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SYSTEMATIC REVIEW & META-ANALYSIS

The magnitude of co-morbid depression with post-traumatic stress disorder symptom in Africa, 2024 Systematic review and meta-analysis

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Abstract

Objective: Depression is a significant public health concern arising from a complex interplay of environmental, psychological, biological, and social factors. Traumatic life experiences, such as war, disasters, accidents, and abuse, are prevalent in Africa and often lead to various mental health conditions. This review aims to assess the pooled burden of comorbid depression among individuals experiencing PTSD symptoms in Africa in 2024.

Method: This study conducted a systematic review and meta-analysis, focusing on individuals diagnosed with both depression and post-traumatic stress disorder (PTSD). A comprehensive literature search was conducted across six major databases: PubMed, Scopus, Embase, PsycINFO, AJOL, and Google Scholar. Eligible studies published between 2008 and 2024 were included in the analysis. Statistical assumptions for random-effects models, heterogeneity, and publication bias were tested and met. Data extraction was performed using Microsoft Excel, with subsequent statistical analyses conducted using STATA-18 software.

Result: This systematic review and meta-analysis integrated nineteen cross-sectional studies from Africa, encompassing a total of 3,249 participants. The pooled prevalence estimate of comorbid depression among individuals exhibiting PTSD symptoms was 61% (95% CI: 49-72; $I^2 = 99.2\%$, $P < 0.0001$). A subgroup analysis based on study settings and sub-regions of the African continent revealed the highest prevalence of comorbid depression in refugee populations, reaching 75% (95% CI: 70-79, $P < 0.0001$). Regional subgroup analysis indicated a comorbid depression prevalence of 58% (95% CI: 51-65, $P < 0.0001$) in East Africa and 74% (95% CI: 52-97, $P < 0.0001$) in West Africa.

Conclusion: This review indicates that more than half of respondents with PTSD in African populations also have comorbid depression, with the highest prevalence observed in refugee settings and West African countries. Comprehensive psychosocial intervention guidelines are needed to effectively manage both conditions in clinical and humanitarian settings.

Keywords: Co-morbidity, Depression, Meta-analysis, Post-traumatic stress disorder,Systematic review, Africa

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1 Introduction

1.1 Background

Depression is a global mental health condition characterized by a loss of interest, depressed mood, and social withdrawal. It affects over 280 million individuals worldwide and significantly impairs daily functioning, including self-care, social interactions, and occupational performance. In severe cases, it can lead to life-threatening outcomes [1]. Trauma, whether natural or man-made, often results in intrusive thoughts, nightmares, sadness, anger, and fear [2, 3]. While an emotional response to life-threatening events is normal, persistent intense emotions can lead to mental health issues like depression and PTSD. This prolonged response can hinder daily life, impacting work, sleep, relationships, and overall well-being [4, 5].

Individuals with post-traumatic stress disorder (PTSD) often avoid trauma-related situations and struggle with social engagement and activities they once enjoyed. Symptoms may include hypervigilance, easily startled responses, and sensitivity to noise. This constant state of arousal can lead to fatigue, difficulty concentrating, and memory problems [6, 7].

Globally, approximately 70% of the population experiences trauma, with 5.6% developing PTSD. The economic burden of PTSD is significant due to increased healthcare costs, unemployment, and reduced quality of life. The WHO predicts that stress-related disorders, including PTSD, will be among the leading causes of disability [8-11]. Continuous conflicts in Africa, such as civil wars and ethnic violence, contribute to high rates of PTSD and depression, with displacement and social disruption exacerbating these conditions. The prevalence of PTSD among African refugees is significantly higher than global averages, underscoring the severe psychological impact of these conflicts [12-14].

Depression poses a significant public health concern in Africa, affecting nearly a quarter of the population. Women are particularly vulnerable due to factors like sexual violence and societal pressures. Stigma surrounding mental health hinders help-seeking behavior, exacerbating the issue [15-18]. Trauma increases the risk of depression by altering brain chemistry and can lead to PTSD. The challenges of managing PTSD, such as isolation and difficulty with daily tasks, can contribute to feelings of worthlessness and hopelessness, further exacerbating depression. This co-occurrence of trauma, PTSD, and depression creates a complex and debilitating cycle [19, 20].

Previous studies have shown a 12.8% comorbidity rate of depression and PTSD among adult war survivors globally (1989-2019) [21]. Individuals living in war-affected areas, as well as refugees and internally displaced persons (IDPs) in Africa, face significant cultural and systemic barriers to accessing treatment for PTSD and depression. Cultural beliefs that associate mental illness with supernatural causes or personal weakness often result in the stigmatization of mental health conditions [22]. This social stigma can discourage individuals from seeking help, fearing social ostracism or judgment. Traditional healing practices, such as prayer and the use of topical medicines, are often prioritized over modern mental health care, leading to delays in accessing evidence-based interventions [23].

Systemic barriers, including limited access to inadequate infrastructure, a shortage of mental health care providers, and underfunded healthcare systems, hinder the availability and accessibility of quality care. Cultural misunderstandings between clients and healthcare providers can negatively affect the effective treatment of mental health conditions. Additionally, a lack of culturally appropriate interventions, language barriers, and insufficient training on trauma-informed care further complicate the situation [24].

To address these cultural and systemic barriers, a multifaceted approach is needed that includes culturally appropriate training for healthcare providers, community involvement to reduce stigma, and increased funding for mental health services for vulnerable populations. Despite repeated exposure to various trauma experiences and contributing cultural factors, there is

a scarcity of studies and regional representation [25].

A systematic review and meta-analysis of PTSD and depression in African populations is crucial for understanding the burden of these conditions across regions frequently exposed to violence, war, and displacement [26]. The co-occurrence of both conditions in resource-limited settings results in exacerbated symptoms, prolonged illness, and hindered recovery [27]. The findings will inform mental health professionals, policymakers, and community organizations in designing comprehensive psychopharmacological interventions in both clinical and humanitarian settings. Additionally, the results will contribute to the development of culturally appropriate interventions and prevention programs tailored to different regions of the African population. Individuals with these comorbid conditions would benefit from a comprehensive biopsychosocial intervention plan that shortens their course of illness and improves their recovery. Therefore, this study review aimed to determine the magnitude of comorbid depression among peoples with PTSD symptoms and explicitly describe the regional burden across different regions of Africa, 2024.

2 Methodology

2.1 Type of Study

The systematic review and meta-analysis included quantitative studies that examined the co-morbidity of depression among individuals with PTSD symptoms in various traumatic contexts, such as internally displaced populations, refugees, war-affected areas, and those involved in car accidents. Only articles containing relevant data and information were included.

2.2 Type of outcomes

The primary outcome of interest is the comorbidity of depression with PTSD symptoms in traumatic areas.

2.3 Search strategies

Peer-reviewed papers from electronic databases were included in the search, specifically targeting PubMed, Scopus, Embase, PsycINFO, AJOL, and Google Scholar. To ensure that no similar reviews had been conducted, the Cochrane Library was also searched. The abstracts of the returned articles were examined to determine eligibility when the titles were insufficient for assessment. Keywords and MeSH terms were employed to facilitate the search, utilizing specific syntax and indexing terms for each database. Boolean operators "AND" and "OR" were combined with key terms such as ("Co-morbid depression" [All Fields] OR "Depressive symptoms" [All Fields] OR "PTSD" [All Fields]) AND ("military" OR "Internally displaced persons" [All Fields] OR "Refuge" [All Fields] OR "Car accident" [All Fields] OR "traumatic event" [All Fields] OR "war-affected areas" [All Fields]) AND "Africa" [All Fields].

A total of 3,249 articles were identified through electronic databases and manual searches. After removing duplicate records, 1,432 records were screened for this review. Based on their titles and abstracts, 967 articles were excluded. Additionally, 432 articles were assessed for eligibility, with 413 excluded based on the established criteria.

The inclusion criteria for this systematic review and meta-analysis were: published quantitative cross-sectional studies, respondents aged 18 and older, studies conducted in African countries, and clear statistical outputs for the outcome variable. The exclusion criteria included unclear statistical associations between PTSD and depression, articles not in English, qualitative studies, and research conducted outside the African continent. Ultimately, 19 articles were included in this review. The PRISMA flow diagram was used to summarize the selection process (Figure 1).

2.4 Study quality assessment

The methodological quality of the studies was evaluated using specific criteria. During the initial search, all studies were assessed against the inclusion criteria. This study was submitted for registration with the PROSPERO protocol. The PRISMA checklist was followed to ensure methodological rigor (see Supplementary Material). Methodological quality was appraised

using a critical framework to eliminate substandard studies. Data extraction forms were utilized to gather results from the remaining studies, resulting in a final list of included studies. Additionally, the assessment was conducted by an independent reviewer and the principal investigator.

2.5 Critical appraisal tools

Before inclusion in the review, the study team used standardized critical evaluation measures from the Joanna Briggs Institute Assessment and Review Instrument (JBI-Quantitative) to assess the methodological validity of the selected publications. This appraisal tool is specifically designed for quantitative studies and includes a checklist tailored to various study designs, evaluating key aspects such as sample representativeness, methodological robustness, clearly defined exposures or interventions, and the validity of outcome measurements. The JBI Assessment and Review Instrument (JBI-Quantitative) is provided as supplementary material (Supplementary Material 2).

2.6 Statistical methods and data analysis

Microsoft Excel was used to extract data based on research type, year, region, sample size, and the prevalence of co-morbid depression among individuals with PTSD symptoms. In cases of disagreement regarding article inclusion, the article was referred to a colleague or independent reviewer for evaluation and discussion before making a final decision. Further analysis was conducted using STATA version 18.

The heterogeneity of the included studies was assessed using the I^2 statistic, where values of 25%-50% were considered low heterogeneity, 50%-75% moderate, and greater than 75% high heterogeneity. The overall pooled estimate of co-morbid depression among individuals with PTSD symptoms in Africa was calculated using the metaprop command in STATA. A subgroup analysis was performed based on the year of publication, study setting, and sub-region to examine the pooled estimate of co-morbid depression.

The influence of each study on the overall pooled estimate was evaluated through sensitivity analysis. Additionally, the small-study effect was assessed using Egger's regression test, funnel plot analysis, and p-values. To evaluate publication bias, both visual and statistical methods were employed. Visually, the funnel plot was inspected to display the relationship between study effect size and precision. In the absence of publication bias, the plot typically appears symmetrical and inverted. However, any observed asymmetry may indicate potential publication bias. Egger's test was utilized to assess the association between study precision and effect size, with a significant p-value providing further evidence of potential publication bias, suggesting that the asymmetry in the funnel plot may not be due to chance.

3 Results

Out of the 19 studies included in this review and meta-analysis, 11 were from Ethiopia, 3 from Nigeria, and 1 each from Rwanda, Kenya, Uganda, South Sudan, and Sudan. The PRISMA flow diagram summarizes the selection process (see Figure 1). Data was collected from a total of 5,360 respondents, with an average of 46.5% of the participants being female. Regarding the study settings, more than one-third of the studies were conducted in internally displaced persons (IDP) camps and war-affected areas. The included articles were published between 2008 and 2024. All respondents were adults aged 18 and older, with the largest sample size among the included studies being 1,109 (see Table 1).

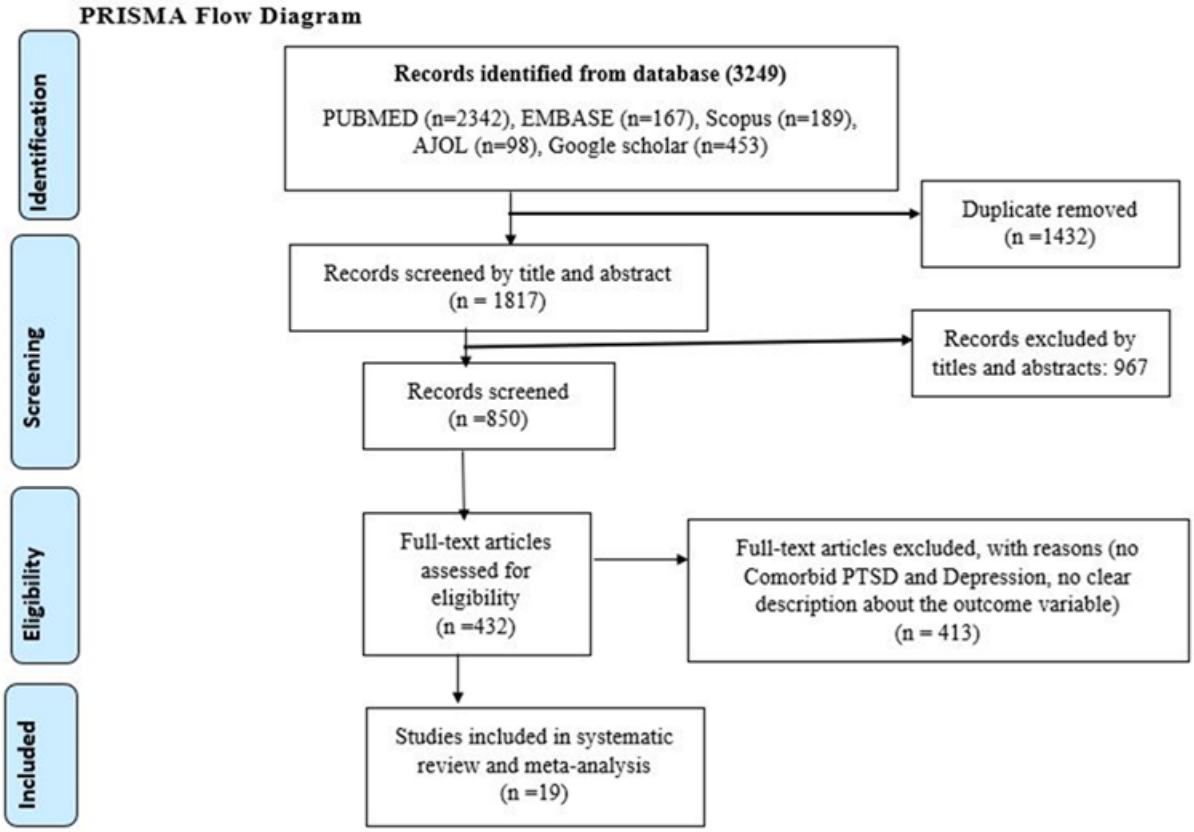


Figure 1 PRISMA flow diagram for the systematic review and meta-analysis of co-morbid depression on PTSD clients in Africa, 2024

Table 1 A descriptive summary of the included studies for the systematic review and meta-analysis on co-morbidity of depression among respondents who developed PTSD in traumatic areas in Africa, 2024.

S.N.	Country	Authors	Publication Year	SD	Study Area	Study setting	Inclusion	DCT	Gender Female (%)	Sample size	Depression (%)
1	Ethiopia	Madoro *et al.* [28]	2020	CS	Gedeo zone	IDP	Adults (18+)	HSCL-25)	47.5	365	62.4
2	"	Birhan *et al.* [29]	2023	CS	Dessie town	War	"	PHQ-9	39.2	207	48.3
3	"	Bedaso *et al.* [30]	2020	CS	Southern Ethiopia	Car accident	"	PHQ-9	27.2	66	22
4	"	Ali *et al.* [31]	2022	CS	Maikadra town	War	"	PHQ-9	43	365	59.1
5	"	Alenko *et al.* [32]	2019	CS	Jimma zone	Car accident	"	SRQ-20	-	50	74
6	"	Kassaye *et al.* [33]	2022	CS	Woldia town	War	"	PHQ-9	44.89	336	63.9
7	"	Tadesse *et al.* [34]	2022	CS	North Gondar	Refuge	"	PHQ-9	66.2	251	72.1
8	"	Adugna *et al.* [35]	2024	CS	Dire dawa	Military personnel	"	PHQ-9	12.6	105	100
9	"	Melese *et al.* [36]	2024	CS	Dabat district	War	"	PHQ-9	38	126	53.9
10	"	Teshome *et al.* [37]	2023	CS	Nefas Meewcha town	War	"	PHQ-9	46.5	328	66.5
11	"	Anbesaw *et al.* [38]	2022	CS	Dessie town	War	"	PHQ-9	43.1	162	51.4
12	South Sudan	Ayazi *et al.* [39]	2012	CS	Greater Bahrel Ghazal states	War	"	MINI	44	331	33.8
13	Rwanda	Munyandamutsa *et al.* [40]	2012	CS	Five provinces of Rwanda	War	"	MINI	58.9	250	68.4
14	Uganda	Robert *et al.* [41]	2008	CS	Gulu and Amuru district	IDP	"	HSCL-25	60	653	67
15	Kenya	Im *et al.* [42]	2020	CS	Somali refuge	Refuge	"	HSCL-25	57.2	62	82.8
16	Nigeria	Ibrahim *et al.* [43]	2023	CS	Yobe state	IDP	"	HSCL-25	55.1	424	98.8
17	Nigeria	Aluh *et al.* [44]	2020	CS	Maiduguri	IDP	"	PHQ-9	44.9	1109	73.6
18	Nigeria	Nwoga *et al.* [45]	2019	CS	Yobe state	IDP	"	HSC	54.5	159	37
19	Sudan	Elhabiby *et al.* [46]	2015	CS	Southern Darfur	IDP	"	DSM-V	98.2	11	54.5

P. Year= Publication year, CS= cross sectional, IDP= internally displaced people, DSM-V= Diagnostic statistical manual four, PHQ=Patient health questioner, HSCL=Hopkins symptoms checklist, MINI= mini-international neuropsychiatric interview, DCT=Data collection tool

Methods of assessment

Across the 18 survey studies, co-morbid depression was measured using adapted, validated, and translated versions of various scales. More than half of the included studies utilized the Patient Health Questionnaire (PHQ-9) to assess co-morbid depression among individuals with PTSD symptoms. The majority of the studies (n = 14; 58.3%) reported on the prevalence of co-morbid depression over the past month (see Table 2).

Table 2 Sampling technique, data collection tool, and data collection methods used in the original studies to assess depression for the systematic review and meta-analysis on co-morbidity of depression among respondents who developed PTSD in traumatic areas in Africa, 2024

Authors	Publication year	Sampling technique	Data collection tool	Methods of data collection
Madoro *et al.*	2020	Simple random sampling	HSCL-25	IA
Birhan *et al.*	2023	Systematic random sampling	PHQ-9	IA
Bedaso *et al.*	2020	Purposive sampling	PHQ-9	IA
Ali *et al.*	2022	Multistage sampling	PHQ-9	IA
Alenko *et al.*	2019	Census sampling	SRQ-20	IA
Kassaye *et al.*	2022	Multi-stage sampling	PHQ-9	IA
Tadesse *et al.*	2022	simple random sampling	PHQ-9	IA
Adugna *et al.*	2024	Simple random sampling	PHQ-9	IA
Melese *et al.*	2024	Systematic random sampling	PHQ-9	IA
Teshome *et al.*	2023	Multi-stage sampling	PHQ-9	IA
Anbesaw *et al.*	2022	Systematic random sampling	PHQ-9	IA
Azazi *et al.*	2012	Multistage sampling	MINI	IA
Munyandamutsa *et al.*	2012	Simple random sampling	MINI	IA
Robert *et al.*	2008	Multistage sampling	HSCL-25	IA
Im *et al.*	2020	snowball sampling	HSCL-25	IA
Ibrahim *et al.*	2023	Multistage sampling	HSCL-25	IA
Aluh *et al.*	2020	Purposive sampling	PHQ-9	IA
Nwoga *et al.*	2019	Systematic random sampling	HSC	IA and SCI
Elhabiby *et al.*	2015	Purposive sampling	DSM-V	SCI

IA = Interviewer administered, SA = Self-administered, SCI = Structured clinical interview. PCL-C = Post-Traumatic Stress Disorder Checklist for Civilians, PCL-5 = Post-Traumatic Stress Disorder Checklist for DSM-5, DSM = Diagnostic and Statistical Manual of Mental Disorder

Pooled prevalence of co-morbid depression among people experiencing PTSD symptoms

A forest plot illustrated the magnitude of co-morbid depression among individuals with PTSD symptoms. The pooled prevalence estimate of co-morbid depression in this population was found to be 61% (95% CI: 49–72; I^2 = 99.2%). The analysis revealed that the highest prevalence of co-morbid depression was in Nigeria, at 99% (95% CI: 97–99), while the lowest prevalence was in Ethiopia, at 33% (95% CI: 23–43) (see Figure 2).

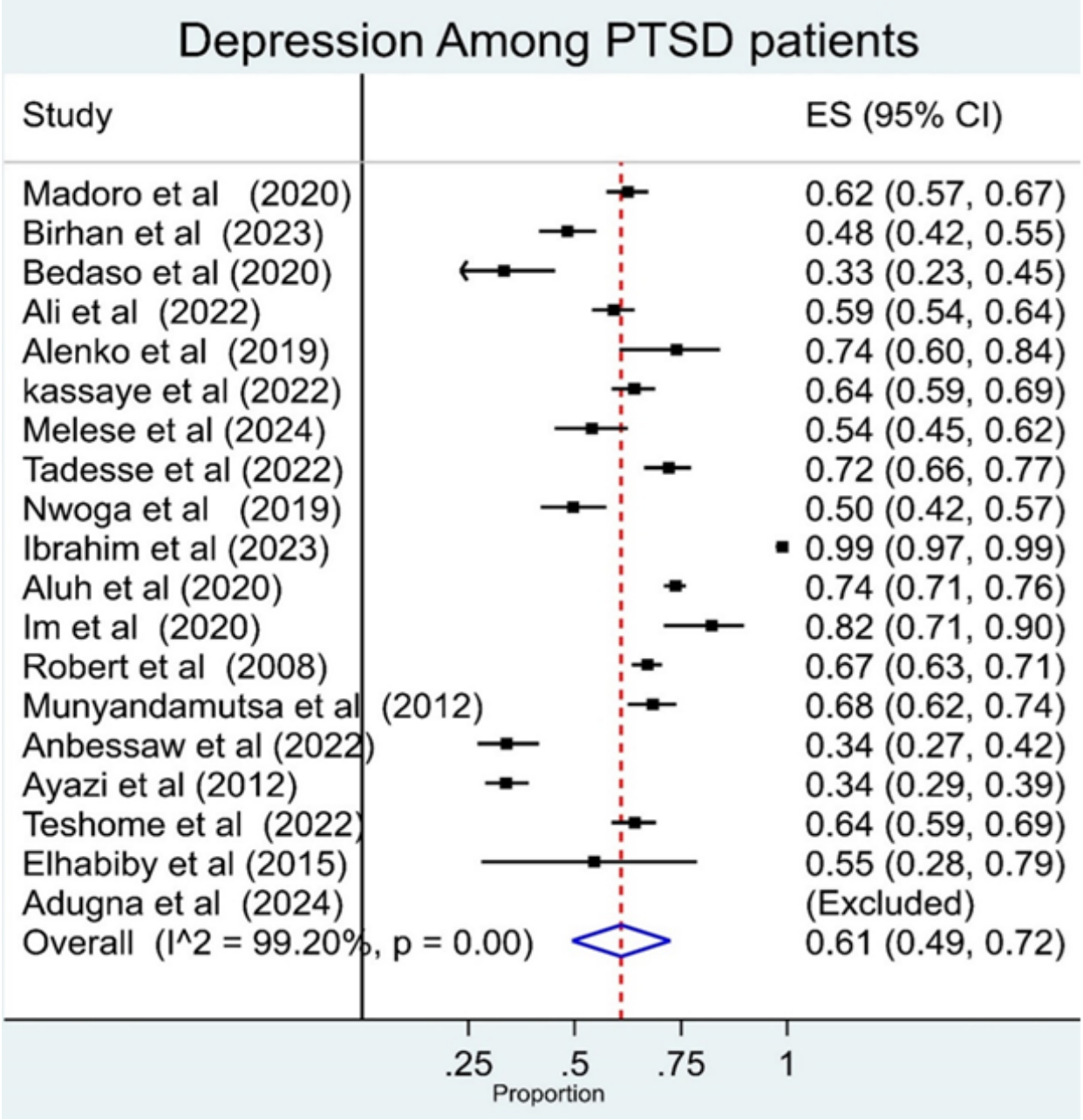


Figure 2 Forest plot of magnitude of co-morbid depression among peoples with PTSD symptoms in Africa, 2024

Subgroup analysis

Subgroup analysis was conducted to examine the magnitude of co-morbid depression among individuals with PTSD symptoms based on the year of publication (< 2018 or > 2018). The findings indicated that the prevalence of co-morbid depression among respondents with PTSD symptoms in studies published after 2018 was 62% (95% CI: 50–75).

Additionally, a subgroup analysis based on study setting revealed that the prevalence of co-morbid depression among individuals with PTSD symptoms in refugee settings was 75% (95% CI: 70–79%). According to the sub-region analysis, the prevalence of co-morbid depression among individuals with PTSD symptoms in West Africa was found to be 74% (95% CI: 52–97) (see Figures 3, 4, and 5).

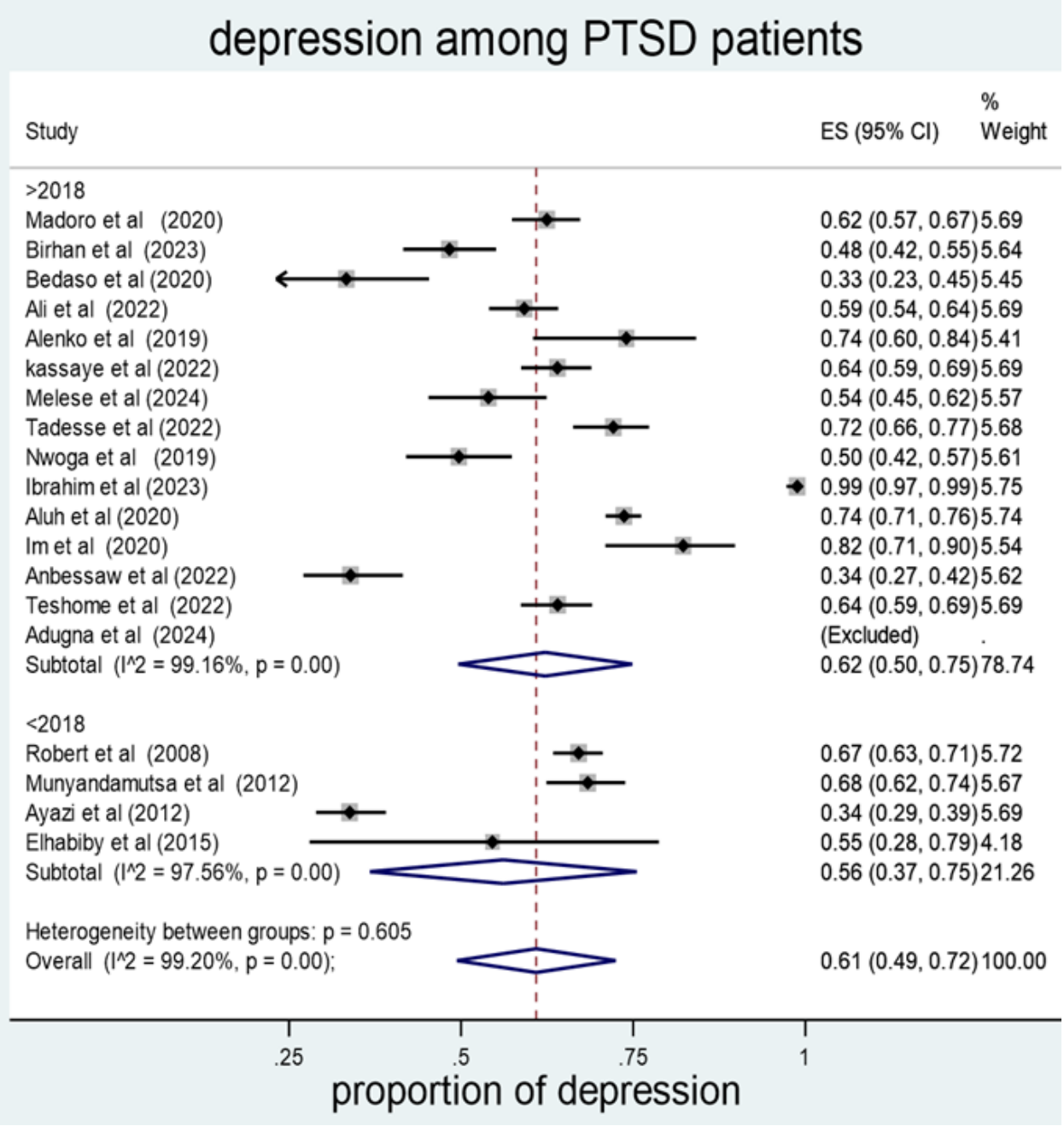


Figure 3 Subgroup analysis by year of publication for the pooled proportion of co-morbid depression among peoples with PTSD in Africa, 2024

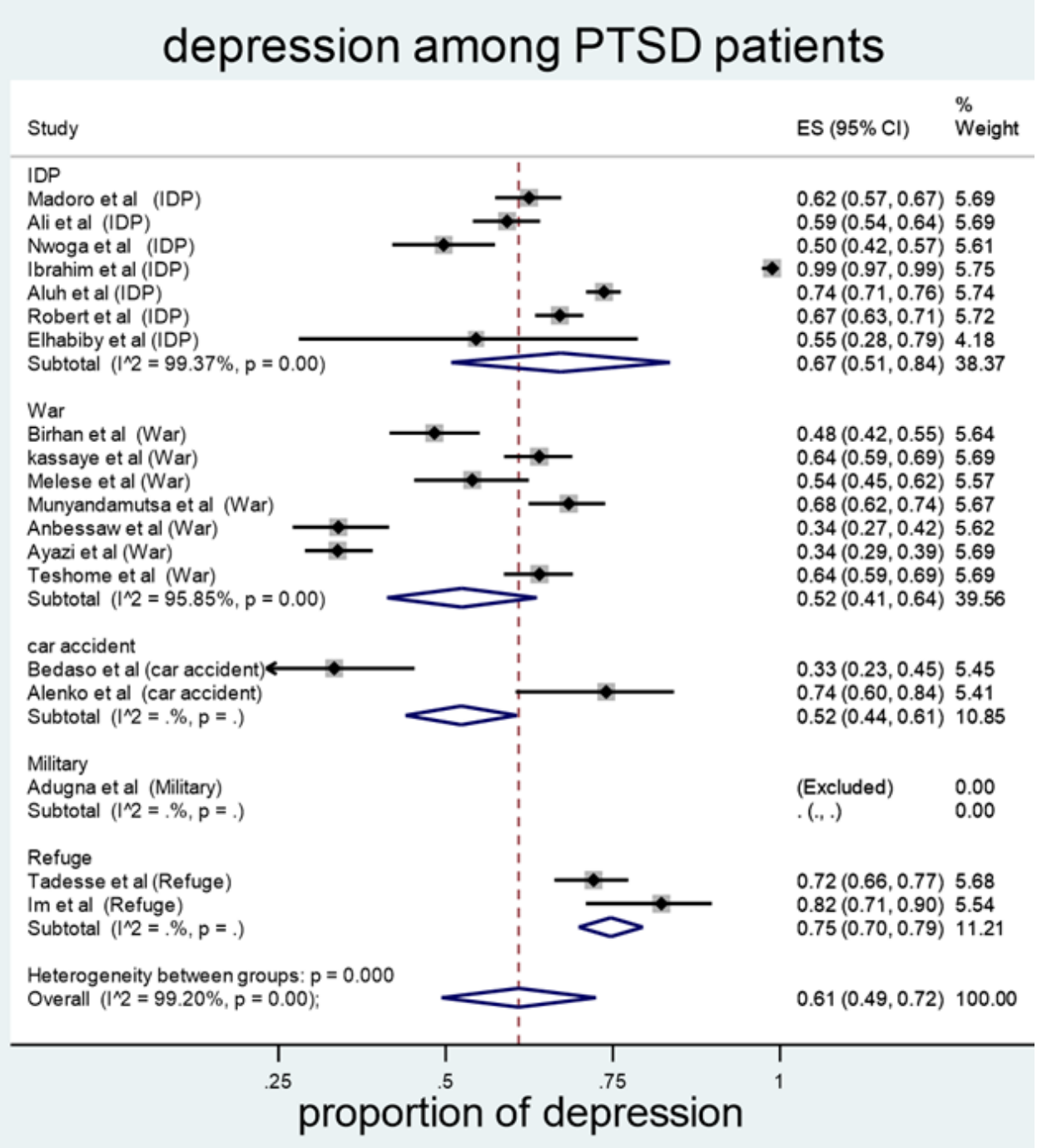


Figure 4 Subgroup analysis by study setting for the pooled proportion of co-morbid depression among peoples with PTSD in Africa, 2024.

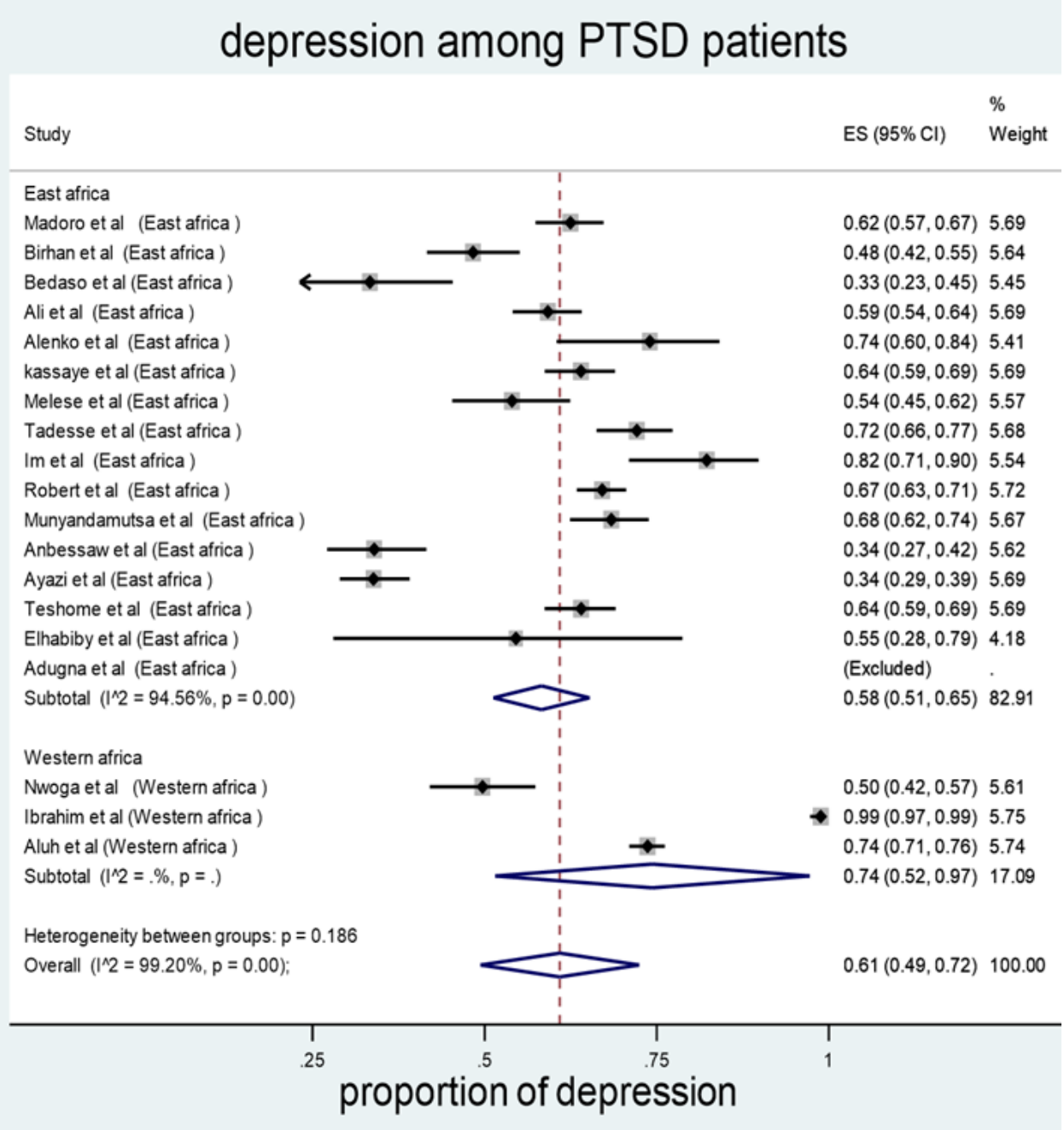


Figure 5 Subgroup analysis by subregions for the pooled proportion of co-morbid depression among peoples with PTSD in Africa, 2024

Sensitivity analysis test

A sensitivity analysis was conducted to assess the impact of each included study on the pooled estimate of co-morbid depression among individuals with PTSD symptoms. The results of the sensitivity analysis indicated that no single study significantly affected the pooled estimate of co-morbid depression in the fitted meta-analytic model (see Figure 6).

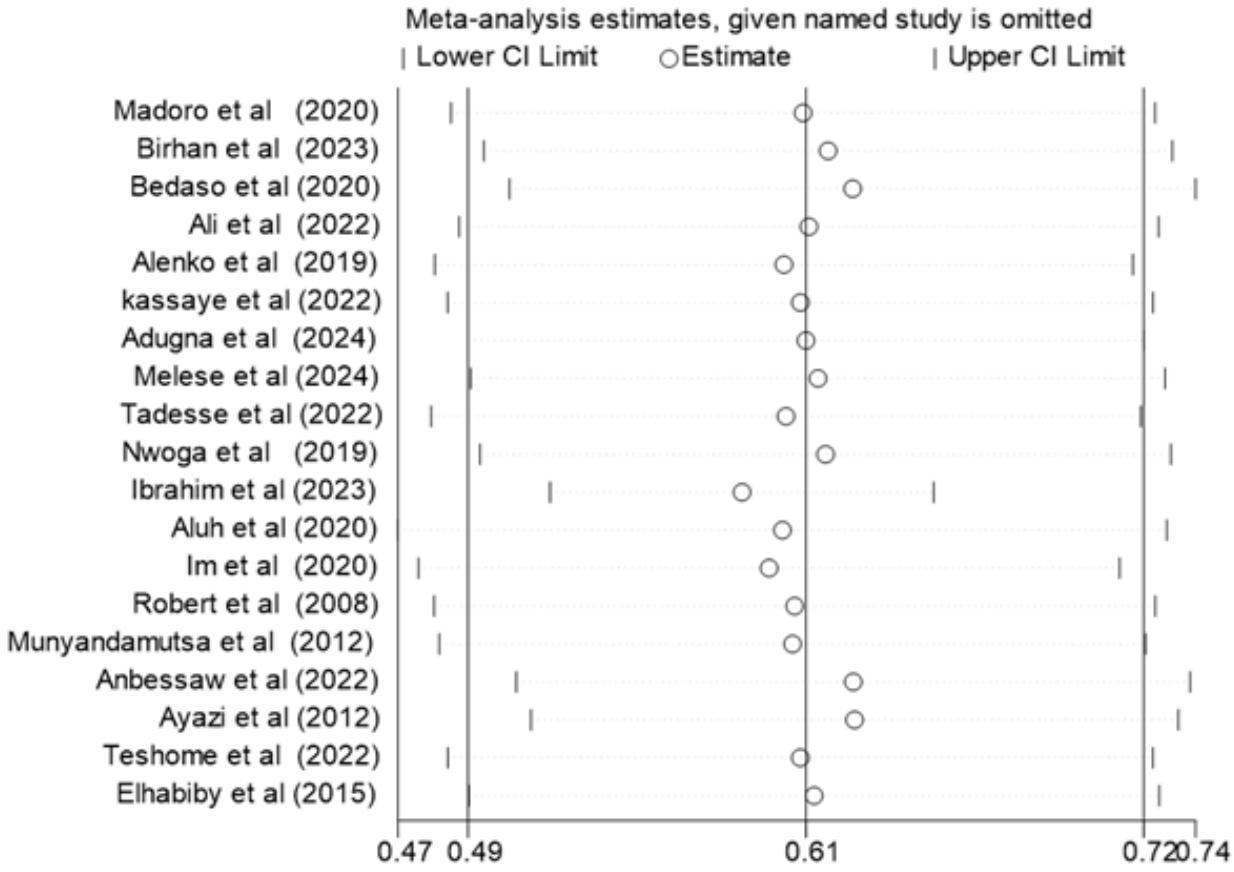
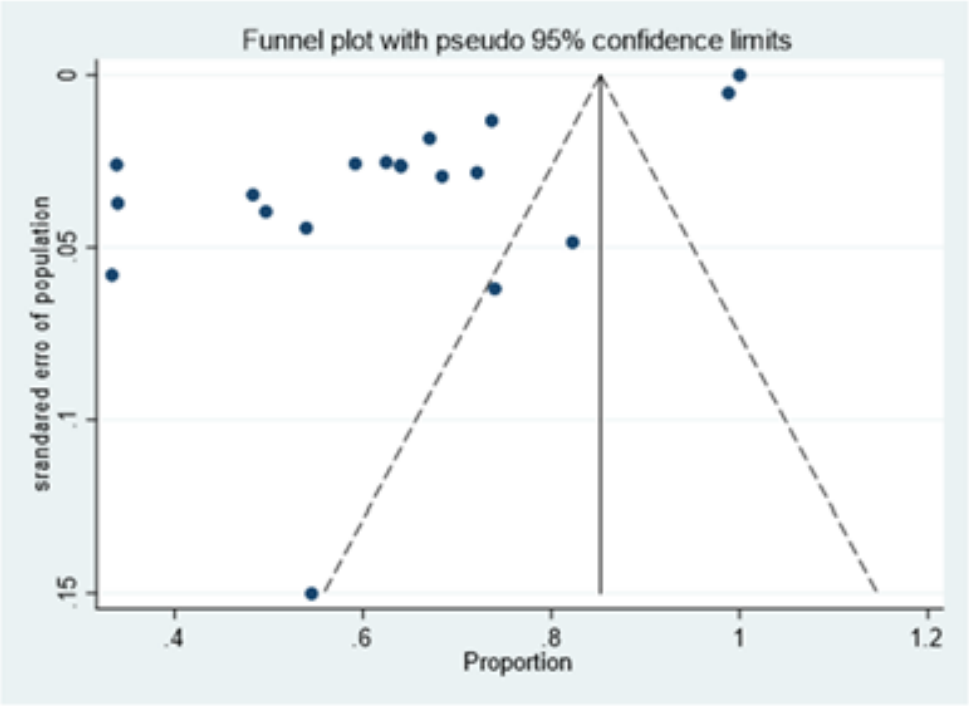


Figure 6 Subgroup analysis by subregions for the pooled proportion of co-morbid depression among peoples with PTSD in Africa, 2024

Publication bias

The funnel plot indicated that the distribution of studies was asymmetrical. However, Egger's test was not statistically significant for the estimated magnitude of co-morbid depression in relation to PTSD ($p = 0.143$), suggesting that there was no evidence of publication bias (see Figure 7).



Egger test

Number of studies = 19					Root MSE = 6.375	
Std_Eff	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
slope	1.020229	.0383521	26.60	0.000	.9389266	1.101532
bias	-13.18166	2.188501	-6.02	0.143	-17.82108	-8.542248

Figure 7 Funnel plot and Egger's test of studies reporting co-morbid depression among peoples with PTSD symptoms in Africa, 2024

4 Discussions

Post-traumatic stress disorder (PTSD) and depression are prevalent co-morbid mental health conditions that arise in individuals experiencing traumatic events. In many African countries, natural and man-made disasters, such as war, ethnic conflict, and flooding, are common triggers for these emotional conditions [47]. This study aimed to investigate depression among individuals exhibiting PTSD symptoms in Africa. The pooled prevalence estimate of co-morbid depression among people with PTSD symptoms was found to be 61% (95% CI: 49–72; I^2 = 99.2%). The analysis revealed the highest prevalence in Nigeria at 99% (95% CI: 97–99) and the lowest in Ethiopia at 33% (95% CI: 23–43). In the subgroup analysis based on the year of publication, studies published after 2018 reported a prevalence of 62% (95% CI: 50–75). Additionally, a subgroup analysis by study setting showed that the prevalence of co-morbid depression among individuals in war-affected areas was 52% (95% CI: 41–64). Furthermore, the region-based subgroup analysis indicated a prevalence of 58% (95% CI: 51–65) in East Africa and 74% (95% CI: 52–97) in West Africa. The pooled prevalence estimate of co-morbid depression among people with PTSD symptoms (61%) is slightly higher than the 52% prevalence reported in a review study conducted among the U.S. population [48]. This disparity may be attributed to the inclusion of both U.S. and international subjects and various trauma types, including combat, accidents, natural disasters, and interpersonal

trauma. Cultural attitudes towards reporting depression related to trauma also play a significant role. In Africa, ongoing conflicts, violence, and political unrest contribute to higher prevalence rates [49]. In this study, the prevalence of depression among individuals with PTSD symptoms in war-affected areas was 52%, which is higher than a study conducted in Sweden from 1989 to 2015, estimating that about 117 million individuals experience co-morbid PTSD and depression [50]. The Swedish study included 14,718 participants from 14 countries affected by war, but variations in trauma types across different countries may skew overall prevalence estimates [51]. Among internally displaced populations, the magnitude of co-morbid depression was found to be 67%. This finding is higher than a cross-sectional study conducted in Mogadishu, which reported a prevalence of 59.4% among internally displaced persons (IDPs) [52]. Variations in findings may stem from differences in study design, tools used, timing, and cultural factors affecting reporting of depression and trauma. Notably, a community-based study in Tigray, which has been significantly impacted by conflict, found a prevalence of 81.2% among IDPs [53]. This rate is significantly higher compared to similar studies in other countries, likely due to the widespread violence, forced displacement, and ongoing humanitarian crises in the region. The pooled prevalence of depression in PTSD patients, based on region, was 58% in East Africa and 74% in West Africa. Variations in prevalence rates may relate to cultural, economic, and healthcare access factors, as well as exposure to trauma and ongoing instability [54-56]. The co-occurrence of depression and PTSD exacerbates emotional symptoms, significantly affecting victims' functioning. The impacts range from job loss and social disconnection to increased healthcare costs. These effects extend beyond individual victims to their families, communities, and the broader economy [52]. Identifying the co-morbidity of PTSD and depression in Africa is crucial for designing effective intervention plans for prevention, early diagnosis, and treatment. It is essential to evaluate this co-morbidity and its impacts, along with the need for feasible treatment interventions that address both conditions. Furthermore, existing psychological interventions should be tailored to support individuals dealing with both depression and PTSD.

Limitations The findings of this study should be interpreted with the following limitations in mind: variability in the tools used to assess depression and PTSD across studies, potential sampling bias, differences in study quality, and cultural variations. While Egger's test was non-significant, this does not completely rule out publication bias, as unpublished or inaccessible studies are common in resource-limited settings in Africa. Additionally, the included studies primarily come from English-language databases, which may limit the generalizability of the findings to non-English publications.

5 Conclusion

This study highlights the significant impact of co-occurring depression and PTSD, with a staggering pooled prevalence of 61%, which greatly impairs emotional well-being and overall functioning. This critical public health issue requires immediate and concerted action from all stakeholders. Policymakers must prioritize mental health within humanitarian contexts by increasing resource allocation for mental health services, developing comprehensive policies that ensure access to culturally appropriate and affordable care, implementing stigma reduction initiatives, and strengthening social safety nets. Mental health practitioners play a crucial role by providing integrated care, ensuring adequate training for healthcare providers, developing community-based interventions, and advocating for policy change. By working collaboratively, policymakers and mental health practitioners can effectively address this urgent public health challenge, alleviate the suffering caused by co-occurring depression and PTSD, and enhance the overall mental well-being of individuals in humanitarian settings. This refined conclusion strengthens the call to action by emphasizing the necessity for immediate action, offering specific policy recommendations, highlighting the role of mental health practitioners, and underscoring the importance of collaboration among all stakeholders.

Declaration

Abbreviations

PTSD	Post-traumatic stress disorder
CI	Confidence Interval
P. Year	Publication year
CS	cross-sectional
IDP	internally displaced people
DSM-V	Diagnostic statistical manual four
PHQ	Patient health questioner
HSCL	Hopkins symptoms checklist
MINI	mini-international neuropsychiatric interview
DCT	Data collection tool
PRISMA	Preferred Reporting Items for System atic Reviews and Meta-Analyses
STATA	Data Analysis and Statistical Software
IA	Interviewer administered
SA	Self-administered
SCI	Structured clinical interview
PCL-C	Post-Traumatic Stress Disorder Check list for Civilians
PCL-5	Post-Traumatic Stress Disorder Check list for DSM-5
DSM	Diagnostic and Statistical Manual of Mental Disorder

Acknowledgments

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Data availability statement

The data set used in this review was uploaded as a supplementary material.

Supplementary Materials

Supplementary 1: Prisma checklist
Supplementary 2: Joanna Briggs Institute (JBI) tool

Ethical consideration

Not applicable

Authors 'Contributions

All authors contributed equally in drafting the manuscript, data analysis, and revising the manuscript.

Disclosure

All authors declare that they have no conflicts of interest in this paper.

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