




BMJ Open Post-traumatic stress disorder psychological interventions in sub-Saharan Africa: protocol for a systematic review of the literature

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ABSTRACT

Introduction Untreated post-traumatic stress disorder (PTSD) results in considerable morbidity and higher risk of mortality. However, little is being done to treat PTSD in sub-Saharan Africa (SSA) settings where rates of PTSD are likely to be elevated due to mass exposure of the population to traumatic events. This systematic review aims to summarise available evidence on the efficacy of psychological therapies for PTSD in SSA.

Methods and analysis A systematic search of the literature will be conducted in four electronic databases: PubMed, PsychInfo, EMBASE and Cochrane Register of Controlled Trials using keywords and synonyms related to 'PTSD', 'psychological therapies' and 'SSA'. Studies will be included if they were conducted in SSA and used a randomised controlled trial design. Two researchers will screen the studies for eligibility to be included, and data on intervention types, population, comorbidities, comparison group intervention and PTSD outcomes will be extracted from those included. Risk of bias will be assessed using Cochrane risk-of-bias tool for randomised trials (version 2). Narrative synthesis of data will be conducted and pooled effect estimates calculated.

Ethics and dissemination Ethical approval is not required as this is a protocol of a systematic review of available data. Findings will be disseminated to the scientific community through peer-reviewed publications and presentation at conferences.

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INTRODUCTION

Post-traumatic stress disorder (PTSD) is a debilitating mental illness and occurs at a prevalence of 3.9% and 5.6% in general and trauma exposed populations, respectively.¹ A higher prevalence of 15.5% has been reported in conflict affected populations and up to 24% in war survivors.^{2 3} During the COVID-19 pandemic, a PTSD prevalence of 44.5% and 55.1% was reported in certain groups, such as healthcare workers in South Africa and Kenya, respectively.^{4 5} Untreated, PTSD results in considerable morbidity (increase in years lived with disability), higher

Strengths and limitations of this study

- ⇒ This review is an expansion of the existing literature on post-traumatic stress disorder (PTSD) interventions in sub-Saharan Africa (SSA).
- ⇒ Included studies may be heterogenous, limiting the pooling of data and ability to generalise findings.
- ⇒ Considering the burden of PTSD in SSA, findings from this systematic review will be important to inform future PTSD interventions for optimum outcomes.
- ⇒ The review will include a comparator group, thereby adding to the strength of the evidence.

risk of developing cardiovascular disease, premature mortality due to an accelerated ageing process and a higher risk of suicide.⁶⁻⁹ Owing to the high burden of PTSD and the associated negative adversities, PTSD should be identified and treated timeously.^{10 11} However, little has been done to identify and treat PTSD in low resource sub-Saharan African (SSA) settings where multiple civil and tribal wars, social strife and natural disasters such as floods and landslides, have led to mass exposure of the population to traumatic events.¹²⁻¹⁴

Several reasons could explain the poor identification and treatment of PTSD in SSA, including that mental health services account for low expenditure of the total budget allocation towards healthcare. In South Africa, for example, only 5% of the national health budget goes towards mental health expenditure, of which 86% is spent on inpatient care and only 8% on primary healthcare.^{15 16} This accounts for lower access to mental healthcare for most of the population, who can only access community level services. Some patients have spiritual and cultural beliefs about mental health conditions, that may be different from conventional psychiatry



diagnosis. These patients may find meaning consulting traditional or other healers.¹⁷ Aggarwal *et al*¹⁸ in their study including patients, clinicians and administrators found that low levels of cultural competency and the inability to provide culturally appropriate healthcare services, widens the therapeutic alliance gap and results in mistrust of services provided by conventional healthcare providers.¹⁸ Some individuals with PTSD do not volunteer information to healthcare workers or seek help due to the stigmatising attitudes of healthcare workers, community members and self-stigma about mental illness.^{11 19–23} Additionally, there is a general lack of knowledge that PTSD is a medical condition, creating a further barrier to seeking care.^{11 24} Comorbidities such as depression, anxiety and substance use disorders may negatively impact on the clinician's ability to diagnose PTSD.^{24–26} Furthermore, limited access to mental healthcare, and severe shortage of trained or professional mental healthcare staff hampers the identification and treatment of PTSD. An average of 1.4 mental health workers are available per 100 000 persons in Africa compared with the global average of 9 per 100 000.^{15 27 28} The provision of specialised community-based services, collaborative care interventions, task-shifting and task sharing approaches are some of the strategies implemented to strengthen mental healthcare provision in low resource settings.^{29 30} Specialised community-based services entail formal links between primary and specialist care, where professional mental healthcare providers run services that are located at community level.²⁹ In collaborative care interventions, mental healthcare provision is provided in a structured way between the various types of providers.^{29 30} Task shifting and task sharing is the provision of mental healthcare services by individuals who have had no professional health training.³¹ In task shifting, these services can be provided by individuals with less training, for example, nurses or lay health workers.

Psychological therapy, also called talk therapy is an effective psychological intervention used for psychological, behavioural and somatic symptoms.^{32 33} and can be delivered in groups or individually.³⁴ A number of efficacious PTSD interventions have been cited in the literature and these include cognitive based interventions which may be trauma or non-trauma focused, eye movement desensitisation and reprocessing (EMDR) and other therapies including psychodynamic therapy, hypnotherapy, supportive counselling and present-centred counselling.³⁴

A number of studies that assessed the efficacy of psychological interventions for PTSD have been conducted in SSA.^{35–37} Some interventions have been found to be efficacious, but others have had negative findings with methodological flaws reported as the reasons for some of the negative findings.

In a Rwandan cohort of genocide survivors, Connolly and Sakai³⁸ described the sustained reduction of PTSD symptoms with the trauma exposure-based intervention, thought field therapy. There was a 32% ($p < 0.01$) reduction in PTSD symptoms in the treatment group, while the

waitlist group had a symptom reduction of 12.1% ($p > 0.05$). Improvement in the treatment group was sustained at the 2-year follow-up assessment. In a Mozambican community sample of individuals with PTSD, Igreja *et al*³⁶ found the testimony intervention procedure which entailed participants giving a verbal account of the most traumatic event to be effective in reducing PTSD symptoms. The efficacy of the intervention was sustained for at least 11 months, particularly among the female participants. There was no significant difference between cases and controls in the immediate (2 months) post-intervention phase. Trauma-focused cognitive behavioural therapy was found to be superior to treatment as usual in a randomised controlled trial (RCT) in a cohort of orphaned and vulnerable children with trauma related and PTSD symptoms in Lusaka, Zambia.³⁷ The intervention was administered by trained lay counsellors, but post-intervention assessments were only conducted once, 1 month after the intervention, and it was therefore unclear if the effects of the intervention were sustained over time.

Despite the availability of these interventions in SSA, healthcare workers continue to be faced with a dilemma of which intervention to use, in part due to the differences in populations in which the interventions were administered as well as the type, methods and duration of administration, with some being brief and others long.

Due to cultural diversity within the SSA region, as well as the type and extent of trauma exposure between the countries across the region, we hypothesise that the efficacy of psychological interventions may differ across SSA. Therefore, the aim of this review is to summarise the available evidence about the efficacy of psychological therapies for PTSD in sub-Saharan Africa, to determine the types of interventions found to be effective and to describe the contexts in which these interventions have been effective. This will help guide clinicians faced with the dilemma of selecting appropriate interventions for their setting.

METHODS AND ANALYSIS

The systematic review is registered with Prospective Register of Systematic Reviews. Article selection will be reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analysis guidelines in figure 1.³⁹

Literature search

A literature search of articles published between 1980 and November 2021 will be conducted on PubMed, PsychInfo, EMBASE and Cochrane Register of Controlled Trials electronic databases. The review will include studies from 1980 as this is the first time PTSD was described.⁴⁰ A search for grey literature will be conducted by searching for abstracts of conferences for relevant studies. Reference lists of included articles will be screened for relevant articles. The ClinicalTrials.gov website and International Clinical Trials Registry Platform will also be searched for

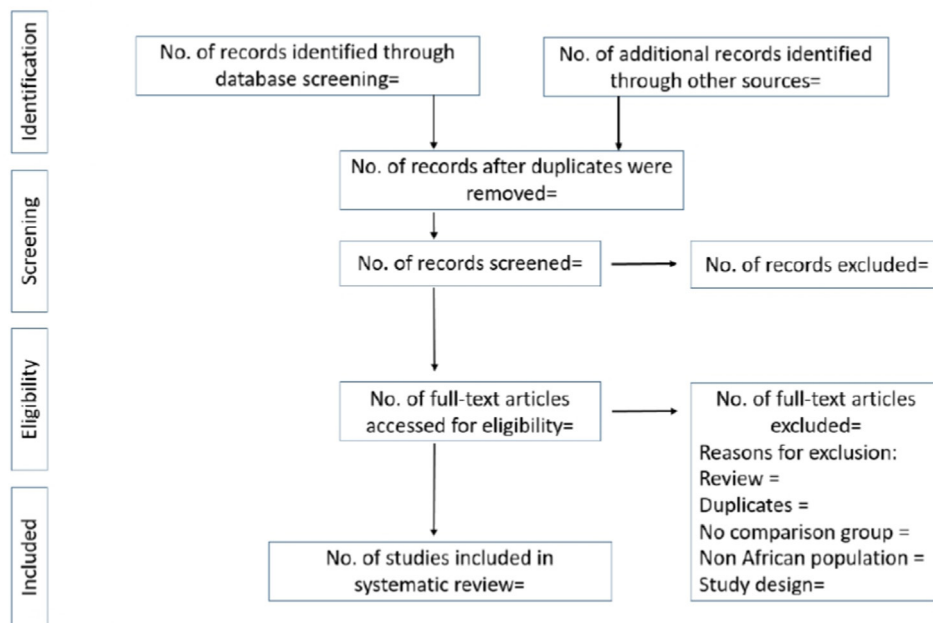


Figure 1 PRISMA flow diagram (adapted from Moher *et al*³⁹). PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analysis.

relevant studies. A librarian trained in systematic reviews will be enlisted when conducting the literature search.

Study eligibility criteria

The review will include all types of RCTs of psychological interventions for PTSD in populations in SSA. Eligible studies in all languages will be included and professional academic language translating services available at the institution of one of the co-authors (DA) will be solicited.

Population

Studies will be included if they have participants aged 18 years and above and diagnosed with PTSD as a primary diagnosis according to Diagnostic Statistical Manual of Mental Disorders (DSM) or International Classification of Diseases criteria. PTSD diagnosis will be considered if structured clinical interviews are used to make the diagnosis. This will include the use of PTSD diagnostic tools such as the Clinician-Administered PTSD Scale, PTSD Symptom Scale Interview, Mini-International Neuropsychiatric Interview and the Structured Clinical Interview for DSM.^{41–43}

Intervention

Studies on any psychological group or individually administered interventions found will be included in the review. These will include, but not be limited to, trauma-based, cognitive-based EMDR and relaxation-based interventions.

Comparison

Studies with comparator groups, such as treatment as usual, wait-listed groups or groups that have received other psychological therapies, will be included.

Outcome

The primary outcome measure will be a reduction in PTSD symptoms (measured by a valid instrument), based on measures of the scores being used. Secondary outcome measures will include dropout rates, other psychiatric comorbidities (eg, associated depression or substance use disorders), level of functioning, quality of life, as well as the level of training of individuals administering the intervention.

Comorbidities

Participants with other comorbidities will be included in the study, as long as the interventions in question target PTSD symptomatology and not comorbidities.

Timing of outcome measures

Outcome measures will be assessed at the period immediately after intervention, at 1–3 months, 4–6 months, 6–12 months and over 12 months after the intervention.

Data collection

Study selection

A pilot database search has been conducted and the results can be found in online supplemental additional file 1. Articles obtained from the electronic search conducted by the lead author (VN) and the Librarian will be exported to an EndNote V.X9 library. Duplicates will be removed from the library and it will be shared with the second reviewer (KM). The two reviewers will independently read all abstracts of articles identified during the literature search, to identify abstracts potentially meeting inclusion criteria. Thereafter, full-text articles of included abstracts will be screened for final inclusion in the study. Articles where reviewer discrepancies are found

will be re-evaluated and a third reviewer (SM) will help reach a consensus. Cohen's kappa to assess for inter-rater agreement at abstract and full article inclusion stage will be reported.

Data extraction

Data from included studies will be extracted in duplicate, independently, by the reviewers onto Review Manager 5 Software (RevMan5). The extracted data will include participant demographic information, type of population (immigrants vs general population), urban versus rural, type of trauma, randomisation procedure, psychological intervention type and duration, information on outcomes and sources of funding. Authors will be contacted for missing information.

Risk of bias assessment

Risk of publication bias assessment based on PTSD symptoms will be conducted using a funnel plot, where asymmetry of the plot may be indicative of bias. Individual studies will be assessed for selection bias by assessing how intervention allocation was conducted, information bias by assessing if outcome assessors were blinded, and if analysis was biased by assessing if intention to treat analysis was used. Version 2 of the Cochrane risk-of-bias for randomised trials tool will be used to evaluate risk of bias in the included studies.⁴⁴

Data analysis

Review Manager V.5 software will be used for pooled effect estimates where possible. Data will be pooled where suitable and analysed for summary effects. Comparisons will be made between outcome measures (dependent variables) in the group that did and did not receive the intervention (independent variable). For dichotomous data such as PTSD present or not present at the end of the intervention, or response or no response to treatment, effect sizes will be calculated as the ORs. For continuous data such as PTSD scores, level of functioning and quality of life scores, mean differences between the intervention and control or waitlisted groups will be calculated. Standardised mean differences will be calculated where different measures or tools are used to assess outcomes. For crossover trials, data will be extracted from the first treatment period. Sub-analysis comparing the different types of interventions, PTSD severity, comorbid psychiatric conditions versus no comorbid condition will be conducted. Sub-analysis of how the presence of the different types of comorbidities, for example, depressive versus substance use comorbidities, are associated with response to the intervention, will also be conducted. Comparisons will also be made by the type of interventionist, whether healthcare professional, community professional or lay health worker. Random effects meta-analysis and inverse variance weighting methods will be used to account for expected heterogeneity of included studies. A narrative description of the studies and findings will also be undertaken. Interventions with similar core

components or population groups will be pooled together to make informative clinical inferences. Sensitivity analysis will be conducted by conducting statistical tests with and without studies that may not meet the minimum criteria for risk of bias, and tests with and without grey literature. If findings remain consistent, the robustness of the findings will be assured, but if findings change with exclusion of certain studies, then risk of reporting bias will be considered. Overall, the level of evidence for this review will be assessed using the Grading of Recommendations, Assessment, Development and Evaluation system.⁴⁵ The a priori level of evidence is high as the review will include only RCTs, but the ultimate quality will depend on other findings such as effect size and risk of bias assessment.

Public and patient involvement

Public and patient involvement has not been included in the design of this systematic review as the review will use information readily available in the public domain.

ETHICS AND DISSEMINATION

This is a systematic review of publicly available data and ethical approval is not required. Findings will be published in a peer-reviewed journal and presented to scientific audiences at local and international conferences.

Contributors VN, KM, SM, BC and DA were involved with the concept, design and data analysis plan of the review. VN was lead author and all authors contributed to the write-up and editing of manuscript and approval of the final version of the manuscript. DA is the guarantor of the manuscript.

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