemer EC, Hologue C, Fallin MD, McCleary K, Eaton W, Agnew J, Azocar F, Ballard D, Bartlett J, Braga M. Mental health in the workplace: A call to action proceedings from the mental health in the workplace: Public health summit. Journal of occupational and environmental medicine. 2018 Apr;60(4):322.

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
7. World Health Organization Global strategy on health, environment and climate change: the transformation needed to improve lives and well-being sustainably through healthy environments. Geneva: World Health Organization; 2020. Available: https://www.who.int/phe/publications/WHO-STRATEGY-LAY5_fin_red.pdf
8. Nieuwenhuijsen K, Verbeek JH, Neumeyer-Gromen A, Verhoeven AC, Bültmann U, Faber B. Interventions to improve return to work in depressed people. Cochrane Database of Systematic Reviews. 2020(10).
9. World Federation of Occupational Therapists Position Statement: Occupational therapy and mental health, 2019. Available: <https://wfot.org/resources/occupational-therapy-and-mental-health>
10. World Federation of Occupational Therapists Position Statement: Occupational therapy in work-related practice, 2016. Available: <https://www.wfot.org/resources/occupational-therapy-in-work-related-practice>
11. Thompson AN, Fugard MI, Kirsh B. Organizational Workplace Mental Health: An Emerging Role for Occupational Therapy. Occupational Therapy in Mental Health. 2021 Apr 15:1-24.
12. Pomaki G, Franche RL, Murray E, Khushrushahi N, Lampinen TM. Workplace-based work disability prevention interventions for workers with common mental health conditions: a review of the literature. Journal of occupational rehabilitation. 2012 Jun 1;22(2):182-95.
13. Gray P, Senabe S, Naicker N, Kgalamono S, Yassi A, Spiegel JM. Workplace-based organizational interventions promoting mental health and happiness among healthcare workers: A realist review. International journal of environmental research and public health. 2019 Jan;16(22):4396.
14. Proper KI, van Oostrom SH. The effectiveness of workplace health promotion interventions on physical and mental health outcomes—a systematic review of reviews. Scandinavian journal of work, environment & health. 2019 Nov 1;45(6):546-59.
15. Heckenberg RA, Eddy P, Kent S, Wright BJ. Do workplace-based mindfulness meditation programs improve physiological indices of stress? A systematic review and meta-analysis. Journal of psychosomatic research. 2018 Nov 1;114:62-71.
16. Cullen KL, Irvin E, Collie A, Clay F, Gensby U, Jennings PA, Hogg-Johnson S, Kristman V, Laberge M, McKenzie D, Newnam S. Effectiveness of workplace interventions in return-to-work for musculoskeletal, pain-related and mental health conditions: an update of the evidence and messages for practitioners. Journal of occupational rehabilitation. 2018 Mar 1;28(1):1-5.
17. Furlan AD, Gnam WH, Carnide N, Irvin E, Amick BC, DeRango K, McMaster R, Cullen K, Slack T, Brouwer S, Bültmann U. Systematic review of intervention

- practices for depression in the workplace. *Journal of occupational rehabilitation*. 2012 Sep;22(3):312-21.
18. Tan L, Wang MJ, Modini M, Joyce S, Mykletun A, Christensen H, Harvey SB. Preventing the development of depression at work: a systematic review and meta-analysis of universal interventions in the workplace. *BMC medicine*. 2014 Dec;12(1):1-1.
19. Lee YJ, Kim EH. A Systematic Review of Workplace Interventions for the Mental Health of Workers. *Journal of Korean Academy of psychiatric and Mental Health Nursing*. 2020 Jun 30;29(2):155-67.
20. Gritzka S, MacIntyre TE, Dörfel D, Baker-Blanc JL, Calogiuri G. The effects of workplace nature-based interventions on the mental health and well-being of employees: a systematic review. *Frontiers in psychiatry*. 2020;11.
21. Jansen van Vuuren J, Okyere C, Aldersey H. The role of Occupational Therapy in Africa: A scoping review. *South African Journal of Occupational Therapy*. 2020 Dec;50(3):3-21.
22. 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.
23. Peters MDJ, Godfrey C, Mclnerney P, Munn Z, Tricco AC, Khalil, H. Chapter 11: Scoping Reviews (2020 version). In: Aromataris E, Munn Z (Editors). *JBIM Manual for Evidence Synthesis*, JBI, 2020. Available: <https://synthesismanual.jbi.global>. <https://doi.org/10.46658/JBIMES-20-12>
24. Kayes NM, Martin RA, Bright FA, Kersten P, Pollock A. Optimizing the real-world impact of rehabilitation reviews: increasing the relevance and usability of systematic reviews in rehabilitation. *Eur J Phys Rehabil Med*. 2019 Jun 1;55:331-41.
25. Pollock A, Campbell P, Struthers C, Synnot A, Nunn J, Hill S, Goodare H, Morris J, Watts C, Morley R. Development of the ACTIVE framework to describe stakeholder involvement in systematic reviews. *Journal of health services research & policy*. 2019 Oct;24(4):245-55.
26. Oliver S, Kavanagh J, Caird J, Lorenc T, Oliver K, Harden A, Thomas J, Greaves A, Oakley H. Health promotion, inequalities and young people's health: a systematic review of research. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London. 2008.
27. Merlin T, Weston A, Tooher R. Extending an evidence hierarchy to include topics other than treatment: revising the Australian 'levels of evidence'. *BMC medical research methodology*. 2009 Dec;9(1):1-8.

Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	



SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	
Limitations	20	Discuss the limitations of the scoping review process.	
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).

‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med.* 2018;169:467–473. doi: [10.7326/M18-0850](https://doi.org/10.7326/M18-0850).



BMJ Open

Workplace-based occupational therapy for mental health in Africa: a scoping review protocol

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2021-054821.R1
Article Type:	Protocol
Date Submitted by the Author:	09-Feb-2022
Complete List of Authors:	Hoosain, Munira; Stellenbosch University Faculty of Medicine and Health Sciences, Occupational Therapy Plastow, Nicola Ann; Stellenbosch University Faculty of Medicine and Health Sciences, Occupational Therapy
Primary Subject Heading:	Rehabilitation medicine
Secondary Subject Heading:	Occupational and environmental medicine, Mental health
Keywords:	Depression & mood disorders < PSYCHIATRY, REHABILITATION MEDICINE, PREVENTIVE MEDICINE, OCCUPATIONAL & INDUSTRIAL MEDICINE

SCHOLARONE™
Manuscripts

ARTICLE TITLE

Workplace-based occupational therapy for mental health in Africa: a scoping review protocol

CORRESPONDENCE

Munira Hoosain

BSc Occupational Therapy, M Occupational Therapy

munira@sun.ac.za; Tel.: +27 21 938 9308

Stellenbosch University, Faculty of Medicine and Health Sciences, Division of Occupational Therapy, PO Box 241, Cape Town, 8000, South Africa

<https://orcid.org/0000-0001-5449-143X>

OTHER AUTHORS

Dr Nicola Ann Plastow

BSc Occupational Therapy, PGCert (Teaching and Learning in Higher Education), MSc, PhD
(Clinical Sciences)

<https://orcid.org/0000-0002-3536-9129>

AFFILIATION OF ALL AUTHORS

Division of Occupational Therapy, Department of Health and Rehabilitation Sciences,
Stellenbosch University, Cape Town, South Africa

WORD COUNT

2466 words

Workplace-based occupational therapy for mental health in Africa: a scoping review protocol

ABSTRACT

Introduction

Although mental health at work is a pressing and growing concern, mental health care accounts for less than 2% of global health care, with marked inequality across continents. Africa has the smallest proportion of mental health service providers, and the highest rate of out-of-pocket expenditure for mental health service users. Poor mental health at work results in costs to workers, employers and the economy. This review aims to collaborate with stakeholders to identify literature on workplace-based occupational therapy interventions supporting the mental health of workers in Africa.

Methods and analysis

We will search Medline (Pubmed), EBSCOhost (Academic Search Premier, AfricaWide Information, CINAHL, Health Source: Nursing/Academic), Scopus, Web of Science, Sabinet, Cochrane and OTSeeker for qualitative and quantitative primary research studies. Grey literature will be searched via Sabinet and ProQuest. No language or date restrictions will be applied. Title and abstract screening as well as full text screening will be done independently by two reviewers. Data extracted will include information about the articles, characteristics of studies and interventions, and findings. PRISMA-ScR guidelines will be used for reporting results. Three groups of stakeholders will be consulted during the review process: service users/workers, employers and service providers/occupational therapists.

Ethics and dissemination

This scoping review does not require ethics approval. Findings of the review will be disseminated through stakeholder engagements, peer reviewed publications and conference presentations.

Keywords

Depression, mental health, prevention, rehabilitation, return-to-work

ARTICLE SUMMARY

STRENGTHS AND LIMITATIONS OF THIS STUDY

- This review protocol follows the PRISMA-ScR and JBI guidelines for scoping reviews.

- Article selection will be conducted independently by two reviewers, both at title and abstract selection stage and at full text review stage.
- Grey literature and articles of all languages will be included, with no date limitations.
- Stakeholders will be consulted at review design, production and dissemination stages.
- This review is limited to evidence from Africa only.

INTRODUCTION

Mental health problems are the leading cause of absenteeism from work globally, and are associated with direct, indirect and intangible costs to workers and their employers.[1] These include healthcare costs, higher staff turnover, and emotional strain. The global Covid-19 pandemic has led to an alarming increase in the number of adults reporting symptoms of anxiety and depression.[2] Some are even suggesting a mental health pandemic to follow.[2]

Mental health is not only restricted to the management or absence of psychiatric illness, but rather refers to “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community”.[3, p6] The WHO developed the Mental Health Action Plan 2013-2020 [3] to address the world’s growing mental health concerns. Strategies included developing community-based mental health services and implementing mental health prevention and promotion programmes.[3]

Mental health care is a growing and pressing need, both internationally and on the African continent. According to the WHO Mental Health Atlas 2017,[4] the median global mental health care expenditure per capita is United States Dollar (USD) 2.5, while general government health care expenditure averages USD 141 per capita. Mental health care expenditure thus accounts for less than 2% of total health care expenditure internationally. Marked inequality between regions is compounding this problem: while Europe spends USD 21.7 per capita on mental health care, Africa spends around USD 0.1 per capita on the same.[4] The report further notes that Africa and South East Asia have the highest rates of out-of-pocket expenditure for mental health services, indicating less financial support and increased burden for mental health service users in these areas.[4] Africa also has the smallest proportion of mental health workers: 0.9 mental health workers per 100 000 population, compared with the global median of 9, and 50 in Europe.[4] Mental health promotion and prevention continue to be a challenge in Africa, with less than 50% of countries reporting at least two functioning promotion/prevention programmes, compared with more than 70% in all other WHO regions outside of the African region.[4]

1
2 The importance of mental health at work has long since been recognized by both WHO and
3 the International Labour Organization.[5] Work environments can either have positive effects
4 on mental health;[1] or contribute to poor mental health through job stress, conflict with peers
5 and supervisors at work, non-supportive work cultures and work overload.[5] Poor mental
6 health at work can result in a multitude of issues for both workers, employers and the
7 economy.[1] These can include work absenteeism, reduced work performance, strained
8 relationships at work, loss of motivation and behavioural problems; as well as productivity
9 losses, loss of human capital and reduction in Gross Domestic Product.[1, 5]

15 Considering that workers often spend the majority of their waking hours at work, the
16 workplace provides a unique and potentially underutilised setting for interventions supporting
17 health. Public health interventions are often most effective when situated in the environments
18 where people spend most of their time.[6] The WHO global strategy on health, environment
19 and climate change recognises workplaces as an important setting for prevention and
20 management of non-communicable diseases, such as mental health disorders.[7] However,
21 workplace programmes account for only 7% of functional international mental health
22 promotion/prevention programmes.[4] A recent Cochrane systematic review on interventions
23 for return to work among people with depression found a combination of work-directed and
24 clinical interventions probably reduces the number of days off sick, but also that further
25 research is needed to identify the combination of interventions that works best.[8]

33 Occupational therapists are ideally placed to offer work-directed interventions to support
34 mental health. Occupational therapists are skilled at enabling people and communities to
35 participate in activities of their choice, using evidence-based interventions.[9] The role of
36 occupational therapy is well recognised in both mental health [9] and work-related practice
37 [10], and occupational therapists are recognised service providers in the WHO Mental Health
38 Atlas 2017 [4]. However, there are very few occupational therapists working in mental health
39 internationally; less than 0.25 per 100 000 people.[3] In the workplace, occupational therapy
40 interventions focus on the impact of health and wellness on an employee's ability to meet the
41 demands of their job; and can include collaboration with workers and employers towards
42 health promotion, workplace modification, improving access and recommending or providing
43 assistive devices, and case management.[10] There is a growing need for organizational
44 workplace-based mental health programmes, which may require occupational therapists to
45 focus on group or population-based programmes that consider both the needs of the workers
46 and employers.[11]

56 Several reviews have attempted to highlight and evaluate the evidence on workplace-based
57 mental health interventions from other professions, [12-20] but to our knowledge none have
58 focused on synthesizing evidence about occupational therapy from the African continent.
59 Jansen van Vuuren, Okyere and Aldersey's scoping review about the role of occupational
60

1
2 therapy in Africa highlighted unique contextual considerations in this region. [21] These
3 related to the difference in mental health care service provision, poverty and associated
4 malnutrition and low education levels, violence and political instability, mental health stigma,
5 wide variety of cultures and languages, and community-centredness.[21]
6
7

8
9 This scoping review thus aims to identify literature on workplace-based occupational therapy
10 interventions supporting the mental health of workers in Africa. The objectives of the review
11 are:
12

- 13
14 1. To provide a detailed overview of all studies about workplace-based interventions
15 supporting mental health conducted by occupational therapists in Africa.
- 16
17 2. To identify trends and gaps in the types of interventions, practitioners involved,
18 mental health conditions, types of work, geographic location, anticipated outcomes
19 and effectiveness of interventions.
20
- 21
22 3. To identify barriers and facilitators in implementing these interventions on the African
23 continent.
24
25
26
27

28 **METHODS AND ANALYSIS**

29 The PRISMA guideline for reporting on scoping reviews (PRISMA-ScR) [22] and the Joanna
30 Briggs Institute (JBI) guideline for conducting scoping reviews [23] will be used to design and
31 report on this review.
32
33

34 **Patient And public involvement**

35
36 The involvement of stakeholders in reviews has been suggested as a potential method of
37 optimizing the real-world impact and increasing uptake of review findings, particularly in
38 reviews with a rehabilitation focus.[24] Kayes et al recommend that researchers engage with
39 stakeholders within review design, production and dissemination stages.[24] In line with this
40 recommendation and the ACTIVE framework for stakeholder involvement in systematic
41 reviews,[25] we plan to consult with three groups of stakeholders at the design, production
42 and dissemination stages of the review. At review design stage, we consulted with a group of
43 63 occupational therapists situated in Africa with an interest in workplace-based interventions
44 for mental health, as well as a group of 10-15 managers and supervisors at a large South
45 African factory where occupational therapy services are provided. Stakeholders were asked
46 whether they were aware of any interventions in the field (workplace-based occupational
47 therapy for mental health in Africa), whether the scoping review should focus on occupational
48 therapy interventions only or interventions offered by any service provider, whether the
49 review should focus on Africa only or all low to middle income countries, and how broadly
50 mental health should be defined in the scoping review. Occupational therapists were also
51 asked for suggestions of keywords that could be included in the literature search.
52
53
54
55
56
57
58
59
60

Recommendations from these two groups of stakeholders were integrated into the review

1
2 design. While we planned to also consult with a group of service users (factory workers who
3 had previously participated in workplace-based occupational therapy) at the review design
4 stage, this was not possible after a key gatekeeper resigned. We plan to consult with all
5 three groups of stakeholders at the production and dissemination stages of the scoping
6 review. These future engagements may include consultation about the analysis of data (e.g.
7 how to group studies) and discussion about the value and application of the review findings
8 within the stakeholders' contexts.
9
10
11
12

13 **Inclusion criteria**

14
15 In accordance with the JBI guideline on scoping reviews, the review parameters were
16 determined using the "PCC" framework.[23] This framework considers participants included
17 in research, the concept of interest, and the context in which research was completed.
18
19
20

21 **Participants**

22
23 Studies involving interventions with any working population will be included. This includes
24 formal and informal employment. Child labour will not be excluded. Participants must be
25 actively engaged in work, preparing for work or returning to work.
26
27

28 **Concept**

29
30 All research highlighting any interventions supporting worker mental health, offered by
31 occupational therapists, including intervention mapping, effectiveness studies, rehabilitative
32 or preventative studies. Interventions offered in a multi-disciplinary team (MDT) that includes
33 an occupational therapist will be included. Interventions must be at least partly based at a
34 workplace. Studies based at onsite clinics, e.g. occupational health centres based at
35 workplaces, will be included. Return to work interventions will be included, provided these
36 are at least partly workplace based. Diagnosed and undiagnosed mental health conditions
37 will be included.
38
39
40
41

42 **Context**

43
44 Studies conducted in any African country at any type of workplace will be included.
45

46 **Types of studies**

47
48 Qualitative, quantitative and mixed methods primary research will be considered in order to
49 get a broad overview of existing knowledge in the field. Theses and dissertations will be
50 included, along with published conference proceedings. Protocol papers will be excluded
51 where no findings are published.
52
53

54 **Exclusion criteria**

55
56 Studies that do not describe or evaluate an intervention, including opinion articles,
57 commentaries and editorials.
58
59

60 **Search strategy**

A search strategy has been designed with the help of an expert librarian at [Blinded for Review] University. A variety of search terms connected by Boolean operators, using truncation, MeSH terms, synonyms, lay and medical terminology and variant spellings will be used (see Table 1). Several databases will be searched, including Medline (Pubmed), EBSCOhost (Academic Search Premier, AfricaWide Information, CINAHL, Health Source: Nursing/Academic), Scopus, Web of Science, Sabinet, Cochrane and OTSeeker. Grey literature will be searched via Sabinet and ProQuest. No language or date restrictions will be applied. The researchers will also personally source articles through key contributors to the field, e.g. through networks such as the Occupational Therapy Africa Regional Group (OTARG). The African countries included within the search terms are all members of the World Federation of Occupational Therapists (WFOT).

Table 1: Search strategy

CONCEPT	ALTERNATIVE WORDS
Mental health	“Mental disorder*” OR burnout OR stress OR psychosocial OR wellbeing OR well-being OR wellness OR recovery OR “substance abuse” OR “alcohol abuse” OR “drug abuse” OR “post traumatic stress disorder” OR “post-traumatic stress disorder” OR PTSD OR depression OR anxiety OR schizophrenia OR suicide
Occupational therapy	“occupational therap*” OR rehabilitation OR prevention OR promotion OR habilitation OR assessment OR “supported employment” OR “return-to-work” or “return to work” OR treatment OR intervention OR effectiveness OR effect OR counselling OR “work ability” OR mindfulness OR “nature-based”
Workplace	“workplace based” OR “workplace-based” OR organisational OR organizational
Africa	Africa OR Botswana OR Ghana OR Kenya OR Madagascar OR Malawi OR Mauritius OR Morocco OR Namibia OR Nigeria OR Rwanda OR Seychelles OR “South Africa” OR Tanzania OR Tunisia OR Uganda OR Zambia OR Zimbabwe

Study selection

Articles will be screened by title and abstract independently by two reviewers (Peters et al., 2020) using the online software platform, Covidence. Search and review dates will be recorded. The full text of potentially suitable articles will be retrieved and assessed using the inclusion criteria. This stage will be conducted independently by the same two reviewers. Reasons for exclusion at this stage will be recorded. The references of included articles, as

well as relevant systematic, scoping and literature reviews, will be screened for additional articles (pearling). Disagreements between reviewers will be resolved through discussion and consensus, and if necessary through a third reviewer. Articles in languages other than English will be translated using the [Blinded for review] Language Centre. The results of title and abstract screening, full text selection and pearling will be recorded in a PRISMA flow diagram.[22]

Data extraction

Data will be extracted by two reviewers, with random accuracy checks, and recorded in purpose-built spreadsheets on Covidence. Data will be collected on the items outlined in Table 2.

Table 2: Data extraction framework

Bibliometric information	Characteristics of the studies	Characteristics of the interventions	Findings
Title	Study design	Type of practitioner(s) offering the intervention	Outcomes assessed
Author(s)	Study aim / research question	Frequency	Assessment instruments
Affiliation of Author(s)	Study population (Using the PROGRESS-Plus framework) [26]	Duration	Results of intervention
Year of publication	Sample size	Treatment modalities/ techniques	Facilitators and barriers
Source/Journal	Health conditions	Location	Service users' experiences/ perspectives
Country		Utility/feasibility of intervention	
		Theoretical/conceptual framework used for intervention	

Data analysis, synthesis and presentation

1
2 Methodological quality of individual studies will not be assessed, in keeping with scoping
3 review methodology.[23] However, study design will be recorded using the Australian
4 National Health and Medical Research Council (NHMRC) hierarchy of evidence.[27]
5
6
7

8 Data will be mapped by geographic location or type of intervention, as appropriate. Results
9 will be charted diagrammatically as well as in text, with bar charts or graphs as appropriate.
10 Key findings will be highlighted, along with main focus areas and gaps in the research. The
11 findings will be presented in a narrative summary, in line with the objectives of this review.
12 Depending on the type of research identified, the scoping review may be followed by a
13 systematic review and meta-analysis of effectiveness studies, or a qualitative research
14 synthesis of the findings from qualitative studies.
15
16
17
18
19

20 21 **DISCUSSION (ETHICS AND DISSEMINATION)** 22

23 This scoping review focusses specifically on interventions situated within the workplace.
24 Workplaces provide the opportunity for service provision to large numbers of people with
25 mental health problems, while limiting the risk of stigma, discrimination and absenteeism.
26 Occupational therapy has its roots in mental health and is able to provide a client-centred,
27 holistic approach to intervention.[28] Occupational therapy uniquely considers the interface
28 between the person, their activities or occupation and the environment and is thus well
29 placed to provide mental health services within the workplace.[29] Work rehabilitation is
30 already an established field of occupational therapy with substantial evidence of
31 effectiveness.[30-32] There is a need to extend these services to mental health. This review
32 will identify evidence specific to mental health interventions within the workplace in the
33 African context.
34
35
36
37
38
39
40
41
42

43 Ethics approval is not required for this scoping review, as it involves secondary analysis of
44 primary research. Stakeholder engagements are used to inform the review design and share
45 the results of the review, rather than as a source of data, and thus do not constitute primary
46 research or require ethical approval.
47
48
49

50 Results of the review will be shared in stakeholder meetings, at conferences and through
51 publication in a peer-reviewed journal. The results will also be used to plan and implement
52 workplace-based interventions for mental health that are contextually relevant and evidence-
53 based within Africa.
54
55
56
57
58
59
60

FUNDING STATEMENT

This study is supported by the HB & MJ Thom award research grant (no grant number received).

AUTHOR CONTRIBUTIONS

Both authors contributed to the conceptualization of this protocol and drafting of the manuscript.

COMPETING INTERESTS STATEMENT

The authors declare that they have no competing interests.

WORD COUNT

2466 words

REFERENCES

1. Wall T, Cooper CL, Brough P, editors. The SAGE Handbook of Organizational Wellbeing. United Kingdom, SAGE Publications, 2021.
2. Panchal N, Kamal R, Orgera K, Cox C, Garfield R, Hamel L, Chidambaram P. The implications of COVID-19 for mental health and substance use. Kaiser family foundation. 2020.
3. World Health Organization. Mental health action plan 2013-2020, 2013. Available: <https://www.who.int/publications/i/item/9789241506021>
4. World Health Organization. Mental health atlas 2017. 2018 Available: <https://www.who.int/publications/i/item/mental-health-atlas-2017>
5. Harnois, Gaston, Gabriel, Phyllis, World Health Organization & International Labour Organisation. Mental health and work: impact, issues and good practices. World Health Organization. 2000. Available: <https://apps.who.int/iris/handle/10665/42346>
6. Goetzel RZ, Roemer EC, Hologue C, Fallin MD, McCleary K, Eaton W, Agnew J, Azocar F, Ballard D, Bartlett J, Braga M. Mental health in the workplace: A call to action proceedings from the mental health in the workplace: Public health summit. Journal of occupational and environmental medicine. 2018 Apr;60(4):322.

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
7. World Health Organization Global strategy on health, environment and climate change: the transformation needed to improve lives and well-being sustainably through healthy environments. Geneva: World Health Organization; 2020. Available: https://www.who.int/phe/publications/WHO-STRATEGY-LAY5_fin_red.pdf
8. Nieuwenhuijsen K, Verbeek JH, Neumeyer-Gromen A, Verhoeven AC, Bültmann U, Faber B. Interventions to improve return to work in depressed people. Cochrane Database of Systematic Reviews. 2020(10).
9. World Federation of Occupational Therapists Position Statement: Occupational therapy and mental health, 2019. Available: <https://wfot.org/resources/occupational-therapy-and-mental-health>
10. World Federation of Occupational Therapists Position Statement: Occupational therapy in work-related practice, 2016. Available: <https://www.wfot.org/resources/occupational-therapy-in-work-related-practice>
11. Thompson AN, Fugard MI, Kirsh B. Organizational Workplace Mental Health: An Emerging Role for Occupational Therapy. Occupational Therapy in Mental Health. 2021 Apr 15:1-24.
12. Pomaki G, Franche RL, Murray E, Khushrushahi N, Lampinen TM. Workplace-based work disability prevention interventions for workers with common mental health conditions: a review of the literature. Journal of occupational rehabilitation. 2012 Jun 1;22(2):182-95.
13. Gray P, Senabe S, Naicker N, Kgalamono S, Yassi A, Spiegel JM. Workplace-based organizational interventions promoting mental health and happiness among healthcare workers: A realist review. International journal of environmental research and public health. 2019 Jan;16(22):4396.
14. Proper KI, van Oostrom SH. The effectiveness of workplace health promotion interventions on physical and mental health outcomes—a systematic review of reviews. Scandinavian journal of work, environment & health. 2019 Nov 1;45(6):546-59.
15. Heckenberg RA, Eddy P, Kent S, Wright BJ. Do workplace-based mindfulness meditation programs improve physiological indices of stress? A systematic review and meta-analysis. Journal of psychosomatic research. 2018 Nov 1;114:62-71.
16. Cullen KL, Irvin E, Collie A, Clay F, Gensby U, Jennings PA, Hogg-Johnson S, Kristman V, Laberge M, McKenzie D, Newnam S. Effectiveness of workplace interventions in return-to-work for musculoskeletal, pain-related and mental health conditions: an update of the evidence and messages for practitioners. Journal of occupational rehabilitation. 2018 Mar 1;28(1):1-5.
17. Furlan AD, Gnam WH, Carnide N, Irvin E, Amick BC, DeRango K, McMaster R, Cullen K, Slack T, Brouwer S, Bültmann U. Systematic review of intervention

- practices for depression in the workplace. *Journal of occupational rehabilitation*. 2012 Sep;22(3):312-21.
18. Tan L, Wang MJ, Modini M, Joyce S, Mykletun A, Christensen H, Harvey SB. Preventing the development of depression at work: a systematic review and meta-analysis of universal interventions in the workplace. *BMC medicine*. 2014 Dec;12(1):1-1.
19. Lee YJ, Kim EH. A Systematic Review of Workplace Interventions for the Mental Health of Workers. *Journal of Korean Academy of psychiatric and Mental Health Nursing*. 2020 Jun 30;29(2):155-67.
20. Gritzka S, MacIntyre TE, Dörfel D, Baker-Blanc JL, Calogiuri G. The effects of workplace nature-based interventions on the mental health and well-being of employees: a systematic review. *Frontiers in psychiatry*. 2020;11.
21. Jansen van Vuuren J, Okyere C, Aldersey H. The role of Occupational Therapy in Africa: A scoping review. *South African Journal of Occupational Therapy*. 2020 Dec;50(3):3-21.
22. 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.
23. Peters MDJ, Godfrey C, Mclnerney P, Munn Z, Tricco AC, Khalil, H. Chapter 11: Scoping Reviews (2020 version). In: Aromataris E, Munn Z (Editors). *JBIM Manual for Evidence Synthesis*, JBI, 2020. Available: <https://synthesismanual.jbi.global>. <https://doi.org/10.46658/JBIMES-20-12>
24. Kayes NM, Martin RA, Bright FA, Kersten P, Pollock A. Optimizing the real-world impact of rehabilitation reviews: increasing the relevance and usability of systematic reviews in rehabilitation. *Eur J Phys Rehabil Med*. 2019 Jun 1;55:331-41.
25. Pollock A, Campbell P, Struthers C, Synnot A, Nunn J, Hill S, Goodare H, Morris J, Watts C, Morley R. Development of the ACTIVE framework to describe stakeholder involvement in systematic reviews. *Journal of health services research & policy*. 2019 Oct;24(4):245-55.
26. Oliver S, Kavanagh J, Caird J, Lorenc T, Oliver K, Harden A, Thomas J, Greaves A, Oakley H. Health promotion, inequalities and young people's health: a systematic review of research. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London. 2008.
27. Merlin T, Weston A, Tooher R. Extending an evidence hierarchy to include topics other than treatment: revising the Australian 'levels of evidence'. *BMC medical research methodology*. 2009 Dec;9(1):1-8.
28. Kielhofner G. *Conceptual foundations of occupational therapy practice*. FA Davis; 2009 Jun 19.

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
29. Law M, Cooper B, Strong S, Stewart D, Rigby P, Letts L. The person-environment-occupation model: A transactive approach to occupational performance. *Canadian journal of occupational therapy*. 1996 Apr;63(1):9-23.
30. Désiron HA, De Rijk A, Van Hoof E, Donceel P. Occupational therapy and return to work: a systematic literature review. *BMC Public Health*. 2011 Dec;11(1):1-4.
31. Snodgrass J. Effective occupational therapy interventions in the rehabilitation of individuals with work-related low back injuries and illnesses: A systematic review. *The American Journal of Occupational Therapy*. 2011 Jan;65(1):37-43.
32. Amini D. Occupational therapy interventions for work-related injuries and conditions of the forearm, wrist, and hand: A systematic review. *The American Journal of Occupational Therapy*. 2011 Jan;65(1):29-36.

Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	



SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	
Limitations	20	Discuss the limitations of the scoping review process.	
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).

‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med.* 2018;169:467–473. doi: [10.7326/M18-0850](https://doi.org/10.7326/M18-0850).



BMJ Open

Workplace-based occupational therapy for mental health in Africa: a scoping review protocol

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2021-054821.R2
Article Type:	Protocol
Date Submitted by the Author:	31-Mar-2022
Complete List of Authors:	Hoosain, Munira; Stellenbosch University Faculty of Medicine and Health Sciences, Occupational Therapy Plastow, Nicola Ann; Stellenbosch University Faculty of Medicine and Health Sciences, Occupational Therapy
Primary Subject Heading:	Rehabilitation medicine
Secondary Subject Heading:	Occupational and environmental medicine, Mental health
Keywords:	Depression & mood disorders < PSYCHIATRY, REHABILITATION MEDICINE, PREVENTIVE MEDICINE, OCCUPATIONAL & INDUSTRIAL MEDICINE

SCHOLARONE™
Manuscripts

ARTICLE TITLE

Workplace-based occupational therapy for mental health in Africa: a scoping review protocol

CORRESPONDENCE

Munira Hoosain

BSc Occupational Therapy, M Occupational Therapy

munira@sun.ac.za; Tel.: +27 21 938 9308

Stellenbosch University, Faculty of Medicine and Health Sciences, Division of Occupational Therapy, PO Box 241, Cape Town, 8000, South Africa

<https://orcid.org/0000-0001-5449-143X>

OTHER AUTHORS

Dr Nicola Ann Plastow

BSc Occupational Therapy, PGCert (Teaching and Learning in Higher Education), MSc, PhD
(Clinical Sciences)

<https://orcid.org/0000-0002-3536-9129>

AFFILIATION OF ALL AUTHORS

Division of Occupational Therapy, Department of Health and Rehabilitation Sciences,
Stellenbosch University, Cape Town, South Africa

WORD COUNT

2466 words

Workplace-based occupational therapy for mental health in Africa: a scoping review protocol

ABSTRACT

Introduction

Although mental health at work is a pressing and growing concern, mental health care accounts for less than 2% of global health care, with marked inequality across continents. Africa has the smallest proportion of mental health service providers, and the highest rate of out-of-pocket expenditure for mental health service users. Poor mental health at work results in costs to workers, employers and the economy. This review aims to collaborate with stakeholders to identify literature on workplace-based occupational therapy interventions supporting the mental health of workers in Africa.

Methods and analysis

We will search Medline (Pubmed), EBSCOhost (Academic Search Premier, AfricaWide Information, CINAHL, Health Source: Nursing/Academic), Scopus, Web of Science, Sabinet, Cochrane and OTSeeker for qualitative and quantitative primary research studies. Grey literature will be searched via Sabinet and ProQuest. No language or date restrictions will be applied. Title and abstract screening as well as full text screening will be done independently by two reviewers. Data extracted will include information about the articles, characteristics of studies and interventions, and findings. PRISMA-ScR guidelines will be used for reporting results. Three groups of stakeholders will be consulted during the review process: service users/workers, employers and service providers/occupational therapists.

Ethics and dissemination

This scoping review does not require ethics approval. Findings of the review will be disseminated through stakeholder engagements, peer reviewed publications and conference presentations.

Keywords

Depression, mental health, prevention, rehabilitation, return-to-work

ARTICLE SUMMARY

STRENGTHS AND LIMITATIONS OF THIS STUDY

- This review protocol follows the PRISMA-ScR and JBI guidelines for scoping reviews.

- Article selection will be conducted independently by two reviewers, both at title and abstract selection stage and at full text review stage.
- Grey literature and articles of all languages will be included, with no date limitations.
- Stakeholders will be consulted at review design, production and dissemination stages.
- This review is limited to evidence from Africa only.

INTRODUCTION

Mental health problems are the leading cause of absenteeism from work globally, and are associated with direct, indirect and intangible costs to workers and their employers.[1] These include healthcare costs, higher staff turnover, and emotional strain. The global Covid-19 pandemic has led to an alarming increase in the number of adults reporting symptoms of anxiety and depression.[2] Some are even suggesting a mental health pandemic to follow.[2]

Mental health is not only restricted to the management or absence of psychiatric illness, but rather refers to “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community”. [3, p6] The WHO developed the Mental Health Action Plan 2013-2020 [3] to address the world’s growing mental health concerns. Strategies included developing community-based mental health services and implementing mental health prevention and promotion programmes.[3]

Mental health care is a growing and pressing need, both internationally and on the African continent. According to the WHO Mental Health Atlas 2017,[4] the median global mental health care expenditure per capita is United States Dollar (USD) 2.5, while general government health care expenditure averages USD 141 per capita. Mental health care expenditure thus accounts for less than 2% of total health care expenditure internationally. Marked inequality between regions is compounding this problem: while Europe spends USD 21.7 per capita on mental health care, Africa spends around USD 0.1 per capita on the same.[4] The report further notes that Africa and South East Asia have the highest rates of out-of-pocket expenditure for mental health services, indicating less financial support and increased burden for mental health service users in these areas.[4] Africa also has the smallest proportion of mental health workers: 0.9 mental health workers per 100 000 population, compared with the global median of 9, and 50 in Europe.[4] Mental health promotion and prevention continue to be a challenge in Africa, with less than 50% of countries reporting at least two functioning promotion/prevention programmes, compared with more than 70% in all other WHO regions outside of the African region.[4]

1
2 The importance of mental health at work has long since been recognized by both WHO and
3 the International Labour Organization.[5] Work environments can either have positive effects
4 on mental health;[1] or contribute to poor mental health through job stress, conflict with peers
5 and supervisors at work, non-supportive work cultures and work overload.[5] Poor mental
6 health at work can result in a multitude of issues for both workers, employers and the
7 economy.[1] These can include work absenteeism, reduced work performance, strained
8 relationships at work, loss of motivation and behavioural problems; as well as productivity
9 losses, loss of human capital and reduction in Gross Domestic Product.[1, 5]

15 Considering that workers often spend the majority of their waking hours at work, the
16 workplace provides a unique and potentially underutilised setting for interventions supporting
17 health. Public health interventions are often most effective when situated in the environments
18 where people spend most of their time.[6] The WHO global strategy on health, environment
19 and climate change recognises workplaces as an important setting for prevention and
20 management of non-communicable diseases, such as mental health disorders.[7] However,
21 workplace programmes account for only 7% of functional international mental health
22 promotion/prevention programmes.[4] A recent Cochrane systematic review on interventions
23 for return to work among people with depression found a combination of work-directed and
24 clinical interventions probably reduces the number of days off sick, but also that further
25 research is needed to identify the combination of interventions that works best.[8]

33 Occupational therapists are ideally placed to offer work-directed interventions to support
34 mental health. Occupational therapists are skilled at enabling people and communities to
35 participate in activities of their choice, using evidence-based interventions.[9] The role of
36 occupational therapy is well recognised in both mental health [9] and work-related practice
37 [10], and occupational therapists are recognised service providers in the WHO Mental Health
38 Atlas 2017 [4]. However, there are very few occupational therapists working in mental health
39 internationally; less than 0.25 per 100 000 people.[3] In the workplace, occupational therapy
40 interventions focus on the impact of health and wellness on an employee's ability to meet the
41 demands of their job; and can include collaboration with workers and employers towards
42 health promotion, workplace modification, improving access and recommending or providing
43 assistive devices, and case management.[10] There is a growing need for organizational
44 workplace-based mental health programmes, which may require occupational therapists to
45 focus on group or population-based programmes that consider both the needs of the workers
46 and employers.[11]

56 Several reviews have attempted to highlight and evaluate the evidence on workplace-based
57 mental health interventions from other professions, [12-20] but to our knowledge none have
58 focused on synthesizing evidence about occupational therapy from the African continent.
59 Jansen van Vuuren, Okyere and Aldersey's scoping review about the role of occupational
60

1
2 therapy in Africa highlighted unique contextual considerations in this region. [21] These
3 related to the difference in mental health care service provision, poverty and associated
4 malnutrition and low education levels, violence and political instability, mental health stigma,
5 wide variety of cultures and languages, and community-centredness.[21]
6
7

8
9 This scoping review thus aims to identify literature on workplace-based occupational therapy
10 interventions supporting the mental health of workers in Africa. The objectives of the review
11 are:
12

- 13
14 1. To provide a detailed overview of all studies about workplace-based interventions
15 supporting mental health conducted by occupational therapists in Africa.
- 16
17 2. To identify trends and gaps in the types of interventions, practitioners involved,
18 mental health conditions, types of work, geographic location, anticipated outcomes
19 and effectiveness of interventions.
20
- 21
22 3. To identify barriers and facilitators in implementing these interventions on the African
23 continent.
24
25
26
27

28 **METHODS AND ANALYSIS**

29 The PRISMA guideline for reporting on scoping reviews (PRISMA-ScR) [22] and the Joanna
30 Briggs Institute (JBI) guideline for conducting scoping reviews [23] will be used to design and
31 report on this review.
32
33

34 **Patient And public involvement**

35
36 The involvement of stakeholders in reviews has been suggested as a potential method of
37 optimizing the real-world impact and increasing uptake of review findings, particularly in
38 reviews with a rehabilitation focus.[24] Kayes et al recommend that researchers engage with
39 stakeholders within review design, production and dissemination stages.[24] In line with this
40 recommendation and the ACTIVE framework for stakeholder involvement in systematic
41 reviews,[25] we plan to consult with three groups of stakeholders at the design, production
42 and dissemination stages of the review. At review design stage, we consulted with a group of
43 63 occupational therapists situated in Africa with an interest in workplace-based interventions
44 for mental health, as well as a group of 10-15 managers and supervisors at a large South
45 African factory where occupational therapy services are provided. Stakeholders were asked
46 whether they were aware of any interventions in the field (workplace-based occupational
47 therapy for mental health in Africa), whether the scoping review should focus on occupational
48 therapy interventions only or interventions offered by any service provider, whether the
49 review should focus on Africa only or all low to middle income countries, and how broadly
50 mental health should be defined in the scoping review. Occupational therapists were also
51 asked for suggestions of keywords that could be included in the literature search.
52
53
54
55
56
57
58
59
60

Recommendations from these two groups of stakeholders were integrated into the review

1
2 design. While we planned to also consult with a group of service users (factory workers who
3 had previously participated in workplace-based occupational therapy) at the review design
4 stage, this was not possible after a key gatekeeper resigned. We plan to consult with all
5 three groups of stakeholders at the production and dissemination stages of the scoping
6 review. These future engagements may include consultation about the analysis of data (e.g.
7 how to group studies) and discussion about the value and application of the review findings
8 within the stakeholders' contexts.
9
10
11
12

13 **Inclusion criteria**

14
15 In accordance with the JBI guideline on scoping reviews, the review parameters were
16 determined using the "PCC" framework.[23] This framework considers participants included
17 in research, the concept of interest, and the context in which research was completed.
18
19
20

21 **Participants**

22
23 Studies involving interventions with any working population will be included. This includes
24 formal and informal employment. Child labour will not be excluded. Participants must be
25 actively engaged in work, preparing for work or returning to work.
26
27

28 **Concept**

29
30 All research highlighting any interventions supporting worker mental health, offered by
31 occupational therapists, including intervention mapping, effectiveness studies, rehabilitative
32 or preventative studies. Interventions offered in a multi-disciplinary team (MDT) that includes
33 an occupational therapist will be included. Interventions must be at least partly based at a
34 workplace. Studies based at onsite clinics, e.g. occupational health centres based at
35 workplaces, will be included. Return to work interventions will be included, provided these
36 are at least partly workplace based. Diagnosed and undiagnosed mental health conditions
37 will be included.
38
39
40
41

42 **Context**

43
44 Studies conducted in any African country at any type of workplace will be included.
45

46 **Types of studies**

47
48 Qualitative, quantitative and mixed methods primary research will be considered in order to
49 get a broad overview of existing knowledge in the field. Theses and dissertations will be
50 included, along with published conference proceedings. Protocol papers will be excluded
51 where no findings are published.
52
53

54 **Exclusion criteria**

55
56 Studies that do not describe or evaluate an intervention, including opinion articles,
57 commentaries and editorials.
58
59

60 **Search strategy**

1
2 A search strategy has been designed with the help of an expert librarian at Stellenbosch
3 University. A variety of search terms connected by Boolean operators, using truncation,
4 MeSH terms, synonyms, lay and medical terminology and variant spellings will be used (see
5 Table 1). Several databases will be searched, including Medline (Pubmed), EBSCOhost
6 (Academic Search Premier, AfricaWide Information, CINAHL, Health Source:
7 Nursing/Academic), Scopus, Web of Science, Sabinet, Cochrane and OTSeeker. Grey
8 literature will be searched via Sabinet and ProQuest. No language or date restrictions will be
9 applied. The researchers will also personally source articles through key contributors to the
10 field, e.g. through networks such as the Occupational Therapy Africa Regional Group
11 (OTARG). The African countries included within the search terms are all members of the
12 World Federation of Occupational Therapists (WFOT).
13
14
15
16
17
18
19
20

21 **Table 1: Search strategy**

CONCEPT	ALTERNATIVE WORDS
Mental health	“Mental disorder*” OR burnout OR stress OR psychosocial OR wellbeing OR well-being OR wellness OR recovery OR “substance abuse” OR “alcohol abuse” OR “drug abuse” OR “post traumatic stress disorder” OR “post-traumatic stress disorder” OR PTSD OR depression OR anxiety OR schizophrenia OR suicide
Occupational therapy	“occupational therap*” OR rehabilitation OR prevention OR promotion OR habilitation OR assessment OR “supported employment” OR “return-to-work” or “return to work” OR treatment OR intervention OR effectiveness OR effect OR counselling OR “work ability” OR mindfulness OR “nature-based”
Workplace	“workplace based” OR “workplace-based” OR organisational OR organizational
Africa	Africa OR Botswana OR Ghana OR Kenya OR Madagascar OR Malawi OR Mauritius OR Morocco OR Namibia OR Nigeria OR Rwanda OR Seychelles OR “South Africa” OR Tanzania OR Tunisia OR Uganda OR Zambia OR Zimbabwe

22 **Study selection**

23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
Articles will be screened by title and abstract independently by two reviewers (Peters et al., 2020) using the online software platform, Covidence. Search and review dates will be recorded. The full text of potentially suitable articles will be retrieved and assessed using the inclusion criteria. This stage will be conducted independently by the same two reviewers. Reasons for exclusion at this stage will be recorded. The references of included articles, as

well as relevant systematic, scoping and literature reviews, will be screened for additional articles (pearling). Disagreements between reviewers will be resolved through discussion and consensus, and if necessary through a third reviewer. Articles in languages other than English will be translated using the Stellenbosch University Language Centre. The results of title and abstract screening, full text selection and pearling will be recorded in a PRISMA flow diagram.[22]

Data extraction

Data will be extracted by two reviewers, with random accuracy checks, and recorded in purpose-built spreadsheets on Covidence. Data will be collected on the items outlined in Table 2.

Table 2: Data extraction framework

Bibliometric information	Characteristics of the studies	Characteristics of the interventions	Findings
Title	Study design	Type of practitioner(s) offering the intervention	Outcomes assessed
Author(s)	Study aim / research question	Frequency	Assessment instruments
Affiliation of Author(s)	Study population (Using the PROGRESS-Plus framework) [26]	Duration	Results of intervention
Year of publication	Sample size	Treatment modalities/ techniques	Facilitators and barriers
Source/Journal	Health conditions	Location	Service users' experiences/ perspectives
Country		Utility/feasibility of intervention	
		Theoretical/conceptual framework used for intervention	

Data analysis, synthesis and presentation

1
2 Methodological quality of individual studies will not be assessed, in keeping with scoping
3 review methodology.[23] However, study design will be recorded using the Australian
4 National Health and Medical Research Council (NHMRC) hierarchy of evidence.[27]
5
6
7

8 Data will be mapped by geographic location or type of intervention, as appropriate. Results
9 will be charted diagrammatically as well as in text, with bar charts or graphs as appropriate.
10 Key findings will be highlighted, along with main focus areas and gaps in the research. The
11 findings will be presented in a narrative summary, in line with the objectives of this review.
12 Depending on the type of research identified, the scoping review may be followed by a
13 systematic review and meta-analysis of effectiveness studies, or a qualitative research
14 synthesis of the findings from qualitative studies. It is anticipated that this scoping review will
15 be completed by November 2022.
16
17
18
19
20
21
22

23 DISCUSSION (ETHICS AND DISSEMINATION)

24
25 This scoping review focusses specifically on mental health interventions situated within the
26 workplace. Workplaces provide the opportunity for service provision to large numbers of
27 people with mental health problems, while limiting the risk of stigma, discrimination and
28 absenteeism. Occupational therapy has its roots in mental health and is able to provide a
29 client-centred, holistic approach to intervention.[28] Occupational therapy uniquely considers
30 the interface between the person, their activities or occupation and the environment and is
31 thus well placed to provide mental health services within the workplace.[29] Work
32 rehabilitation is already an established field of occupational therapy with substantial evidence
33 of effectiveness.[30-32] There is a need to extend these services to include mental health
34 interventions. This review will identify evidence specific to mental health interventions within
35 the workplace in the African context.
36
37
38
39
40
41
42
43

44 Ethics approval is not required for this scoping review, as it involves secondary analysis of
45 primary research. Stakeholder engagements are used to inform the review design and share
46 the results of the review, rather than as a source of data, and thus do not constitute primary
47 research or require ethical approval.
48
49
50
51

52 Results of the review will be shared in stakeholder meetings, at conferences and through
53 publication in a peer-reviewed journal. The results will also be used to plan and implement
54 workplace-based interventions for mental health that are contextually relevant and evidence-
55 based within Africa.
56
57
58
59
60

FUNDING STATEMENT

This study is supported by the HB & MJ Thom award research grant (no grant number received).

AUTHOR CONTRIBUTIONS

Both authors contributed to the conceptualization of this protocol and drafting of the manuscript.

COMPETING INTERESTS STATEMENT

The authors declare that they have no competing interests.

WORD COUNT

2470 words

REFERENCES

1. Wall T, Cooper CL, Brough P, editors. The SAGE Handbook of Organizational Wellbeing. United Kingdom, SAGE Publications, 2021.
2. Panchal N, Kamal R, Orgera K, Cox C, Garfield R, Hamel L, Chidambaram P. The implications of COVID-19 for mental health and substance use. Kaiser family foundation. 2020.
3. World Health Organization. Mental health action plan 2013-2020, 2013. Available: <https://www.who.int/publications/i/item/9789241506021>
4. World Health Organization. Mental health atlas 2017. 2018 Available: <https://www.who.int/publications/i/item/mental-health-atlas-2017>
5. Harnois, Gaston, Gabriel, Phyllis, World Health Organization & International Labour Organisation. Mental health and work: impact, issues and good practices. World Health Organization. 2000. Available: <https://apps.who.int/iris/handle/10665/42346>
6. Goetzel RZ, Roemer EC, Hologue C, Fallin MD, McCleary K, Eaton W, Agnew J, Azocar F, Ballard D, Bartlett J, Braga M. Mental health in the workplace: A call to action proceedings from the mental health in the workplace: Public health summit. Journal of occupational and environmental medicine. 2018 Apr;60(4):322.

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
7. World Health Organization Global strategy on health, environment and climate change: the transformation needed to improve lives and well-being sustainably through healthy environments. Geneva: World Health Organization; 2020. Available: https://www.who.int/phe/publications/WHO-STRATEGY-LAY5_fin_red.pdf
8. Nieuwenhuijsen K, Verbeek JH, Neumeyer-Gromen A, Verhoeven AC, Bültmann U, Faber B. Interventions to improve return to work in depressed people. Cochrane Database of Systematic Reviews. 2020(10).
9. World Federation of Occupational Therapists Position Statement: Occupational therapy and mental health, 2019. Available: <https://wfot.org/resources/occupational-therapy-and-mental-health>
10. World Federation of Occupational Therapists Position Statement: Occupational therapy in work-related practice, 2016. Available: <https://www.wfot.org/resources/occupational-therapy-in-work-related-practice>
11. Thompson AN, Fugard MI, Kirsh B. Organizational Workplace Mental Health: An Emerging Role for Occupational Therapy. Occupational Therapy in Mental Health. 2021 Apr 15:1-24.
12. Pomaki G, Franche RL, Murray E, Khushrushahi N, Lampinen TM. Workplace-based work disability prevention interventions for workers with common mental health conditions: a review of the literature. Journal of occupational rehabilitation. 2012 Jun 1;22(2):182-95.
13. Gray P, Senabe S, Naicker N, Kgalamono S, Yassi A, Spiegel JM. Workplace-based organizational interventions promoting mental health and happiness among healthcare workers: A realist review. International journal of environmental research and public health. 2019 Jan;16(22):4396.
14. Proper KI, van Oostrom SH. The effectiveness of workplace health promotion interventions on physical and mental health outcomes—a systematic review of reviews. Scandinavian journal of work, environment & health. 2019 Nov 1;45(6):546-59.
15. Heckenberg RA, Eddy P, Kent S, Wright BJ. Do workplace-based mindfulness meditation programs improve physiological indices of stress? A systematic review and meta-analysis. Journal of psychosomatic research. 2018 Nov 1;114:62-71.
16. Cullen KL, Irvin E, Collie A, Clay F, Gensby U, Jennings PA, Hogg-Johnson S, Kristman V, Laberge M, McKenzie D, Newnam S. Effectiveness of workplace interventions in return-to-work for musculoskeletal, pain-related and mental health conditions: an update of the evidence and messages for practitioners. Journal of occupational rehabilitation. 2018 Mar 1;28(1):1-5.
17. Furlan AD, Gnam WH, Carnide N, Irvin E, Amick BC, DeRango K, McMaster R, Cullen K, Slack T, Brouwer S, Bültmann U. Systematic review of intervention

- practices for depression in the workplace. *Journal of occupational rehabilitation*. 2012 Sep;22(3):312-21.
18. Tan L, Wang MJ, Modini M, Joyce S, Mykletun A, Christensen H, Harvey SB. Preventing the development of depression at work: a systematic review and meta-analysis of universal interventions in the workplace. *BMC medicine*. 2014 Dec;12(1):1-1.
19. Lee YJ, Kim EH. A Systematic Review of Workplace Interventions for the Mental Health of Workers. *Journal of Korean Academy of psychiatric and Mental Health Nursing*. 2020 Jun 30;29(2):155-67.
20. Gritzka S, MacIntyre TE, Dörfel D, Baker-Blanc JL, Calogiuri G. The effects of workplace nature-based interventions on the mental health and well-being of employees: a systematic review. *Frontiers in psychiatry*. 2020;11.
21. Jansen van Vuuren J, Okyere C, Aldersey H. The role of Occupational Therapy in Africa: A scoping review. *South African Journal of Occupational Therapy*. 2020 Dec;50(3):3-21.
22. 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.
23. Peters MDJ, Godfrey C, Mclnerney P, Munn Z, Tricco AC, Khalil, H. Chapter 11: Scoping Reviews (2020 version). In: Aromataris E, Munn Z (Editors). *JBIM Manual for Evidence Synthesis*, JBI, 2020. Available: <https://synthesismanual.jbi.global>. <https://doi.org/10.46658/JBIMES-20-12>
24. Kayes NM, Martin RA, Bright FA, Kersten P, Pollock A. Optimizing the real-world impact of rehabilitation reviews: increasing the relevance and usability of systematic reviews in rehabilitation. *Eur J Phys Rehabil Med*. 2019 Jun 1;55:331-41.
25. Pollock A, Campbell P, Struthers C, Synnot A, Nunn J, Hill S, Goodare H, Morris J, Watts C, Morley R. Development of the ACTIVE framework to describe stakeholder involvement in systematic reviews. *Journal of health services research & policy*. 2019 Oct;24(4):245-55.
26. Oliver S, Kavanagh J, Caird J, Lorenc T, Oliver K, Harden A, Thomas J, Greaves A, Oakley H. Health promotion, inequalities and young people's health: a systematic review of research. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London. 2008.
27. Merlin T, Weston A, Tooher R. Extending an evidence hierarchy to include topics other than treatment: revising the Australian 'levels of evidence'. *BMC medical research methodology*. 2009 Dec;9(1):1-8.
28. Kielhofner G. *Conceptual foundations of occupational therapy practice*. FA Davis; 2009 Jun 19.

- 1
2 29. Law M, Cooper B, Strong S, Stewart D, Rigby P, Letts L. The person-environment-
3 occupation model: A transactive approach to occupational performance. *Canadian*
4 *journal of occupational therapy*. 1996 Apr;63(1):9-23.
5
6 30. Désiron HA, De Rijk A, Van Hoof E, Donceel P. Occupational therapy and return to
7 work: a systematic literature review. *BMC Public Health*. 2011 Dec;11(1):1-4.
8
9 31. Snodgrass J. Effective occupational therapy interventions in the rehabilitation of
10 individuals with work-related low back injuries and illnesses: A systematic review. *The*
11 *American Journal of Occupational Therapy*. 2011 Jan;65(1):37-43.
12
13 32. Amini D. Occupational therapy interventions for work-related injuries and conditions
14 of the forearm, wrist, and hand: A systematic review. *The American Journal of*
15 *Occupational Therapy*. 2011 Jan;65(1):29-36.
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	
Limitations	20	Discuss the limitations of the scoping review process.	
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).

‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med.* 2018;169:467–473. doi: 10.7326/M18-0850.

