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ABSTRACT

Background: In areas with limited and unaffordable biomedical mental health services, such as Sub-Saharan Africa, traditional healers are an incredibly well-used source of mental health care. Thus, traditional healers will continue to have a significant role in mental health care. This systematic review synthesizes the available evidence on traditional healing practices, factors to access it, and its effectiveness in improving people's mental health in sub-Saharan Africa.

Methods: The systematic review includes studies published before December 1, 2022 search date, in sub-Saharan Africa. Peer-reviewed published studies were considered for the review. The articles were searched from Pub Med, Medline, CINAHL, and Scopus. Data were extracted using Covidence software, thematically analyzed, and reported using tables and narrative reports. The methodological quality of the included papers was evaluated using Joanna Briggs Institute quality appraisal tools. The PROSPERO registration number is "CRD42023392905".

Result: Our systematic review included 51 studies for analysis. The traditional healing practices included faith (spiritual or religious), diviners' healing practices, traditional healing, and herbal medication as complementary. Objectively measured studies stated that people's mental health improved through collaborative care of traditional healing and biomedical care services. In addition, other subjectively measured studies revealed the effect of traditional healing in improving mental health problems. Human rights abuses occur as a result of some traditional practices such as physical abuse, chaining of the patient, and restriction of food or fasting or starving patients. Individual, social, traditional healers, biomedical health care providers, and health system-related factors were identified to access the traditional healing.

Conclusion: Although there is no conclusive solid evidence to support the effectiveness of traditional healing alone in improving mental health status, studies included in this review indicated that traditional healing and biomedical services collaborative care improves people's mental health.

Keywords: "Traditional healers," "mental health problems," "Sub-Saharan Africa" and "complementary medicine"

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Strengths and limitations of the review

- As a strength, the review is done according to the registered and pre-defined protocol. The strength of the current systematic review as compared to the previous systematic reviews was that the current objectives address broad issues traditional healing and it was conducted in a different setting.
- As a limitation, some studies might have missed due to non-English language studies were excluded, methodological heterogeneity among the included studies and the subjective reports of mental health outcome are prone to biases. But, we try to minimize the complex nature the traditional healing by our traditional healing treatment modality operational definition and the study setting.

INTRODUCTION

Mental health problems contribute about 14% of the global burden of disease globally and 10% in sub-Saharan Africa(SSA) (1). Globally, 25% of the world's population will experience a mental health problem at some stage in their life. Four hundred fifty million people suffer from mental or neurological disorders, and Over 150 million people suffer from depression globally(2). In low-income countries (LMICs), mental illness contributes to 12% of the Global Burden of disease as compared to 8.1% in high-income countries (HICs) (2). Anxiety disorder is the most prevalent (7.3%) mental health problem globally, which contributes 5.3% in African cultures as per the global systematic review (3), followed by depression disorder with a worldwide prevalence of 4.7% (4) and 4.1% in sub-Saharan Africa (SSA) countries (5).

According to the WHO Mental Health Action Plan 2013-2020 report, about 35-50% proportion of people with mental health problems did not receive treatment in HICs and 76-85% in LMICs. This status was even worse for people diagnosed with severe mental health problems in LMICs, where 90% of them did not receive treatment(6). When people with mental health problems are left untreated, the disorders can affect the functionality of individuals, self-care, and adherence to treatments and increase healthcare costs (7). One of the main significant factors for the gap in mental health services in many low-income settings is the lack of mental health professionals (8). However, there are a large number of traditional healers in LMICs compared to medically trained mental health professionals. For example, the ratio of traditional health professionals to the population in Africa is 1:500, while the ratio of physicians to the population is 1:40,000 (9). This paper focuses on the role, factors to access, and effectiveness of traditional healing to improve people's mental health in SSA.

A significant number of studies show that many people in LMICs visit traditional healers for mental health complaints, sometimes in addition to using biomedical psychiatric services (10, 11). Thus, traditional healers will continue to have a significant role in mental health care (12).

World Health Organization (WHO) estimates that around 80% of the population in LMICs depends on traditional healers for their health care needs (13). In high-income countries, more patients seek complementary and alternative medicine (CAM) practitioners' care (14). There is also a report that a high number of people with mental illness visit traditional healing, such as traditional holy water users account for around 60.1%, and having chronic medical illness was the main significantly associated factor among the holy water visitors (15).

Traditional healing/medicine includes knowledge and skills to practice based on the theories, beliefs, and experiences indigenous to different cultures that were used to maintain health and prevent, diagnose, improve, or treat physical and mental health problems. When traditional medicine is adopted or imported by other population healers outside their culture, it is called complementary or alternative medicine (16). Traditional healers aim to recognize symptoms of illness and often have a strong belief in supernatural causes of mental health problems (17), such as witchcraft and evil spirits, and consider the human being as being made up of physical, spiritual, moral, and social aspects. Thus, mental health care services must consider traditional healing practices, not exclude people with supernatural causes of illness (18), and the WHO Mental Health Actions Plan of 2013–2020 recommends the inclusion of traditional healing to achieve the objectives of the mental health plan (19).

Traditional healers decide on the treatment options, considering the appropriateness, type of mental health problems, the cause of the problem, the healer's knowledge of mental health problems, and knowledge of treatments type, type of specialization, and experience (18). The

treatment approaches by traditional healers to treat people with mental health problems varied according to the problem severity and the type of symptom, such as herbal treatments, holy water, spirituality to 'remove' the illness, talk therapy, and rehabilitation without standard training and as Complementary. Care administered by healers is associated with high satisfaction in many cases for individuals with mental health problems because service providers are many, easily accessible, client-centered, offer culturally appropriate treatments, healers are culturally closed to clients, which facilitates communication. Healers are respected opinion leaders in their community (20, 21).

Despite the significant use of traditional healing worldwide, it faces several challenges (22). Some arguments are raised against traditional healing. Some authors have concluded traditional healing as unhealthy and dangerous, as belonging to pre-civilization and is open to a wide range of magical or supernatural explanations (23, 24). Not with standing these arguments, due to the enormous gap to access biomedical treatment for people with mental health problems, especially in SSA, it is essential to examine the effectiveness of traditional healing on mental health and in the provision of mental health care (25, 26).

Research on traditional healing effectiveness is minimal, especially in LMICs and SSA settings, and only two systematic reviews of evidence were published on traditional healing effects in mental health care(27, 28). But, it is not in the SSA setting. The current review differs from the previous studies by its broad objective, which aims to identify the types of healing practices, the effect of traditional healing and collaborative care outcomes, and its barriers and enablers. In addition, this review includes a high number of articles, qualitative and quantitative study types, and unlimited years of publications. According to the authors, it is the first review in SSA.

More specifically, the review answers the following questions in the Context of SSA: (i) what types of interventions/approaches are practiced by traditional healers for people with mental health problems? (ii) What are the enabling and barriers to accessing traditional mental health care practices for people with mental health problems? and (iii), what is the effectiveness of traditional healing and collaborative care on mental health outcomes of people with mental health problems?

METHODS

Design, Context, and operational definitions

We developed a pre-defined protocol for this systematic review and registered it on PROSPERO registration number "CRD42023392905". This review considered primary studies conducted in sub-Saharan Africa countries (as defined by World bank) (29). The study population included in the systematic review were people with mental health problems visiting traditional healing places, people who visited at healthcare institutions, traditional healers, biomedical professionals, policymakers, religious or spiritual persons, and mental health experts. All qualitative and quantitative study designs published before December 1, 2022 systematically search date,were included in the systematic review. We have added operational definitions of key terms below.

Traditional healers was defined as healers who are based on experiences indigenous to different cultures and usually have a long history (30) and/or faith healers who appeal to the spiritual, magical, or religious explanations for the mental health problems in SSA were defined as traditional healers in our systematic review. The traditional healers' typically used holy rituals, ceremonies, talismans, divination, prayer, and physical treatments, such as herbs or massage, provided as an additional and with magical/religious meanings of healing modality(31).

Mental health problems encompass conditions commonly characterized by unexpected disturbances in a person's cognition, emotion, and behavioral control, preventing them from functioning effectively(32). The terminology biomedical was named modern, western, conventional, and allopathic in different studies reviews. We can not find an explicit justification to use either of the terms in different studies. However, a systematic review used the biomedical word in traditional and biomedical mental health care reviews in LMIC (33). Therefore, we prefer to use the terminology biomedical health service and biomedical health professionals.

Collaborative care means when traditional and biomedical services provide care to patients. Access to health care implies access to the service, a provider or an institution(34), engaging to start utilizing and adhering to the benefits, including diagnosis of the problems, treatment, and follow-up by the health service system (35). Access takes into account the abilities of individuals and populations to perceive, seek, reach, pay, and engage in healthcare (36).

Eligibility of studies and interventions

Studies reported traditional healing practices with religious, spiritual, or magical explanations of healing modalities, and herbs or massage with magical or religious meaning used to complement or if additional to spiritual treatments were included. The traditional healing was aimed at treating mental health problems of any age group in the general population, including people with physical problems comorbid with mental health problems in sub-Saharan African countries.

Studies reported that traditional healers who aimed to treat physical, neurological, substance abuse, and intellectual disorders, and healing practices aimed to treat mental health problem using herbal medication alon were excluded.

The interventions included in this review are traditional healing practices with religious, spiritual, or magical explanations of healing modalities and herbal medications with magical or religious meaning when used to complement or if the herbal medicine were an additional to spiritual treatments. Collaborative care interventions with traditional and biomedical services to improve people's mental health in sub-Saharan Africa were also included. The effectiveness of the mental health outcome was measured using objective and subjective effectiveness measurements.

Outcome measures

Effectiveness in this review refers to the objective/ subjective role of traditional healing effect reports; effectiveness outcomes that can be less objectively quantified rating scales, such as "effectiveness" and "perceived improvement," were included as they are personally and socially relevant outcomes that can be quantified (37). Effectiveness outcome measurement consists of the traditional healing and collaborative care effect to improve the mental health problems measured using objective measurement rating scales of symptoms of mental health problems by professionals and using a subjective report of clients/traditional healers' perceived effectiveness of in mental health outcome of people.

Systematic review search strategy

A systematic search strategy was conducted to select published studies for our systematic review from databases such as PubMed, Medline, CINAHL, and Scopus.. An initial research in Google scholar conducted to build the key words for the search strategy, including concept words and synonyms for (a) Traditional healers, (b) Mental Health (c) Sub-Saharan Africa were developed. The initial keywords for the systematic review were "Traditional healers," AND "mental health problem, "AND 'Sub-Saharan Africa". We developed a list of synonyms (Supplementary table 1) for a complete list of terms) for both traditional healing (e.g. religious healing, indigenous healing, diviner), mental health problems (e.g. mental illness,

specific psychiatric disorders and positive connotations of mental health problems such as mental health, mental health well-being) and a list of the 48 sub-Saharan African countries name.

Search strategies for each database were separately developed and results were produced using the key terms for a comprehensive search strategy, presented in supplementary table 2. Systematic search strategy in each database conducted search result exported to endnote to removed duplicates. Selected studies exported to Covidence and then screened the titles and abstracts in the Covidence system. Two independent reviewers (KB and HG) performed screening for title and abstract, and both reviewers independently and blindly labeled each study with reasons for inclusion and exclusion using Covidence. Then, full text screening was also conducted in the Covidence software using the inclusion and exclusion criteria. Discussions were carried out among all research team members to decide on the final articles to be included. Then, the included papers were grouped based on the systematic review's three objectives and thematic areas.

Quality of the studies

The methodological quality of the studies was evaluated using quality appraisal tools in the Joanna Briggs Institute (JBI) manual for evidence synthesis (https://jbi.global/critical-appraisal-tools), and It was appraised by two independent reviewers. Twenty-four cross-sectional surveys and mixed method papers were evaluated using the JBI quality appraisal tools for analytical cross-sectional studies (Supplementary Table 3a) for the appraisal outputs, nineteen for qualitative papers studies (supplementary table 3b), two for cohort (supplementary table 3c), two for randomized controlled trials (RCTs) (supplementary table 3d) and four for expert opinion pieces (supplementary table 3e).

The methodological quality (or bias) of the studies included in the systematic review is good as all studies scored above average in the quality appraisal output. There are four expert opinion studies with poor quality appraisal output as described above, and a study has that does not report its sample size (38). Our systematic review followed the referred Reporting Items for Systematic Reviews and Meta-Analyses PRISMA guideline (39) (supplementary table 4) .

Data Extraction and Analysis

The following information was included and extracted from the papers using summary tables: Authors, type of study, population, study setting, sample size, publication year, objective of the study, type of traditional healing, enablers & barriers of healing, outcome measurement, and outcome effect of traditional healing and collaborative care summary findings. Extracted articles were deductively grouped into three objectives i.e. studies focused on the "effectiveness" of traditional healers and collaborative care, studies focused on the type of traditional healing practices, and studies about enablers and barriers of access to traditional healing practices. Further inductive synthesize was also conducted using thematic framework analysis.

The extracted data were reviewed and analyzed thoroughly, and major themes and subthemes were developed after further reading. Then, we grouped and summarized the included studies after quality appraisal into the types of traditional healers, the traditional healing and collaborative care effectiveness, and influencing factors to access the healing practice. The main finding of the studies was reported through tables, graphs, and narrative reports. The main results of the selected studies were grouped thematically using thematic analysis (40), and grouped into two summary tables. Table 8 presents details about types of traditional healing and effectiveness outcome results, and Table 9 details the key enablers and barriers to accessing traditional healing main findings. The articles grouped under the theme of

traditional healing effectiveness and collaborative care describe different types of mental health problems, different scales to measure mental health outcomes and differences in study designs. Therefore, meta-analysis was not undertaken as heterogeneity occur due to the significant differences between studies (41).

Ethics and Dissemination

Ethical approval is not required since the review did not collect primary data.

RESULTS

Characteristics of studies:

A total of 644 search results obtained from electronic databases were imported to Endnote and then exported to Covidence where 287 duplicates were removed. We further excluded 306 articles during the title, abstract, and full-text screening: 269 through the title and abstract and 37 through the full-text screening phase. Finally, 51 studies were identified for data extraction (Figure 1).

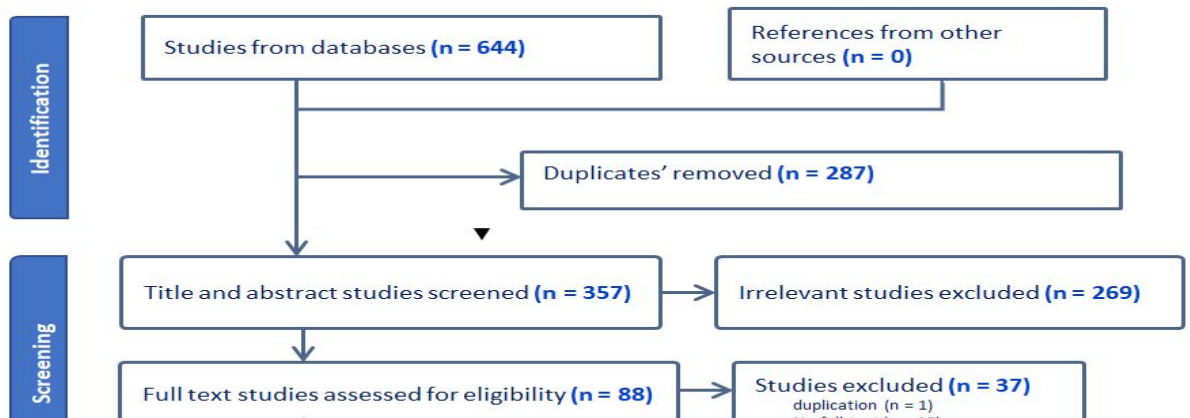

Figure 1: Flow chart of study selection for traditional healing practices for people with mental health problems, systematic review in SSA, December 1, 2022

Among the 51 studies included in our analysis, 48 were from individual countries (14 in South Africa, seven in Ghana , six in Ethiopia, five in Nigeria,five in Kenya, five in Uganda, three in Sudan, one in Burundi, one in Cameroon, one in Tanzania, one in Zimbabwe). Three were across more than one country (one in Nigeria and Ghana, one in Ghana, Kenya, and Nigeria). The publication year of the studies ranged from 1982 to 2022. In terms of study design, 18 studies were cross-sectional, 19 were qualitative, six were mixed methods, two were prospective cohort studies, and one each a cluster randomized controlled trial (CRCT) and randomized controlled trial (RCT). The other included papers were four opinion brief reports.

In terms of population, the population were an adult age group of women and men study subjects. The studies included in the current review consisted of study subjects of individuals without or with mental health problems from the community, traditional healing sites, and biomedical health institutions comprising traditional healers, religious persons, biomedical health care providers, and policymakers. In terms of content, all studies described the different types of traditional healing practices, 12 studies investigated enablers to access traditional healing practices, and nine about the barriers to accessing the traditional healing. Five studies reported about the traditional healing effect in the mental health condition of people and the outcome of effectiveness were stated using subjective and one was used objective measurement. Three objectively measured studies reported the effectiveness of collaborative care. Ten papers also identified human rights abuse and traditional healing service outcomes findings as an additional outcome of traditional healing practices. The subtopic thematic content was classified according to the three specific objectives of the systematic review.

Role and types of traditional healing

The types of traditional healing practices are summarized as faith (spiritual or religious) healing practices, diviners healing practices, traditional healing, and herbal medication as complementary and collaborative care between traditional healers and biomedical healthcare professionals among people with mental health problems in SSA (supplementary table 5).

According to some studies, patients with mental health problems visited traditional or religious healers when they developed mental health problems for the first time, and the percentage of the visitors account for about 31%,61%, 95%, 84%, respectively in different studies as cited in this reference (42-45). In addition, a finding about patients' preference for traditional healing practice reported by a study stated that families mostly decided to seek traditional treatment. The patients decided only 27% of cases (43), which may show the need to work with traditional healers and families of patients as part of the health care system's responsibility.

Faith (spiritual or religious) healing practices:

We identified nineteen studies that focused on faith healers' traditional practices and mechanisms to treat mental health problems (38, 42, 45-61). Pastor faith healers stated that they used methods of praying such as the pastor' laying hands' on clients, using prayer aids like oils and holy water, fasting, and spiritual directions (57). The common holy water treatments were ceremonies, prayer, baptism, drinking the holy water, and providing holy ash to patients (47), and spiritual remedy commonly provides psychosocial support, which includes praying, comfort, advice, hope, and social supports such as personal hygiene, wash clothes, preparing foods in addition to the holy water treatments (47, 48).

Faith healers use a variety of procedures, including prayer, drinking and bathing in holy water, exorcism, counseling, and strings of holy stones tied around wrists and ankles during their healing sessions (49). Christian and Muslim faith healers believe that praying means that

the 'devil' leaves the patient for them to be 'cured' of a mental health problem, and priests also order holy water to treat mental health problems. The diviner wizards (tanquais) prepare and provide amulets (38), and other religious leaders order clients to kill goats or dogs for sacrifices to appease "God" to forgive whatever has caused the mental health problems(50).

Muslim healers treat by putting their hand on to the patient's head and reading verses to blown onto the client's face directly, or sometimes they blow into natural products, e.g. water, honey, sugar, salt, olive oil, and then the clients add the product to their food to ingest it. In addition, the verses of the Qur'an are written on a piece of paper to be kept with the person at all times, as complementary to spiritual practices like daily prayer and constant remembrance of the Almighty (Zikr) (51).

Diviners' healing practices:

Twelve studies reported diviners, magical or witchcraft healing practitioners consulted by patients with mental health problems (42, 45, 52-61). The studies identified different divination methods of healing practices such as counseling and praying, casting out demons, witchcraft, erasure using prayers, confessing wrongdoing, laying hands on patients and praying, or providing holy ash to their patients (43, 62-67).

In one study, the majority of the divination healers (86%) reported that they possessed the skills and knowledge required to "cure mental health problems" (68). The divination healers said that the gods show them what the problem is, who is causing it, and how to heal the person (46). However, others reported that the predominant diagnosis was interviewing the patient and/or their relatives. They ask for dreams as a vital clue to identifying the underlying illness (69), and some say that they "just know" the diagnosis with no further clarification (61).

Traditional healing and herbal medication as complementary:

Traditional healers providing magical, religious and/or spiritual meanings of healing modality and using herbal medication as an additional traditional healing to treat mental health problems were also reported in some of the primary studies. Most of the different herbal treatment types were reported by the healers as "unknown names or they don't want to tell" used to treat mental disorders. The traditional healers, including spiritualists, diviners, pastors/sheiks, and other faith healers, administered herbal remedies through drinking, bathing, smoking, sniffing herbs, and induced vomiting (44, 63, 68, 70-79).

Such type traditional healers also provide psychosocial support such as conflict resolution, monetary help, employment or housing assistance, and spiritual or cultural rituals support used to treat mental health problems, spirit/Demonic possession, witch craft, and comorbid physical illness were also provided together with faith healing, divination, herbs (71, 80).

Collaborative care between traditional healers and biomedical healthcare professionals

Some papers provided details of collaboration between traditional healers and biomedical health professionals' attitudes and practices. Three articles reported about the trained traditional healers on mental health conditions, and biomedical psychiatry care collaboration improves the attitude of healers in the advantage of collaborative service and enhances referral of psychotic patients to biomedical health care services (81-83).

Spiritualists, male traditional healers, and traditional healers who had previously been hospitalized for a mental health problem were more likely to report a willingness to refer patients to hospitals (61). Some faith and traditional healers advise patients to use biomedical treatments alongside spiritual care (63, 78, 84). Traditional healers who use herbal medication as additional to faith and divination healing were less likely than other types of healers to refer patients with mental health problems to biomedical health professionals (77).

A study on biomedical health professionals' suggestion on the possibility of collaborative service provision reported that 89% of nurses perform traditional rituals and customs, 75% visit traditional healers themselves as patients, 58% of nurses agreed that traditional healers could play a positive role in mental health care (85). The nurses believe that traditional healing practice can be used together with psychiatric medication or psychotherapy (85), and Muslim general practitioner doctors acknowledged that spiritual illness exists and acknowledged the existence of a belief in witchcraft, the 'evil eye' and spirit possession and noted that collaboration with and referral to traditional healers are essential (86).

Traditional healing and collaborative care practice outcomes

The following sub-sections demonstrate the findings of studies assessing the effectiveness of traditional healing and collaborative care in mental health outcomes as primary or secondary outcomes. Eight studies analyzed the effects of traditional healing and collaborative care on improving the mental health conditions of people with mental health problems (44, 57, 70, 71, 81-83, 87) (supplementary table 5).

Effectiveness of traditional healing in mental health:

Five studies, which consisted of four subjectively measured analyses in which patients reported subjective perceived effectiveness (44, 57, 71, 83) (supplementary table 5) and one objectively measured study (87) analyzed reports, revealed the effect of traditional healing in improving mental health problems. The objectively measured and prospective cohort study measured the outcome of effectiveness using the Positive and Negative Syndrome Scale (PANSS) and at four-month follow-up under the traditional healing intervention methods, including praying and fasting at traditional healing admission centers showed the reduction of psychosis symptoms (mean score 118. 36 on admission and 69. 36 on discharge (p = .0001)) (87).

A qualitative study conducted among pastors who worked as faith healers for at least five years explained the reduction of mental health problems symptoms as signs of improvement for patients with mental health problems after both biomedical care and the spiritual care service provision (57). Another qualitative method study that interviewed traditional healers described that providing formal training for traditional healers on introduction to mental health problems and patients who seek care from trained traditional and biomedical healers results in quick recovery of patients from mental health problems (83).

A mixed quantitative and qualitative study method study explained that almost half (48%) of depressed patients' at the traditional clinics receiving traditional treatments at traditional healers clinic reported felling of improvement from their mental health problems very much, followed by 45% of the patients reporting partial progress. Patients in the biomedical psychiatry clinic settings and the same study reported similar improvement and satisfaction with the services provided. But, patients at traditional clinics had nearly three times as many visits as those at psychiatric clinics (71).

The forth cross-sectional study with subjective effectiveness measurement study stated that more than half (58%) of the patients with mental health problems reported perceived feeling better after they received the traditional healer's religious praying healing and combined with unknown herbal treatments through oral, via enema and inhaled steam treatments compared to seven (9%) who reported feeling worse and 18 (23%) who said no effect. However, 22% of the patients reported physical human rights abuse by the healers (44).

Effectiveness of collaborative care in mental health:

Three papers on collaborative care effectiveness using objective measurement of patients' outcomes (70, 81, 82) reported that collaborative care improves the mental health problems of patients with psychotic symptoms (supplementary table 5).

A cluster randomized trial study measured the outcome using the Positive and Negative Syndrome Scale (PANSS), and reported that trail participants in the intervention arm received treatments from faith healers and biomedical healthcare providers were achieved a significantly better reduction in psychotic symptoms where the total mean score of the psychosis symptoms for the intervention versus comparator group with enhanced care as usual were 53.4(sd 19.9) vs. 67.6(sd 23.3) with p< 0.0001) (81). A Prospective cohort study that uses the clinical global impression (CGI) for outcome measurement at 6-month follow-up revealed that more than 20 % symptom reduction of psychotic symptoms (OR 24.87 (95% CI - 7.03_94.84) (70) among the individuals who received both services as compared to the traditional alone or western medicine.

In another study report, participants in the intervention group who received collaborative care by a team of mental health professionals plus prayer camp care at the traditional healing site compared to the control group with enhanced care as usual or with no formal collaboration had significantly lower severity of symptom mental health problem symptoms (mean; intervention group, 1.95, (sd. = 0.57) v. control group 2.39 (sd. = 0.87); P = 0.003), a mean difference of 0.63 points (95% CI 0.59–0.87) (82). The study's effectiveness outcome was measured using the 24-item Brief Psychotic Rating Scale (BPRS) total score outcome at the 6-week follow-up.

Satisfaction with traditional healers' services:

Three studies (45, 72, 80) reported satisfaction of people with mental health problems to traditional healing services (supplementary table 5). The two studies report that patients with mental health problems are satisfied with the traditional healers' treatment and healing process services (72, 80). The third study comprises families and patients reporting satisfaction with the service they received from traditional healers (45).

In a study where people with mental health problems and traditional healers participated, most (95%) of clients were satisfied with the treatment and healing process delivered by the traditional healers (72, 80). The study included patients with mental health problems selected from biomedical psychiatric care institutions and with a history of seeking traditional healing. It reported that patients and their families said they were generally satisfied with the service they received from traditional healers. However, patients and families expressed dissatisfaction with diviners' services (45).

The common reasons for the patients ' satisfaction with tradition healers' services were patients could pay either by kind or cash, and they could pay after they got improvement; traditional healing was more affordable compared to the hospitals and easily accessible compared to hospitals (80).

Traditional healing human rights abuse practices:

In addition to presenting data on the positive effects of traditional healing on mental health outcomes and service acceptability, there were also numerous references to 'human rights abuses' occurring due to some traditional practices. Articles in our systematic review reported different human rights abuse-related issues as traditional healing service additional outcomes. The commonly mentioned types of abuse were physical abuse, such as beating the patient (43, 44, 47, 73, 87) followed by chaining of the patient (63, 83, 87), locking and restriction of visitors in a dark room (73, 87), restriction of food or fasting or starving patients (73, 87), and incorporate modern ingredients that are potentially toxic (68) (supplementary table 5).

Faith traditional healers use holy water treatments, including ceremonies, prayer, baptism and drinking of holy water, and psychosocial support such as providing personal provide aid to clients such as hygiene, washing clothes, preparing foods, and support to access psychiatric care by the clients get improvement in the site. However, holy water visitors reported Stigma,

physical and verbal abuse, and physical restraint(47). Traditional healers treat patients by praying and adding unknown name herbs to drink, bathe, and sniff. So, they chain the patients forcefully to give the medications(68). Families mostly took the treatment of the traditional healing decision of seeking traditional remedy, and the patients decided only 27% of cases. The patients were also unable to refuse the non-humane treatments (43).

Some studies (63, 83, 87) reported the better mental health outcome effectiveness of traditional healing. However, human rights abuse was reported in the same studies. Clients in a study reported of feeling better after the religious faith traditional healer's treatment. But, religious faith healers' physical human rights abuse reported such as beating and forced fasting (44). Another study reported the effectiveness of traditional healing in the reduction of psychotic symptoms. However, patients with psychotic mental health problems in the traditional healing center reported human rights abuse (87). Study on collaborative services effectiveness reports improvement of patients' mental health. In contrast, human rights abuse was reported by a study on traditional healers serving alone (83). After training on introduction to mental health problems and essential management provided to traditional healers, non-humane treatments such as chaining of patients by the healers was abolished, respect for the human rights of patients increased, referral systems to biomedical care enhanced and traditional healers' knowledge about mental health and problem improved (83).

Enablers and barriers to access traditional healing practices

In this review, we also summarized 15 studies (45, 47, 49, 53, 57, 62-64, 66, 77, 78, 80, 84-86), with 12 of them qualitative study design, 2 cross-section and one mixed method study about the key enablers and barriers of people with mental health problem to access traditional mental health healing in SSA countries (supplementary table 6). Within the barriers and facilitators subthemes, we have identified issues at different levels: individual, social, traditional healers, biomedical health care providers, and health system-related factors.

Enablers to access traditional healing practices

Traditional healers related enabling factors to access the traditional healing practices were reported by six qualitative studies (49, 57, 63, 78, 80, 84)**.** The enabling factors to access the traditional healing include pull and push factors. Push factors explain why people with mental health problems were pushed away from biomedical care, while pull factors were influencing issues pulled the people towards traditional healing. Therefore, the individual, social, traditional healers' related factors were considered as pull factors whereas mainly the biomedical health system and health professionals' related enabling factors were considered as push factors to use traditional healing practices.

Individual perception of patients indicated that patients were reported better improvement in mental health problem outcomes from traditional healing than hospital care was an enabling factor in one study. As a result, patients frequently visit traditional healing sites (80). According to the traditional healers related factors of the papers report, the enabling pulling factors to access the traditional healing practices were traditional healing service affordable, letting patients to pay later, the accessible nature of traditional healing compared to hospitals care, and traditional healers giving more time to patients for psychosocial support (80, 84). In addition, Social support such as hygiene, washing clothes, and preparing foods at traditional

healing sites motivate individuals to visit frequently the religious holy water healing services (47).

Few faith and traditional healers advise or suggest patients to use biomedical treatments alongside their healing practices for patients need to follow both services. These were the pulling enabling factors for patients to adhere to traditional healing therapies (49, 84). Traditional healers mainly recommend patients to receive both services for those with clear physiological and psychological symptoms. They justify that spiritual forces can be manifested in psychological and physiological ways (57, 78). Another enabling factor was to improve the attitude of traditional healers toward collaborative care by providing training on the nature of mental health problems symptoms, treatments and referral issues (63). The training of the traditional healers can be strengthened by biomedical health professionals who believe in the importance of educating traditional practitioners about signs and symptoms of mental illness, referral, and those who have a good attitude toward the traditional healers' support to patients (62). In two studies, nurses and general practitioner doctors good attitude on the possibility of practicing traditional healing as an additional service with biomedical health care was also considered as another enabling factor for patients to adhere to traditional healing benefits (85, 86).

The health system was another subtheme finding result related to traditional healing enabling factor; it was considered a push factor away from biomedical health care and an enabling factor to receive traditional healing in our systematic review. The papers report includes that an inadequate number of biomedical mental health service providers drive patients to prefer traditional healing (84), insufficient and expensive drug supply in biomedical health facilities (80), and using traditional service alone due to a poor integrated system of government policies or regulations for both traditional and biomedical services (53) .

Barriers to access traditional healing practices

On the other hand, barriers to accessing traditional healing practices were reported in nine papers of this systematic review (45, 53, 62-64, 66, 77, 78, 84). The eight studies study design was qualitative method and one cross-sectional study with a sample of 100 participants. The included qualitative studies sample size was adequate, and the detail was described in the methodology section of studies quality appraisal.

Individual related factor report describes that patients not improving at traditional healing sites and linked to biomedical health care by the traditional healers were reluctant to visit the hospital, and it was reported as a barrier due to creating lack of trust in the effectiveness of the traditional healing among patients family (64, 66). Families of the patients were also reported as the barriers to access the traditional healing because families act as the primary decision makers for the treatment preference of patients without their consent (64).

The barriers related to the traditional healers themselves were human rights abuses of traditional healers such as maltreatment, including forced fasting, exorcisms, which include physical beatings (sometimes resulting in death), and chaining to contain agitated patients (78, 84). Two studies also reported the poor competency and existence of 'fake' healers as challenges (53, 64). Some traditional healers understanding about the use the traditional and biomedical treatments report was that the two treatments should not be taken at the same time and it leads to stoping either of the treatments (45, 62). Not accepting the collaboration of both services at the same time was even worse among the traditional healers who use herbal medication as an additional treatment. Their reason was to believe in their practices' efficacy (63).

The other reported barriers in our systematic review were related to analyzing biomedical health professionals' barriers in accessing traditional healing services. The commonly

reported barriers associated with biomedical health professionals includes that health professionals not believing the traditional healing therapy, saying that traditional healers can't treat severe mental health conditions, considering them as dirty and having lower education status, and not being in favor of referring to traditional healers, believing that diviners charged unfair fees for treatments, not viewing them as effective and valuable, and lacking skills and abusing clients reports (53, 62, 63, 78, 84). Five studies presented that biomedical healthcare professionals are unwilling to collaborate with traditional healing and do not favor referring patients (53, 62, 63, 78, 84) because they do not view them as effective (53, 63, 78). However, some said collaboration would be possible if traditional practitioners got additional mental health care training from biomedical providers and the government regulated the clinical perspective (84).

Most health system-related factors were also reported as barriers to access traditional healing. Lack of effort to develop the relationship between the two systems of healing (62), lack of financial resources support from the health system administration, such as lack of transport cost for faith healers to provide home-based level visit community service (64) and poor referrals systems in the ground from traditional healers to clinicians and vice versa (66, 77) were among the commonly reported health system-related barriers in the included studies of this systematic review.

DISCUSSION

This paper reports the first-ever systematic review in a Sub-Saharan Africa setting to explore the traditional healing effectiveness in people's mental health. The existing definitions of traditional healing is vague to understand. For example, the WHO definition of traditional medicine defines traditional healing based on indigenous to different cultures and has a long history (31). Therefore, it is not easy to operationally define it in different countries of sub-Saharan Africa. We preferred to operationally define traditional healing based on the expected treatment modalities to treat mental health problems in SSA, mainly spiritual or religious and magical healing treatments (27, 28). This operational definition is preferred due to the evidence that the traditional healing for mental health in Africa includes the combination of spiritual, magical, and physical or herbal treatments. However, herbal remedies were given as an addition to spiritual and divination modalities of traditional healing (27, 28).

The systematic search in this review includes the 48 African countries in the sub-Saharan setting. The fifty-one reviewed quantitative and qualitative studies published in 40 years (from 1982 to 2022) were found in 11 sub-Saharan African countries. Generally, the studies focused on the traditional interventions to improve the mental health of people provided by traditional healers in sub-Saharan Africa. Two systematic review studies were previously conducted to assess the effectiveness of traditional healing in mental health outcomes (27, 28). But, the previous studies conducted in a global setting level, conducted seven years earlier, try to answer the research question for the effectiveness of traditional healing in mental health. In addition, the previous systematic reviews included the "satisfaction subjective report" in their effectiveness operational definition to assess the outcome. In contrast, it was separately reported as an additional traditional healing service outcome in our

review. The decision is due to the fear that traditional healers and their clients could interpret the word satisfaction differently.

Common types of tradition healing practices in mental health

Traditional healing practice types such as faith healing, divination, and either faith or divination with herbal medication as complementary are reported findings in SSA to treat mental health problems. Types of traditional healing reports to improve mental health in the current paper are almost similar to related topics of previous reviews (27, 28, (88-90). Our systematic review of the types of healing aligns with the previous review that showed the types of traditional healing reported by other studies were almost similar, and the cultural beliefs regarding the causation of mental health problems seemed to have influenced the type of treatment sought by the clients; if the cause of the problem was deemed to be religious, spiritual, cultural, or supernatural, the preference was treatment was traditional healing (27).

The types of traditional healing modalities are related to the belief in traditional healing and they are mainly associated with the belief of a supernatural cause of the problem by the people with a mental health problem and the healers (53, 56, 58, 73, 91). This idea was also supported by the systematic review of traditional and religious healers in the pathway to care in Africa (92). Therefore, the reason for people with mental health problems visit the traditional healing first before accessing biomedical mental health care (43-46) could be related mainly to the belief in the cause of mental health problems by patients and their families. The decision on the preference of visiting traditional healing was made by the patients themselves and by their families (44). The above information shows the importance of working with patients' families in developing the health care system, as they are the primary decision-maker stockholders.

Faith healing was the most common traditional healing type reported in the current review, which includes religious and spiritual healing to treat mental health problems (39, 43, 46-62). In contrast, herbal therapy combined with orthodox medicine was the most common type of healing in Sub-Saharan Africa, followed by faith-based healing methods to treat health problems(89). The difference is the traditional healing for the general population of any health problem verses among the population with mental health problems in SSA setting. A significant number of included studies in the current review also reported that traditional healers provide divination and faith healing as the main modality of treatment and provide unknown names of herbal medications as an additional treatment to treat mental health problems (45,71-80).

Our paper's common faith healing methods were praying, using holy water, fasting, and providing spiritual directions. Faith healing treatments commonly provide psychosocial support through praying, advice, hope, and social support such as personal hygiene, washing clothes, and preparing foods (48, 49). Christian and Muslim faith healers believe that praying means that the 'devil' leaves the patient for them to be 'cured' of a mental health problem (50). In another review report, around half of individuals with mental health problems in Africa seek care from traditional and religious before visiting biomedical health care, and the types of healing methods were similar (92).

The divination healing report of the current paper includes the practitioners' names, either diviners or magical or witchcraft, who treat patients with mental health problems (43, 46, 53-62). The divination methods of healing are almost similar to faith healing methods. The commonly reported techniques were praying, incantation, erasure using prayers, confessions of wrongdoing, providing holy ash to patients, and providing advice (44, 63-68). The diviners' knowledge of mental health problems was almost similar to that of faith healers, and the most common explanation given for the cause of mental health problems was

supernatural power (58, 68, 76, 80). The divination healers said that the gods show them what the issue is, who is causing it, and how to heal the person (47). However, others reported that the predominant diagnosis mode was interviewing the patient and/or their relatives. They ask for dreams as a vital clue to identifying the underlying illness (70), and some say that they "just know" the diagnosis with no further clarification (62).

Traditional healers advise patients to use biomedical treatments together with their spiritual care (64, 79, 85). Traditional healers who use herbal medication as an addition to faith and divination healing were less likely than other types of healers to refer patients with mental health problems to biomedical health professionals (78). Biomedical health professionals such as medical doctors and nurses suggest collaborative service with traditional healing provision by believing that the traditional healers play a positive role in mental health care (86), and some Muslim general practitioner doctors acknowledge the spiritual illness existence (87). But, some biomedical health professionals also call the traditional healers "dirty" (66).

However, despite the difference in the concept of mental health problems and its cause between the practitioners, other previous review studies recommend building agreement and interest between two practitioners to work together to improve the lives of the patients in LMICs setting (93, 94). Such understanding can be introduced by recognizing the benefit of collaborative service for the patients and by arranging training and discussion on fundamental mental health problems (93), and needs innovative approaches to enhance the collaborative service to provide community-based mental health care (92).

Complementary nature of traditional healing effect on mental health outcomes

People with mental health problems improved after receiving traditional healing and biomedical treatment collaborative health care provision in studies that measured outcome

objectively (71, 82, 83, 88). Simillary, review studies also support our finding that traditional healing is effective in treating mental health problems, especially when it is combined with biomedical treatments (27, 28) and some other studies also reported people's improved mental health through collaborative care of traditional healing and biomedical care services (58, 82-84).

From subjective reports, perceived improvement of mental health from traditional healing service was also subjectively reported by traditional healing users in the current review result (45, 58, 72, 84). In a different setting, a scoping review in Nepal also said the traditional healers' perceived impact for mild to moderate forms of psychological distress and mental health problems (95). Another previous study supported our finding that mental health problem caused by a person's sin behavior related to the religion they follow was believed by the patients and priests to be treated only by religious treatments and the priests' psychosocial support (96, 97). Therefore, the psychosocial content of the traditional healing method can help the traditional healing users with mental health problems. A systematic review conducted to compare the efficacy of psychotherapies and pharmacotherapies found almost no significant differences in short-term effectiveness between the two therapies (98).

Traditional healing types were reported to be both effective and ineffective. However, identifying the type of mental health problem and the healing type effectiveness was difficult as most of the studies didn't specify the issues, and it was impossible to define which methods are perceived as effective and which are not. Despite the limitations, many people, especially those with less severe complaints and positive expectations, reported subjective benefits from attending their chosen traditional or spiritual healers (27). Other studies have also indicated the justification for the traditional healing abilities of the placebo effect (or power of belief (99, 100). Traditional healers' psychosocial support from prayer, comfort, advice, hope, and social support, such as personal hygiene, washing clothes and preparing foods, especially in traditional treatment centers, helps to improve the people's mental health status (48, 49). The

psychosocial support benefit was supported by biomedical scientific evidence that talk therapy/counseling or psychotherapy can treat mild to moderate severity of mental health problems as the first line of treatment if appropriately provided (101).

Satisfaction with the traditional healers' treatment and healing process services was reported as an additional outcome of the studies' traditional healing effectiveness (46, 73, 81). The common reasons for patients' satisfaction with tradition healers' services were patients could pay either by kind or cash; they could pay after they got improvement, and traditional healing was more affordable compared to the hospitals and easily accessible compared to hospitals (81). In contrast, some patients were dissatisfied with traditional healing (45). A study on African indigenous healers reported that patients and families expressed dissatisfaction with diviners' services (46). The difference could be the difference in human rights abuse practice by the traditional healers, the type of traditional healing, and the severity of the mental health problem of traditional healing users.

Human right abuse of traditional healing practices in mental health

Human rights abuse practices resulted in patients as an additional outcome of traditional healing treatment and the healing practice process. The common human rights abuse practices were physical abuse (44, 45, 48, 74, 88), chaining of the patient (64, 84, 88), locking and restriction of visitors in a dark room (74, 88), restriction of food or fasting or starving patients (74, 88), and incorporate herbal ingredients that are potentially toxic (69). Even though the human right abuse of the traditional practice was not separately discussed as ours in the previous systematic reviews in mental health, the harmful treatments were included in their finding reports (27, 28(89, 93). Providing training on mental health problems introduction and their basic management at the traditional healing sites to traditional healers was a means to reduce non-humane treatments (84).

Factors to access traditional healing

Facilitators to access traditional healing practices

Patients frequently visited traditional healing, believing the benefit of traditional healing in improving mental health problems was reported as an individual enabling factor in our finding(80). Traditional healing service affordability, healers letting patients to pay later, accessible nature of traditional healing, healers giving more time to patients for psychosocial support, allowing patients to use both traditional and biomedical services side by side, and providing social support such as hygiene, wash clothes, and preparing foods were the main reasons identified as the enabling pulling factors influenced by the traditional healer themselves to access the traditional healing practices (48, 81, 85). In developing countries, the traditional healers' attractiveness could be due to the healers and the clients sharing a common culture and knowledge of mental health problems (102) and shared spiritual and religious beliefs of mental health problem causation (103).

The inadequate number of biomedical health professionals (85), the drug supply problem(81), and the poor integrated system of government regulations were the pushing factor away from biomedical health care, resulted in enabling element to prefer traditional healing (54). Alongside our finding, the scoping review report in LMICs reported that attitudinal, administrative, resource, knowledge, and treatment-related barriers were reported as common barriers in mental health service utilization as evidence to health system-related pushing factors to access traditional healing in our review (104).

Even though there is minimal evidence to discuss the influencing factors to access traditional healing, the choice of clients for traditional healers on first visit is associated with enabling factors to access the traditional healing. But, it is related to delays in accessing biomedical mental health services (92).

Difficulties in accessing traditional healing practices

Patient, family, traditional healers, biomedical professionals and health system-related factors such as patients' lack of trust in the effectiveness of traditional healing, human rights abuse of traditional healers, and biomedical professionals' unwillingness to collaborate with traditional healers were reported commonly as difficulties to access the traditional healing service in the current systematic review. Similarly, Even though it was not among people with a mental health problem, the systematic review among the general population of sub-Saharan Africa, the barrier to use or accessing traditional healing-related reports were a lack of belief in patient safety, efficacy of traditional healing, perceived lack of an appropriate dose and unregulated practitioner practice, absence of health financing for traditional health care and a perceived lack of education and training among traditional practitioners (29).

Papers with a qualitative method in our systematic review about the barriers describe that families of patients' lack of trust in the effectiveness of traditional healing (65, 67) and families act as main decision makers for the treatment preference of patients without the consent of patients' were reported as individual and social related barriers to access the traditional healing (65). Social barriers can be minimized by enhancing family and community participation to improve people's mental health as part of the health system (105) . Traditional healers related barriers were human rights abuse during the healing practice such a forced fasting, physical abuse, chaining (79, 85), poor competency of 'fake' healers (54, 65), traditional healers understanding about not accepting collaborative traditional and biomedical healing treatments (46, 63).

Biomedical health professionals related barriers to accessing traditional healing were also reported in our systematic review, including not believing on traditional healing effectiveness to treat severe mental health conditions, believing on unfair fees of traditional healing, human

right abuse reports of patients to biomedical professionals and so unwillingness to collaborate with traditional healers (54, 63, 64, 79, 85). Similar to our findings from review studies LMICs study, biomedical health professionals humiliated the traditional healers by calling them dirty to the service they provide (66). They have concerns about traditional healers healing in the patients' safety and human rights (93). Lack of effort to develop the relationship between the two systems of healing (63), lack of financial resources support (65), and poor referrals systems regulations (67, 78) were among the commonly reported health system-related barriers. Collaborating and creating joined dialogue among the professionals to interact with the same client to improve patients' lives can minimize the obstacles (66).

CONCLUSION

Despite the barriers to accessing traditional healing, many people with mental health problems continue to seek help from the different types of traditional healing such as faith healing, divination, and either faith or divination with herbal medication as complementary are reported findings in sub-Saharan Africa to treat mental health problems. Traditional healing, especially when combined with biomedical treatments as collaborative care, has been shown to be effective in treating mental health problems. Collaborative service can reduce the harmful practices in traditional healing sites through workshop discussion and training. Therefore, traditional healing methods have a role and significantly affect mental health care in sub-Saharan Africa.

RECOMMENDATIONS

Our systematic review suggests that collaborating traditional healing and biomedical mental health care helps to improve people's mental health. By minimizing the barriers to accessing traditional healing, such as maltreatment, and minimizing the pushing factors from biomedical mental health services, such as the inadequate number of biomedical mental

health professionals, drug supply, and poor integrated health system policies, we can improve the traditional and biomedical collaborative care services to improve people's mental health. Working on reducing human rights abuse by traditional healers can improve collaborative care by providing training and conducting workshop discussions with both practitioners and health system leaders. Context-specific types of healing, perceptions, and strategies of collaborative care need to be researched and identified. Context-specific effectiveness of collaborative care needs further investigation.

Competing interest

There is no competing inerest among the authors.

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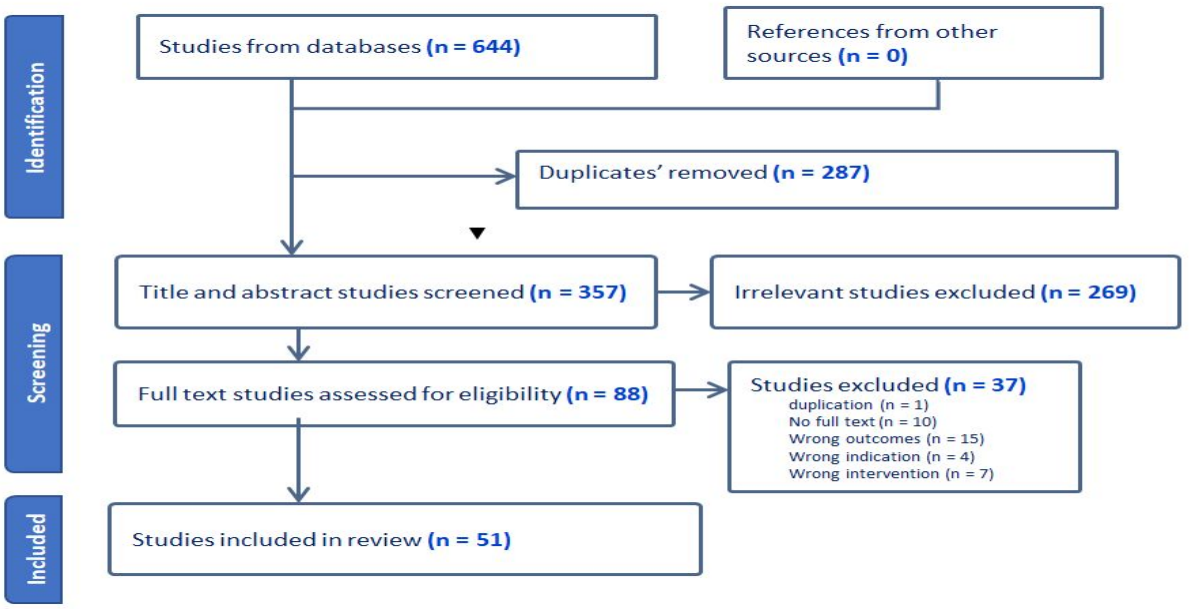

Figure 1: Flow chart of study selection for traditional healing practices for people with mental health problems, systematic review in SSA, December 1, 2022

Supplementary tables:

Supplementary Table 1: Searching terms for concepts **(a)** Traditional healers, **(b)** Mental Health **(c)** Sub-Saharan Africa

(a) Traditional healer/healing	(b) Mental health	(c) Sub-Sahara Africa
Traditional healing	Mental health problem	Sub-Saharan Africa
Religious healing	Mental health disorder	West African
Indigenous healing	Mental illness	Central Africa
Spiritual healing	Mental disorder	East Africa
Ritual healing	Mental distress	Southern Africa
Faith healing	Psychosis	Horn of Africa
Prayer Healing	Depression	All 48 sub-Saharan countries' names was included by OR Boolean Operator search.
Traditional practitioner	Anxiety	
Traditional healer	Schizophrenia	
Religious healer	Mania	
Spiritual healer	PTSD	
Faith healer	Behavioural disorders	
Diviner*	psychosocial problems	

Prayer*	Psychological distress	
Magic*	Psychological complaints	
Talismans	Psychological disturbance	
Witchcraft	Somatic complaints	
Holy water	Mental health	
	Emotional health	
	Psychological health	
	Mental hygiene	
	Mental health wellbeing	
	Psychological wellbeing	
	Psychosocial wellbeing	
	Mental health promotion	
	Common mental disorders	

Supplementary Table 2: Comprehensive search strategy for each data bases (PubMed, Medline, Scopus and CINAHL)

Supplementary table 2a: **Pub med** searching strategy and results (Date of Search run on December 1, 2022)

#	Query	Results
1 (a)	((((((((((((((((("Traditional healing"[All Fields] OR "Religious healing"[All Fields] OR "Indigenous healing"[All Fields] OR "Spiritual healing"[All Fields] OR "Ritual healing"[All Fields] OR "Faith healing"[All Fields] OR "Prayer Healing"[All Fields] OR "Traditional practitioner"[All Fields] OR "Traditional healer"[All Fields] OR "Religious healer"[All Fields] OR "Spiritual healer"[All Fields]	21,804 results

	OR "Faith healer"[All Fields] OR "diviner*"[All Fields] OR "prayer*"[All Fields] OR "magic*"[All Fields] OR "Talismans"[All Fields] OR "Witchcraft"[All Fields] OR "Holy water"[All Fields])	
2 (b)	((((((((((((((((((((((("Mental health problem"[All Fields] OR "Mental health disorder"[All Fields] OR "Mental illness"[All Fields] OR "Mental disorder"[All Fields] OR "Mental distress"[All Fields] OR "Psychosis"[All Fields] OR "Depression"[All Fields] OR "Anxiety"[All Fields] OR "Schizophrenia"[All Fields] OR "Mania"[All Fields] OR "PTSD"[All Fields] OR "Behavioral disorders"[All Fields] OR "Psychosocial problems"[All Fields] OR "Psychological distress"[All Fields] OR "Psychological complaints"[All Fields] OR "Psychological disturbance"[All Fields] OR "Somatic complaints"[All Fields] OR "Mental health"[All Fields] OR "Emotional health"[All Fields] OR "Psychological health"[All Fields] OR "Mental hygiene"[All Fields] OR "Mental health wellbeing"[All Fields] OR "Psychological wellbeing"[All Fields] OR "Psychosocial wellbeing"[All Fields] OR "Mental health promotion"[All Fields] OR "Common mental disorders"[All Fields])	1,121,026 results
3 (c)	((("Sub-Saharan Africa"[All Fields] OR "Angola"[All Fields] OR "Benin"[All Fields] OR "Botswana"[All Fields] OR "Burundi"[All Fields] OR "Cameroon"[All Fields] OR "Cape Verde"[All Fields] OR "Central African Republic"[All Fields] OR "Chad"[All Fields] OR "Comoros"[All Fields] OR "Republic of the Congo"[All Fields] OR "Democratic Republic of the Congo"[All Fields] OR "Cote d'Ivoire"[All Fields] OR "Djibouti"[All Fields] OR "Equatorial Guinea"[All Fields] OR "Eritrea"[All Fields] OR "Ethiopia"[All Fields] OR "Gabon"[All Fields] OR "The Gambia"[All Fields] OR "Ghana"[All Fields] OR "Guinea"[All Fields] OR "Guinea-Bissau"[All Fields] OR "Kenya"[All Fields] OR "Liberia"[All Fields] OR "Madagascar"[All Fields] OR "Malawi"[All Fields] OR "Mali"[All Fields] OR "Mauritania"[All Fields] OR "Mauritius"[All Fields] OR "Mozambique"[All Fields] OR "Namibia"[All Fields] OR "Niger"[All Fields] OR "Nigeria"[All Fields] OR "Rwanda"[All Fields] OR "Sao Tome and Principe"[All Fields] OR "Senegal"[All Fields] OR "Seychelles"[All Fields] OR "Sierra Leone"[All Fields] OR "Somalia"[All Fields] OR "South Africa"[All Fields] OR "South Sudan"[All Fields] OR "Sudan"[All Fields] OR "Swaziland"[All Fields] OR "Tanzania"[All Fields] OR "Togo"[All Fields] OR "Uganda"[All Fields] OR "Zambia"[All Fields] OR "Zimbabwe"[All Fields] OR "Burkina Faso"[All Fields] OR "West African"[All Fields] OR "Horn of Africa"[All Fields] OR "Central Africa"[All Fields] OR "East Africa"[All Fields] OR "Southern Africa"[All Fields])	644,637 results
3	1 AND 2 AND 3; limited with species (human), language (English)	213 results

Supplementary table 2b: **Medline/** Ovid MEDLINE(R) searching strategy and results (Date of Search run on December 1, 2022)

#	Query	Results
1.	traditional healing.mp. or medicine, traditional/	1,309
2.	Religious healing.mp. or faith healing/	199
3.	Indigenous healing.mp.	220
4.	Spiritual healing.mp.	1,358
5.	Ritual healing.mp.	205
6.	Faith healing.mp.	1,714
7.	Prayer Healing.mp.	202
8.	Traditional practitioner.mp.	1,470
9.	Traditional healer.mp.	3,320
10.	Religious healer.mp.	159
11.	Spiritual healer.mp.	143
12.	Faith healer.mp.	644
13.	Diviner.mp.	70
14.	Prayer*.mp.	3,252
15.	Magic*.mp.	15,980
16.	Talismans.mp.	168
17.	Witchcraft.mp.	948
18.	Holy water.mp.	99
19.	1-19 with or Boolean operator	**22,798**
20.	Mental health problem.mp.	22,877

21.	Mental health disorder.mp.	152,612
22.	Mental illness.mp.	167,652
23.	Mental disorder.mp.	242,594
24.	Mental distress.mp.	5,253
25.	Psychosis.mp.	79,134
26.	Depression.mp.	502,194
27.	Anxiety.mp.	303,594
28.	Schizophrenia.mp.	162,999
29.	Mania.mp.	12,649
30.	PTSD.mp.	45,416
31.	Behavioural disorders.mp.	16,274
32.	Psychosocial problems.mp.	5,963
33.	Psychological distress.mp.	29,771
34.	Psychological complaints.mp.	1,071
35.	Psychological disturbance.mp.	2,484
36.	Somatic complaints.mp.	2,939
37.	Mental health.mp.	406,108
38.	Emotional health.mp.	41,916
39.	Psychological health.mp.	30,582
40.	Mental hygiene.mp.	35,178
41.	Mental health wellbeing.mp.	2,885
42.	Psychological wellbeing.mp.	3,111
43.	Psychosocial wellbeing.mp.	792

44.	Mental health promotion.mp.	2,509
45.	Common mental disorders.mp.	5,344
46.	20- 45 with or Boolean operator	**1,248,711**
47.	Sub-Saharan Africa	**659,320**
48.	19 and 46 and 47	292
49.	limit 48 to English language and humans	**231**

Supplementary table 2c: **Scopus** searching strategy and results (Date of Search run on December 1, 2022)

#	Query	Result
1	TITLE ("Traditional healing" OR "Religious healing" OR "Indigenous healing "OR "Spiritual healing" OR "Ritual healing" OR "Faith healing" OR "Prayer Healing" OR "Traditional practitioner" OR "Traditional healer" OR "Religious healer" OR "Spiritual healer" OR "Faith healer" OR Diviner* OR Prayer* OR Magic* OR Talismans OR Witchcraft OR "Holy water") TITLE-ABS-KEY ("Traditional healing" OR "Religious healing " OR "Indigenous healing " OR "Spiritual healing" OR "Ritual healing" OR "Faith healing" OR "Prayer Healing" OR "Traditional practitioner" OR "Traditional healer" OR "Religious healer" OR "Spiritual healer" OR "Faith healer" OR diviner* OR prayer* OR magic* OR talismans OR witchcraft OR "Holy water")	85,076
2	TITLE ("Mental health problem" OR "Mental health disorder" OR "Mental illness" OR "Mental disorder" OR "Mental distress" OR Psychosis OR Depression OR Anxiety OR Schizophrenia OR Mania OR PTSD OR "Behavioural disorders" OR "Psychosocial problems" OR "Psychological distress" OR "Psychological complaints" OR "Psychological disturbance" OR "Somatic complaints" OR "Mental health" OR "Emotional health" OR "Psychological health" OR "Mental hygiene" OR "Mental health wellbeing" OR "Psychological wellbeing" OR "Psychosocial wellbeing" OR "Mental health promotion" OR "Common mental disorders") **TITLE-ABS-KEY** (***"Mental health problem"*** OR ***"Mental health disorder"*** OR ***"Mental illness"*** OR ***"Mental disorder"*** OR ***"Mental distress"*** OR ***psychosis*** OR ***depression*** OR ***anxiety*** OR ***schizophrenia*** OR ***mania*** OR ***ptsd*** OR ***"Behavioural disorders"*** OR ***"Psychosocial problems"*** OR ***"Psychological distress"*** OR ***"Psychological complaints"*** OR ***"Psychological disturbance"*** OR ***"Somatic complaints"*** OR ***"Mental health"*** OR ***"Emotional health"*** OR ***"Psychological health"*** OR ***"Mental hygiene"*** OR ***"Mental health wellbeing"*** OR ***"Psychological wellbeing"*** OR ***"Psychosocial wellbeing"*** OR ***"Mental health promotion"*** OR ***"Common mental disorders"***)	1,800,596
3	TITLE ("Angola" OR "Benin" OR "Botswana" OR "Burkina Faso" OR "Burundi" OR "Cameroon" OR "Cape Verde" OR "Central African Republic" OR "Chad" OR "Comoros" OR "Republic of the Congo" OR "Democratic Republic of the Congo" OR "Cote d'Ivoire" OR "Djibouti" OR "Equatorial Guinea" OR "Eritrea" OR "Ethiopia" OR "Gabon" OR "The Gambia" OR "Ghana" OR "Guinea" OR "Guinea-Bissau" OR "Kenya" OR "Liberia" OR "Madagascar" OR "Malawi" OR "Mali" OR "Mauritania" OR "Mauritius" OR "Mozambique" OR "Namibia" OR "Niger" OR "Nigeria" OR "Rwanda" OR "Sao Tome and Principe" OR "Senegal" OR "Seychelles"	1,029,207

	OR “Sierra Leone“ OR “Somalia“ OR “South Africa“ OR “South Sudan“ OR “Sudan“ OR “Swaziland“ OR “Tanzania“ OR “Togo“ OR “Uganda“ OR “Zambia“ OR “Zimbabwe“ OR ”Sub-Saharan Africa” OR” West African” OR “Horn of Africa” OR “Central Africa“ OR “East Africa“ OR “ Southern Africa“) TITLE-ABS-KEY (***"Angola"*** OR ***"Benin"*** OR ***"Botswana"*** OR ***"Burkina Faso"*** OR ***"Burundi"*** OR ***"Cameroon"*** OR ***"Cape Verde"*** OR ***"Central African Republic"*** OR ***"Chad"*** OR ***"Comoros"*** OR ***"Republic of the Congo"*** OR ***"Democratic Republic of the Congo"*** OR ***"Cote d'Ivoire"*** OR ***"Djibouti"*** OR ***"Equatorial Guinea"*** OR ***"Eritrea"*** OR ***"Ethiopia"*** OR ***"Gabon"*** OR ***"The Gambia"*** OR ***"Ghana"*** OR ***"Guinea"*** OR ***"Guinea-Bissau"*** OR ***"Kenya"*** OR ***"Liberia"*** OR ***"Madagascar"*** OR ***"Malawi"*** OR ***"Mali"*** OR ***"Mauritania"*** OR ***"Mauritius"*** OR ***"Mozambique"*** OR ***"Namibia"*** OR ***"Niger"*** OR ***"Nigeria"*** OR ***"Rwanda"*** OR ***"Sao Tome and Principe"*** OR ***"Senegal"*** OR ***"Seychelles"*** OR ***"Sierra Leone"*** OR ***"Somalia"*** OR ***"South Africa"*** OR ***"South Sudan"*** OR ***"Sudan"*** OR ***"Swaziland"*** OR ***"Tanzania"*** OR ***"Togo"*** OR ***"Uganda"*** OR ***"Zambia"*** OR ***"Zimbabwe"*** OR ***"Sub-Saharan Africa"*** OR ***" West African"*** OR ***"Horn of Africa"*** OR ***"Central Africa"*** OR ***"East Africa"*** OR ***" Southern Africa"***)	
4	1 AND 2 AND 3, limited to English language, subject area and country	181

Supplementary table 2d: **CINAHL** Searching strategy and results (Date of Search run on December 1, 2024)

#	Query	Result
S1	TI (Traditional healing OR Indigenous healing) OR TI Holy water OR TI (Traditional practitioner OR Traditional healer) OR TI Diviner* OR TI Witchcraft OR TI Magic* OR TI Talismans OR TI (Religious healer OR Spiritual healer OR Faith healer OR Prayer*) OR TI (Spiritual healing OR Religious healing OR Ritual healing OR Faith healing OR Prayer Healing)	3,882
S2	TI (Mental health problem OR Mental health disorder OR Mental illness OR Mental disorder OR Mental distress) OR TI Psychosis OR TI Depression OR TI Anxiety OR TI Schizophrenia OR TI Mania OR TI PTSD OR TI Behavioural disorders OR TI (Psychosocial problems OR Psychological distress OR Psychological complaints OR Psychological disturbance) OR TI Somatic complaints OR TI Common mental disorders	129,598
S3	TI (Mental health OR Emotional health OR Mental hygiene OR Mental health wellbeing OR Mental health promotion) OR TI (Psychological health OR Psychological wellbeing OR	61,091

	Psychosocial wellbeing)	
S4	s2 OR s3 (TI (Mental health problem OR Mental health disorder OR Mental illness OR Mental disorder OR Mental distress) OR TI Psychosis OR TI Depression OR TI Anxiety OR TI Schizophrenia OR TI Mania OR TI PTSD OR TI Behavioural disorders OR TI (Psychosocial problems OR Psychological distress OR Psychological complaints OR Psychological disturbance) OR TI Somatic complaints OR TI Common mental disorders) OR (TI (Mental health OR Emotional health OR Mental hygiene OR Mental health wellbeing OR Mental health promotion) OR TI (Psychological health OR Psychological wellbeing OR Psycho-social wellbeing))	183,567
S5	TI Sub-Saharan Africa OR TI West African OR TI Horn of Africa OR TI Central Africa OR TI East Africa OR TI Southern Africa	4,172
S6	TI (Angola OR Benin OR Botswana OR Burkina Faso OR Burundi OR Cameroon OR Cape Verde OR Central African Republic OR Chad OR Comoros OR Republic of the Congo OR Democratic Republic of the Congo OR Cote d'Ivoire OR Djibouti OR Equatorial Guinea OR Eritrea OR Ethiopia OR Gabon OR The Gambia OR Ghana OR Guinea OR Guinea-Bissau OR Kenya OR Liberia OR Madagascar OR Malawi OR Mali OR Mauritania OR Mauritius OR Mozambique OR Namibia OR Niger OR Nigeria OR Rwanda OR Sao Tome and Principe OR Senegal OR Seychelles OR Sierra Leone OR Somalia OR South Africa OR South Sudan OR Sudan OR Swaziland OR Tanzania OR Togo OR Uganda OR Zambia OR Zimbabwe)	51,487
S7	55 OR s6 (TI Sub-Saharan Africa OR TI West African OR TI Horn of Africa OR TI Central Africa OR TI East Africa OR TI Southern Africa) OR (TI (Angola OR Benin OR Botswana OR Burkina Faso OR Burundi OR Cameroon OR Cape Verde OR Central African Republic	55,311

	OR Chad OR Comoros OR Republic of the Congo OR Democratic Republic of the Congo OR Cote d'Ivoire OR Djibouti OR Equatorial Guinea OR Eritrea OR Ethiopia OR Gabon OR The Gambia OR Ghana OR Guinea OR Guinea-Bissau OR Kenya OR Liberia OR Madagascar OR Malawi OR Mali OR Mauritania OR Mauritius OR Mozambique OR Namibia OR Niger OR Nigeria OR Rwanda OR Sao Tome and Principe OR Senegal OR Seychelles OR Sierra Leone OR Somalia OR South Africa OR South Sudan OR Sudan OR Swaziland OR Tanzania OR Togo OR Uganda OR Zambia OR Zimbabwe))	
S8	S1 AND s4 AND s7 limited to English language and Humane (TI (Traditional healing OR Indigenous healing) OR TI Holy water OR TI (Traditional practitioner OR Traditional healer) OR TI Diviner* OR TI Witchcraft OR TI Magic* OR TI Talismans OR TI (Religious healer OR Spiritual healer OR Faith healer OR Prayer*) OR TI (Spiritual healing OR Religious healing OR Ritual healing OR Faith healing OR Prayer Healing)) AND ((TI (Mental health problem OR Mental health disorder OR Mental illness OR Mental disorder OR Mental distress) OR TI Psychosis OR TI Depression OR TI Anxiety OR TI Schizophrenia OR TI Mania OR TI PTSD OR TI Behavioural disorders OR TI (Psychosocial problems OR Psychological distress OR Psychological complaints OR Psychological disturbance) OR TI Somatic complaints OR TI Common mental disorders) OR (TI (Mental health OR Emotional health OR Mental hygiene OR Mental health wellbeing OR Mental health promotion) OR TI (Psychological health OR Psychological wellbeing OR Psycho-social wellbeing))) AND ((TI Sub-Saharan Africa OR TI West African OR TI Horn of Africa OR TI Central Africa OR TI East Africa OR TI Southern Africa) OR (TI (Angola OR Benin OR Botswana OR Burkina Faso OR Burundi OR Cameroon OR Cape Verde OR Central African Republic OR Chad OR Comoros OR Republic of the Congo OR Democratic Republic of the	19

	Congo OR Cote d'Ivoire OR Djibouti OR Equatorial Guinea OR Eritrea OR Ethiopia OR Gabon OR The Gambia OR Ghana OR Guinea OR Guinea-Bissau OR Kenya OR Liberia OR Madagascar OR Malawi OR Mali OR Mauritania OR Mauritius OR Mozambique OR Namibia OR Niger OR Nigeria OR Rwanda OR Sao Tome and Principe OR Senegal OR Seychelles OR Sierra Leone OR Somalia OR South Africa OR South Sudan OR Sudan OR Swaziland OR Tanzania OR Togo OR Uganda OR Zambia OR Zimbabwe))	

Supplementary table 3: JBI quality appraisal outputs

Supplementary table 3a: JBI quality appraisal outputs for analytical cross sectional and mixed method studies (n=24)

Covidence #	Sample criteria	Study subject & setting	Valid & reliable exposure measurement	Objective outcome condition	Confounding identified	dealing confounding	Valid & reliable outcome measurement	Appropriate analysis	Overall appraisal
#61	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#79	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#106	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#172	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Include
#234	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#243	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#252	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#300	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#318	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include

#326	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#421	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#454	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#460	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#474	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#512	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#591	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#598	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#607	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Include
#610	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#649	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#675	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#679	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#697	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#701	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include

Supplementary table 3b: JBI quality appraisal outputs for qualitative studies (n=19)

Covidence #	Philosophical perspective and methodological congruity	Methodology and objective congruity	Methodology and data collection method congruity	Methodology and data analysis congruity	Methodology and results interpretation congruity	Researcher culturally or theoretically statement	Researcher influence on research or vice versa	Participants' representation	Ethical consideration	Conclusions appropriateness	Overall appraisal
#85	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Unclear	Yes	Yes	Include
#100	Yes	Yes	Yes	No	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#103	Yes	Yes	Yes	No	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#112	Yes	Yes	Yes	No	Yes	Unclear	Unclear	Unclear	Yes	Yes	Include
#186	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#231	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#304	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Unclear	Yes	Yes	Include
#309	Yes	Yes	Yes	No	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#361	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#370	Yes	Yes	Yes	No	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#371	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#431	Yes	Yes	Yes	No	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#452	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#457	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#590	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#604	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include

#614	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#653	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#688	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include

Supplementary table 3c: JBI quality appraisal outputs for cohort studies (n=2)

Covidence #	Groups recruited from the same population	Similar measurement of exposures	valid and reliable Exposure measurement	Confounding identified	Dealing confounding	participants free of outcome at exposure time	Valid and reliable outcomes measurement	Sufficient follow up time for outcomes	follow up complete or reasons to loss to follow up described	Incomplete follow up addressed	Appropriate analysis	Overall appraisal
#58	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#601	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include

Supplementary table 3d: JBI quality appraisal outputs for randomized controlled trail studies (n=2)

Covidence #	true randomization used	treatment groups concealed	Similar treatment groups at the baselin	Participants blinded to treat	Delivering treatment blin	Assessors blinded to treatmen	Treatment groups treated identically other	Completed follow up or man	Groups analyzed to which they were randomized	Similar outcomes measurement	reliable outcome measure	Appropriate analysis	Appropriate trial design ,	Overall appraisal

			e	ment assignment	d to treatment assignment	t assignment	than the intervention of interest	aged during analysis			ment			
#267	Yes	Yes	yes	yes	yes	Unclear	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#494	Yes	Yes	yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include

Supplementary table 3e: JBI quality appraisal outputs for opinion studies report (n=4)

Covidence #	Source	Field of expertise	Population of interest	position and logic	Reference/s	Incongruence	Overall appraisal
#67	Yes	yes	Yes	Yes	Yes	No	Include
#98	Yes	Yes	Yes	Yes	Yes	No	Include
#305	Yes	No	NA	Yes	Yes	No	Include
#324	Yes	No	NA	Yes	yes	No	Include

Supplementary table 4 : PRISMA Checklist of items to include when reporting a systematic review or meta-analysis [Adapted from *Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement* ***by*** **Moher D et al, 2015**]

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
ADMINISTRATIVE					

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
RMATION					
Title					
Identification	1a	Identify the report as a protocol of a systematic review	☒	☐	
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	☐	☒	
Registration	2	If registered, provide the name of the try (e.g., PROSPERO) and registration number e Abstract	☒	☐	PROSPERO Registration number: CRD42023392905
Authors					
Contact	3a	Provide name, institutional affiliation, and e-address of all protocol authors; provide cal mailing address of corresponding author	☒	☐	
Contributions	3b	Describe contributions of protocol authors dentify the guarantor of the review	☒	☐	
Amendments	4	If the protocol represents an amendment of viously completed or published protocol, ify as such and list changes; otherwise, state for documenting important protocol ndments	☐	☐	
Support					
Sources	5a	Indicate sources of financial or other support he review	☒	☐	
Sponsor	5b	Provide name for the review funder and/or sor	☐	☐	
Role of	5c	Describe roles of funder(s), sponsor(s),	☐	☐	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
sor/funder		or institution(s), if any, in developing the ocol			
ABSTRACT Structured mary	6	Provide a structured summary: ground, objectives, methods, results, lusions and implications of key findings	☒	☐	
INTRODUCTION					
Rationale	8	Describe the rationale for the review in the ext of what is already known	☒	☐	
Objectives	8	Provide an explicit statement of the tion(s) the review will address with reference rticipants, interventions, comparators, and omes (PICO)	☒	☐	
METHODS					
Eligibility criteria	9	Specify the study characteristics (e.g., PICO, design, setting, time frame) and report acteristics (e.g., years considered, language, cation status) to be used as criteria for ility for the review	☒	☐	
Information sources	10	Describe all intended information sources electronic databases, contact with study ors, trial registers, or other grey literature ces) with planned dates of coverage	☒	☐	
Search strategy	11	Present draft of search strategy to be used least one electronic database, including ed limits, such that it could be repeated	☒	☐	
STUDY RECORDS					
Data management	12a	Describe the mechanism(s) that will be used	☒	☐	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
		anage records and data throughout the review			
Selection process	12b	State the process that will be used for ting studies (e.g., two independent reviewers) gh each phase of the review (i.e., screening, ility, and inclusion in meta-analysis)	☒	☐	
Data collection ess	12c	Describe planned method of extracting data reports (e.g., piloting forms, done pendently, in duplicate), any processes for ining and confirming data from investigators	☒	☐	
Data items	13	List and define all variables for which data e sought (e.g., PICO items, funding sources), re-planned data assumptions and ifications	☒	☐	
Outcomes and itization	14	List and define all outcomes for which data e sought, including prioritization of main and ional outcomes, with rationale	☒	☐	
Risk of bias in individual ies	15	Describe anticipated methods for assessing f bias of individual studies, including whether vill be done at the outcome or study level, or state how this information will be used in synthesis	☒	☐	
DATA					
Synthesis	16a	Describe criteria under which study data will uantitatively synthesized	☒	☐	
	16b	If data are appropriate for quantitative esis, describe planned summary measures, ods of handling data, and methods of ining data from studies, including any planned ration of consistency (e.g., I^2, Kendall's tau)	☒	☐	
	16c	Describe any proposed additional analyses sensitivity or subgroup analyses, meta-	☒	☐	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
		ssion)			
	16d	If quantitative synthesis is not appropriate, ibe the type of summary planned	☒	☐	
Meta-bias(es)	17	Specify any planned assessment of meta- es) (e.g., publication bias across studies, tive reporting within studies)	☒	☐	
Confidence in lative evidence	18	Describe how the strength of the body of nce will be assessed (e.g., GRADE)	☒	☐	
RESULTS					
Study selection	19	Give numbers of studies screened, assessed igibility, and included in the review, with ns for exclusions at each stage, ideally with a diagram.	☒	☐	
Study characteristics	20	For each study, present characteristics for h data were extracted (e.g., study size, PICOS, w-up period) and provide the citations.	☒	☐	
Risk of bias within es	21	Present data on risk of bias of each study if available, any outcome level assessment tem 12).	☒	☐	
Results of individual es	22	For all outcomes considered (benefits or s), present, for each study: (a) simple nary data for each intervention group (b) t estimates and confidence intervals, ideally a forest plot.	☒	☐	
Synthesis of results	23	Present results of each meta-analysis done, ding confidence intervals and measures of stency.	☒	☐	
Risk of bias across es	24	Present results of any assessment of risk of across studies (see Item 15).	☒	☐	
Additional analysis	25	Give results of additional analyses, if done	☐	☒	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
		sensitivity or subgroup analyses, meta- ssion [see Item 16]).			
DISCUSSION					
Summary of evidence	26	Summarize the main findings including the gth of evidence for each main outcome; der their relevance to key groups (e.g., hcare providers, users, and policy makers).	☒	☐	
Limitations	27	Discuss limitations at study and outcome (e.g., risk of bias), and at review-level (e.g., nplete retrieval of identified research, rting bias).	☒	☐	
Conclusions	28	Provide a general interpretation of the ts in the context of other evidence, and cations for future research.	☒	☐	
FUNDING					
Funding	29	Describe sources of funding for the matic review and other support (e.g., supply ta); role of funders for the systematic review.	☒	☐	

Supplementary Table 5: **Type of interventions practiced by traditional healers and effectiveness outcomes for people with mental health problems in sub-Sahara African countries, Dec 1, 2022**

Study characteristics	Study design /type	Population and selection	Sample size	Types of traditional healing practices and its characteristics	Traditional healing and collaborative outcome/effect in the mental health condition of people	Additional outcomes of traditional healing practices
Abbo C., 2011, Uganda	Prospective cohort	Psychotic patients aged 18 and above age attending traditional healing practice (Both Traditional healing and biomedical services vs only traditional healer as comparator)	132	The traditional healers treat psychosis by appeasing the spirits, divination, and herbs depending on the perceived cause.	• Patients under both traditional healing and biomedical services had symptom reduction at follow-up. Over 80% of the subjects used traditional healing and biomedical services concurrently, and concurrent use was greatest in the first 3 months of follow-up. • The outcome was measured by objective improvement of Psychosis symptoms using the clinical global impression (CGI), and Patients under both traditional healing and biomedical services had more than 20% symptom reduction at 6-month follow-ups, OR 24.87 (95% CI - 7.03_94.84).	

136/bmjopen-2023-083004 on 25 September 2024. Downloaded from

Ensink and Robertson, 1999, South Africa	Qualitative study	Randomly selected Patients from first admissions to a large psychiatric institution.	62	More than half (61%) of the patients consulted indigenous faith healers and diviners during the 12 months preceding the study.		Most of (70%)both patients with psychiatry disorder and their families reported subjectively that they were generally satisfied with the service they received from traditional healers.
Gureje, Appiah-Poku et al, 2020, Nigeria and Ghana	cluster randomized controlled trial	Clusters of 51 (26 intervention and 25 control, with 307 patients) were randomly allocated (a primary care clinic and neighboring traditional and faith healers facilities) with a one-to-one ratio, stratified by size to an intervention group or enhanced care as usual as a comparator. Aged 18 years or over are admitted at traditional and faith healing facilities for psychotic treatments of individuals recruited	307	The intervention included collaborative shared care delivered by trained traditional and faith healers and primary healthcare workers.	Follow-up at 6 months was completed for 152 (91.6%) subjects in the intervention arm and for 134(95%) subjects in the control arm. Trial participants in the intervention arm achieved significantly better primary outcome (reduction in psychotic symptoms) at 6 months than controls (Positive and Negative Syndrome Scale(PANSS) total mean score 53.4(sd 19.9) vs. 67.6(sd 23.3; adjusted mean difference: −15.01 (95% CI −21.17 to −8.84; p< 0.0001). Collaborative shared care delivered by traditional and faith healers and conventional healthcare providers for people with psychosis was effective. Scaling up improved care for this vulnerable population in low-resource settings was the study recommendation.	
Johnson, Chin et al., 2017, Uganda	Mixed methods study	Participants were patients at traditional healing and patient care providers from psychiatry and traditional clinics.	38	• Types of traditional healers include herbalists, including smoking and sniffing herbs, spiritualists, diviners, pastors/sheiks, and faith healers. • While some rely on a single approach, many employ various methods, such as herbal medications, Counseling, conflict resolution, monetary support, employment or housing assistance, and spiritual or cultural rituals.	• Almost half (48%) of the depressed patients at the traditional clinics receiving traditional treatments subjectively reported that they had improved very much, followed by 45% reporting partial improvement. Patients in both settings reported similar levels of improvement and satisfaction.	

					• Patients at traditional clinics had nearly three times as many visits than the patients at psychiatric.	
Kpobi and Swartz,2018, Ghana	Qualitative study	Pastors worked as faith healers for at least five years	10	• Pastor faith healers stated that they used prayer to identify the disorder and its causal factors and treat the problem. • The investigations included interviewing the patient and/or their family observations of their behavior. • The treatment method was predominantly prayer, such as the pastor laying his hands on them, using prayer aids like oils and holy water, fasting, 'spiritual counseling' or 'spiritual directions'.	Pastors reported that they had perceived a good effect in improving the patient's condition by providing both biomedical care and spiritual care that they provided.	
Mbwayo, Ndetei et al., 2013, Kenya	Cross-sectional	Traditional healers and their patients in the research sites were randomly selected.	364	• The traditional healers commonly to treat mental illness by combining herbal treatment with Counseling and they provide spiritual care. • Mental illness, Spirit/Demonic possession, Witch craft and physical illness were separately reported types of diagnosis by the traditional healers.		95% of patients responded that they were satisfied with the traditional healers' services
Ofori-Atta, Attafuah et al.,2018, Ghana	RCT	Participants with serious mental illness screened ICD-10 criteria and 18–65 years old. Randomization was conducted using a card sorting method and there were 71 randomized participants in the intervention group and 68 in the control group (total n = 139). Intervention group of participants receive	139	Psychotic patients who receive both traditional and modern psychiatry care had good improvement.	On the 6-week 24-item Brief Psychotic Rating Scale (BPRS) total score, participants in the intervention group had significantly lower scores (lower symptom levels) than controls (intervention group, 1.95, (s.d. = 0.57) v. control group 2.39 (s.d. = 0.87); P = 0.003), a mean difference of 0.63 points (95% CI 0.59–0.87) representing an effect size (Cohen's d) of –0.48.	

		collaborative service by a team of mental health professionals plus prayer camp care VS Control of Participants received usual prayer camp treatment (usual care including forced fasting, prayer, and the use of chain restraints).				
Shehu and Durga Rao, 2020, Nigeria	Mixed methods study	Mentally sick persons and Traditional healers were purposively selected	60	For mental disorders, clients are given herbs both in liquid and powdered form by the healer, applied on the body of the client and the clients are given this liquid form for internal use, and powder is given for inhalation and praying.		Majority of (95%) of clients were satisfied with the treatment and healing process rendered by the traditional healers.
Sorketti, Zainal et al., 2013, Sudan	Prospective follow-up cohort study	All adult inpatients with psychotic disorders receiving treatment in traditional healer centers	129	The traditional healers' intervention methods were praying, Restriction of food, chaining the patient, beating the patient, isolation in a dark room, and Restriction of visitors.	There was a significant reduction of psychotic symptoms in the Positive and Negative Syndrome Scale (PANSS) score ($p = .0001$) after around 3 months of treatment. The mean for the overall PANSS score was 118.56 on admission and 69.36 on discharge.	- Human rights abuse such as Restriction of food, chaining the patient, beating the patient, isolation in a dark room, Restriction of visitors
Yaro, Asampong et al, 2020, Ghana	Qualitative study	Traditional healers, spiritual healers, patients, and their carers and nurses using Purposive sampling	54	• After training, there was the abolition of chaining and the use of shackles by these healers, with increasing respect for the human rights of patients. • After the training on mental health conditions and enhancing referral systems, participants improved their knowledge about mental health and illness.	Collaboration service providing training on mental health conditions among healers of mental illness results in a quick recovery of patients who seek care at traditional and spiritual healers center	- Human rights abuse, such as chaining and using of shackles by these healers before the training
Zingela,	Cross-	Adult psychiatry	258	• Religious healing and combining ritual and herbal	58% of the clients reported feeling better	Human rights abuse,

van Wyk et al., 2019, South Africa	sectional	patients at psychiatric hospitals and community psychiatry settings.		treatments through oral, via enema, and inhaled steam. • 31% of the psychiatry patients had consulted a healer in the past year	after the healer's treatment compared to seven (9%) who reported feeling worse and 18 (23%) who said no effect.	such as clients reported physical abuse (22%)by the healers
Asher, Birhanu et al, 2021, Ethiopia	Qualitative study	Individuals attended the psychiatry service at holy water site	174	• Holy water treatments were ceremonies, prayer, baptism, and drinking of holy water and psychosocial support such as providing personal support to clients such as hygiene, wash clothes, preparing foods and support to access psychiatric care by the clients get improvement in the site • Stigma, physical and verbal abuse towards holy water users and physical restraint by the attendants was observed.		Stigma, physical and verbal abuse towards holy water users and physical restraint by the attendants was observed.
Esan, Appiah-Poku et al, 2019, Three sub-Saharan African countries (Ghana, Kenya and Nigeria)	Cross-sectional	Traditional healers who provide the treatment of mental disorders	693	• The types of traditional healers were Diviners, Christian faith healers, Islamic faith healers, herbalists and faith healers, and Witchcraft. Fetish practices, Rituals, Orthodox medications, Prayer, and fasting are the common interventions the healers provide. • Most of them (> 70%) treat both physically and mentally ill persons. • Non-humane treatments such as flogging, locking patients up in cages, keeping patients in over-crowded rooms, preventing patients from having their baths, forcing patients to go on fasts (or starving patients), and restricting patient movements through shackling, beating, and sleeping on bare floor were reported.		Non-humane treatments such as flogging, locking patients up in cages, keeping patients in over-crowded rooms, preventing patients from having their baths, forcing patients to go on fasts (or starving patients) and restricting patient movements through shackling, beating and sleeping on bare floor were reported.
Omer and Mufaddel, 2018, Sudan	Cross-sectional	Patients at outpatient clinic were asked about previous history of seeking treatment from traditional healers.	131	• There were two common traditional methods, including incantation and erasure (locally known as Al-mihaya) each representing 43.2% of all methods and treatment with oil (sesame or olive oil), phylacteries (locally known as hijab) and beating. • 84% of patients reported a previous history of seeking traditional treatment for psychiatric illness before the modern treatment. • Families mostly decided to seek traditional treatment and		Human right abuse such as beating.

				the patients took the decision in only 27% of cases.		
Sorsdahl, Flisher et al., 2010, South Africa	Qualitative study	Traditional healers who attended a workshop on mental health advocacy selected by Convenience sample	50	• They give herbs (unknown names) to drink and bathe for all and to sniff for half of them, together with praying for the spiritual causes of mental illness. • Forceful methods, such as tying them up with ropes and chains, were described (34%), and they incorporate modern ingredients that are potentially toxic. • Most of the healers reported possessing the skills and knowledge required to "cure a mental illness" (86%).		Human rights abuse such as Forceful methods such as tying them up with ropes and chains were described and they incorporate modern ingredients that are potentially toxic.
Abbo C. etal, 2009, Uganda	Cross-sectional	Patients attending traditional healers for psychological distress selected consecutively	387	The traditional healers use various methods that include appeasing the spirits, divination, and herbs to treat psychosis.		
Abiodun OA, 1995, Nigeria	Brief report	All psychiatry patients (ICD-10) age 16 and older who attended the psychiatric clinic of general hospital.	238	• The traditional healing practices include herbal remedies, ritual cures, fasting, prayer, and holy water from religious healers. • Family members played essential roles in 87 % of patients about the type of practitioner to consult. • 95% of patients reported that they had first contacted traditional or religious healers when they developed a mental illness.		
Adewuya A. etal , 2009, Nigeria	Cross-sectional	General population selected from communities through a multistage probability sampling technique	2,078	• The preferred treatment option was spiritual healers by 41% of respondents followed by 30 % of them endorsed traditional healers practice. • Female gender and lower education were correlated with visiting spiritual and traditional healers practice preference		
Ae-Ngibise K. etal , 2010, Ghana	Qualitative study	Participants of policy makers, health professionals, users of psychiatric services, teachers, police officers, academics, and religious and traditional	120	Traditional and faith healer mechanisms were reported, such as using prayers, fasting and anointing oils or holy water, Confessions of wrongdoing, and psychosocial support as an additional		

		healers were included				
Akighir, A. , 1982, Nigeria	Opinions	The general population between the ages of 18 and 30 years old from rural or urban areas and selected randomly	80	Most subjects tend to believe strongly in mystical causes of madness and also felt that traditional healers have a vital role to play in the treatment of Psychiatric disorders.		
Akol, Moland et al, 2018, Uganda	Qualitative study	Traditional healers of people with mental illness selected Purposively	20	Most Traditional healers believed that traditional medicine is the only effective treatment for mental ill-health. For example, several traditional healers cited the inability of clinical providers to expel maggots from patients' brains.		
Ally and Laher, 2008, South Africa	Qualitative study	Muslim Healers from community using convenience sampling	6	Muslim healers treat by putting their hand on to the patient's head and reading verses and then blowing onto the client and/ or into natural products, e.g. water, honey, sugar, salt, olive oil, and the person is to use them when cooking, or they are to be ingested by the individual. Also, the verses of the Qur'aan are written on a piece of paper to be kept with the person at all times, and spiritual practices like daily prayer and constant remembrance of the Almighty (Zikr).		
Appiah-Poku, Laugharne et al, 2004, Ghana	Cross-sectional	New Patients presenting to Psychiatry services	322	Most patients with mental health problems seek help from religious (mostly Christian) pastors and traditional healers before approaching health services. The role of Christian pastors has been increased rather than traditional healers.		
Burns, Jhazbhay et al, 2011 Soth	Cross-sectional	First-episode psychotic patients (16 years to 45 age) visited the Hospital	54	38.5% had seen a traditional healer before making contact with formal mental health services and 49% of the psychotic patients attributed their illness to spiritual/traditional reasons.		

Africa						
Campbell-Hall, Petersen et al, 2010, South Africa	Qualitative study	Stakeholders of the formal health sector, NGO sector, traditional practitioners and mental health service users recruited from district clinics	90	• All participants generally felt that traditional practitioners have a role to play in the provision of mental health care, especially in terms of Counseling and psychological support for common mental health problems and could give them and their families strength in recovery. • Two-thirds of health service users reported having additionally used and first approached the services of traditional or faith practitioners		.
Filiatreau, Ebasone et al., 2021, Cameroon	Cross-sectional	>21 of age with symptoms of a mental disorder initiating care for HIV in Health Facilities	161	50% of HIV patients with mental illnesss beginning HIV care receive care from an informal source, 17% of individuals reported ever seeking help from a traditional healer, and 40.4% from a religious leader.		
Girma and Tesfaye, 2011, Ethiopia	Cross-sectional	Psychiatry patients attending the outpatient department of the psychiatry clinic at Specialized Hospital recruited Consecutively	384	• Traditional healers were the first place where help was sought for mental illness in this population. • 30.2% of the patients sought traditional treatment from either a religious healer or an herbalist (20.1%) before they came to the hospital.		
Irankunda and Heatherington, 2017, Burundi	Cross-sectional	Participants were drawn from general patients awaiting primary health care services.	198	• Participants receive spiritual treatment that provides social support from prayer, comfort, advice, and Hopes.. • The majority (88%) of respondents expected spiritual treatment to work.		
Jacobsson and Merdasa, 1991,	Qualitative study	Psychiatry patients, health workers in hospitals and from, Coptic priests, Muslim sheiks, and other traditional healers	Not reported	Christian and Muslim leaders Pray and the devil leave the patient and priests also order holy water to treat mental disorders. The diviner wizard (tanquais) prepare and provide amulets		

Ethiopia		interviewed				
Jaiyeoba, 1988, Nigeria	Opinions	NA	NA	Goats or dogs are killed for sacrifices to appease "God" to forgive whoever has caused the illness, holy water bathing, and praying practices to treat mental illness.		
January and Sodi, 2006, Zimbabwe	Qualitative study	Faith healers from Apostolic churches using a procedure of snowball sampling	21	Faith healers use a variety of procedures like prayer, holy water to drink and bathe, Exorcism, Counseling, and holy stones string tied around wrists and ankles during their healing sessions.		
Kahana, 1985, Ethipia	Brief report	NA	NA	Zar is usually believed to be caused by the possession by Zar spirits and to be treated by Zar doctor. If believed to be caused by Evil Eye , they referred to "Tanqway" (the sorcerer treats by exorcism) and to the "dabtara" (amulet-writer or "ktab").		
Kahn and Kelly, 2001, South Africa	Mixed methods study	Nurses working in Psychiatric Hospital	93	• Most nurses perform traditional rituals and customs (89%) and visit traditional healers as patients (75%). • 58% of nurses agreed that traditional healers could play a positive role in mental health care, and they conclude that traditional healing as an adjunct to psychiatric medication or psychotherapy.		
Kpobi and Swartz, 2018, Ghana	Qualitative study	Indigenous healers selected through snowballing	8	• The most common means of treatment to get relief was through confession. So, such people need to confess and then get some relief. • The traditional healer said that the gods show us what the problem is, who is causing it and how to heal the person".		
Kpobi and Swartz, 2019, Ghana	Qualitative study	Muslim Traditional Healers vselected using snowballing	10	• All Muslim Traditional Healers reported that the primary mode of healing was through the words of the Qur'an using Verses, and all of these processes were done to banish or repel the evil spirit. • The predominant mode of diagnosis was through interviewing the patient and/or their relatives, and they asked for dreams as a vital clue to identifying the underlying illness.		

Mohamed-Kaloo and Laher, 2014, South Africa	Qualitative study	Muslim general practitioner(GP) doctors in private practice use a convenience sample	10	• The Muslim GP Doctors reported that patients regularly consulted traditional healers such as maulanas (Muslim clergy) and sangomas (African traditional healers). • The majority of the Muslim GP Doctors acknowledged that spiritual illness exists and acknowledged the existence of a belief in witchcraft, the 'evil eye' and spirit possession and noted that collaboration with and referral to traditional healers are important		
Musyimi, Mutiso et al, 2018, Kenya	Qualitative study	Traditional healers, faith healers and clinicians selected through simple random sampling	36	• Among faith healers, the commonly used methods varied from Counseling and prayer, casting out demons, and conducting home visits to offer additional help. • All these professionals' differences influenced the process of managing patients with mental illness.		
Musyimi, Mutiso et al, 2017, Kenya	Cross-sectional	Adult patients consulting the trained THPs were selected Using a systematic random sampling technique	100	All adult patients seek care from traditional healers such as diviners and herbalists or faith healers, who use treatments such as prayers, laying hands on patients, or providing holy water and ash to their patients.		
Musyimi, Mutiso et al., 2016, Kenya	Qualitative study	Faith healers and traditional healers are selected Randomly	30	Traditional and faith healers treat using praying commonly and refer patients to the clinic, especially in cases of severe mental illnesses and for medical problems.		
Musyimi, Mutiso et al., 2017, Kenya	Cross-sectional	Adult patients with mental health problems seeking care from traditional and faith healers	433	Among the visitors of traditional and faith healers, 71% of them were depressed, and 65.5% of them were under the treatment of faith healers.		

Ngoma, Prince et al., 2003, Tanzania	Cross-sectional	Adult Patients from PHCs and from THCs were selected using consecutive sampling	354	• In traditional healer centers, diviners, herbalist-ritualists, Herbalists (steam baths, and mineral and animal extracts) and faith healers manage patients. • The prevalence of common mental disorders among THC patients (48%) was doubles that of PHC patients (24%).		
Shange and Ros, 2022, South Africa	Qualitative study	Traditional healers treat people with mental health problems	14	Healers are used to treat mental illness, including removing evil spirits through washing, steaming, induced vomiting, and administering herbal remedies.		
Sorketti, Zainal et al., 2012, Sudan	Cross-sectional	All inpatients who were diagnosed by the traditional healer to have mental illness and admitted to the healing center	405	More than half (52%) of participants said they had **not** previously visited any mental health facilities because they did not know about the psychiatry service and mental health services were not helpful or useful for them.		
Sorsdahl, Stein et al., 2010, South Africa	Qualitative study	Traditional healers practicing who attended workshops on educating traditional healers on the nature of the mental illness, signs and symptoms of depression treatments and referral mechanisms selected using a Convenience sample	24	The traditional healers' characteristics were diviners with diagnostic powers, both a diviner and herbalist.		
Sorsdahl, Stein et al., 2013,	Cross-sectional	Traditional healers selected using convenience sample	100	Most of this study's healers (75%) can be classified as diviners (who have diagnostic powers). A minority can be classified as herbalists (14%) who dispense herbal medicines and faith healers (5%).		

South Africa						
Sorsdahl, Stein et al., 2009, South Africa	Community based survey	Participants with mental disorder diagnoses for mood, anxiety, and substance use disorders.	3651	• Traditional, religious and spiritual were the healers. • The use of traditional healers in the full sample was predicted by older age, black race, unemployment, lower education, and having an anxiety or a substance use disorder.		
Teshager, Kerebih et al, 2020, Ethiopia	Cross-sectional	Outpatients from the psychiatry clinic treatment selected consecutively	423	Around 71% of the patients sought help from religious healers for the first time before they visit psychiatry care at the hospital, and 2.6% of them from traditional healers.		
Teuton, Dowrick et al., 2007, Uganda	Qualitative study	Indigenous healers, religious healers and psychiatrists using snowball technique	25	The indigenous, religious, and allopathic healers' attitudes towards other parts of the healing context varied.		
van der Watt, Menze et al, 2021, South Africa	Mixed methods study	Traditional healers recruited using the snowball method.	118	• The traditional healers identify themselves as "sangoma" (holy man or women), Healer, spiritualists and Herbalist. Most of all the types of healers' said "Just know" as the diagnosis mode. • Spiritualists, male THs, and THs who had previously been hospitalized for a mental disorder were more likely to report a willingness to refer patients to biomedical hospitals.		
van der Zeijst, Veling et al.,	Mixed methods study	Traditional health practitioners, formal health practitioners, patients and relatives	27	• According to participants, when ancestors are calling someone to become a THP, this person is possessed by ancestral spirits. • The result shows that the ancestral calling to become a traditional health Practitioner might announce itself with		

2021, South Africa		were recruited		symptoms of mental illness, including unusual perceptual experiences, for which some participants consider mouthwash (training to become a traditional health Practitioner) as the only effective cure.		
Yeshanew, Belete et al., 2020, Ethiopia	Mixed methods study	Adult people in the town at household using multistage sampling technique	964	• Habitual healers and herbal treatments, including holy water, are reported as common healing practices. • Of respondents who agreed that mental illness needs treatment, about 44.1% had the intent to seek help from traditional medical practice.		

Supplementary Table 6: Enablers and barriers of traditional healing practices for people with mental health problems in sub-Sahara African countries, Dec 1, 2022

Study characteristics	**Study design /type**	**Population and selection**	**Sample size**	**Enablers** to traditional healing practice	**Barriers** to traditional healing practice
Ae-Ngibise K. etal , 2010, Ghana	Qualitative study	Policy makers, health professionals, users of psychiatric services, teachers, police officers, academics, and religious and traditional healers were recruited	120	THs related – • The availability, accessibility, and affordability nature of traditional healing • Faith healers' understandings of mental illness cause consistency with cultural explanation. • Few faith and traditional healers advise patients to use conventional treatments alongside spiritual care. Health system related- • Inadequate number of conventional mental health service providers • Biomedical services were frequently described as expensive	THs related – • Human rights abuses committed by traditional healers were reported, such as 'maltreatment', 'neglect',, and exploitations, including forced fasting, exorcisms which include physical beatings (sometimes resulting in death), chaining to contain agitated patients, and forced confinement. • Traditional healers doubt the value of 'conventional' psychiatric treatments effectiveness. For example, traditional healers remarked that 'conventional' medical practitioners treat the symptoms, not the causes. HPs related- • Few biomedical practitioners emphasized that collaboration would only be possible if traditional practitioners were 'educated', 'trained', and 'regulated from a clinical perspective. • Some biomedical professionals believe not to refer patients with

					severe mental health conditions. - Nurses revealed that positive interactions with different traditional healing systems result in strong follow-up of modern medicine.
Akol, Moland et al, 2018, Uganda	Qualitative study	Traditional healers with mental illness Purposively selected	20	Health system- - The government is taking the lead in integrating them with formal health systems - laws and policies, increased recognition or advocacy to community	THs- - Traditional healer peers' poor competency - Traditional healers did not trust biomedical practitioners' skill HPs- - All traditional healers believed that clinical providers are not willing to collaborate with traditional healers because they consider them as dirty and have a lower education status.
Asher, Birhanu et al, 2021, Ethiopia	Qualitative study	Individuals attended the psychiatry service at holy water site	174	Health system- - To Improve collaboration between spiritual and psychiatric care, mental health services provided at the holy water site clinic - Social support such as hygiene, washing clothes, preparing foods, and support to access psychiatric care provided by the trained and improved clients at the holy water site. - A training manual was developed for holy water priests and attendants adapted from a manual for support workers of homeless people with mental illness in Addis Ababa (Fekadu et al., 2014). The training changed their attitudes towards psychiatric treatment	
Campbell-Hall, Petersen et al, 2010, South Africa	Qualitative study	Formal health sector stakeholders, NGO sector, traditional practitioners and mental health service users recruited	90	HPs- - Health workers believe in the importance of educating traditional practitioners about signs and symptoms of mental illness and referral. - All Health workers believed that traditional practitioners could support patients.	THs- - Some THs opinions about the use of traditional and biomedical treatment said the two medicines should not be taken at the same time. HPs- - Health workers reportedly did not prevent mental health patients from consulting traditional practitioners but mainly were not in favor of referring to traditional healers Health system- - lack of a working relationship between the two methods of healing in the ground

Ensink and Robertson, 1999, South Africa	Qualitative study	Random sample of 62 patients was selected from first admissions to a large psychiatric institution.	62		Social- - transport costs as many families traveled far to consult diviners with good reputations THs- - Diviners charged the highest fees for treatment as compared to modern psychiatry care.
January and Sodi, 2006, Zimbabwe	Qualitative study	Faith healers using snowball sampling	21	THs- - More than half (66.6%) of the faith healers favored collaboration with Western-trained healthcare providers.	
Kahn and Kelly, 2001, South Africa	Mixed methods study	Nurses working in Psychiatric Hospital	93	HPs- - The study concludes that the nurses would not endorse traditional healing as a replacement for psychiatric medication or psychotherapy but as an **adjunct** to these.	
Kpobi and Swartz, 2018, Ghana	Qualitative study	Pastors worked as faith healers	10	THs - - Pastor faith healers recommend patients receive biomedical care for the physiological effects of their illness as spiritual forces may manifest in psychological and physiological ways.	
Mbwayo, Ndetei et al., 2013, Kenya	Cross-sectional	Traditional healers and their patients randomly selected	364	Individual- - Patients visit traditional healing than hospitals because Patients report Poor outcomes from hospital care. THs – - Traditional healers give more time to patients, - Traditional healers could let patients pay later - Traditional healing was more affordable compared to	

				hospitals Health system- ▯ Patients report inadequate drug supply	
Mohamed-Kaloo and Laher, 2014 South Africa	Qualitative study	Muslim general practitioners (GPs) by convenience sample	10	HPs- ▯ GPs noted that collaboration and referral to traditional healers are essential for faith healing.	
Musyimi, Mutiso et al, 2018, Kenya	Qualitative study	Traditional healers, faith healers and clinicians, through simple random sampling	36	Health system - ▯ Existence of rules and regulation ▯ Provide training to prevent patient mistreatment, enhance awareness of mental health practice, and collaborate by gov't.	Individual - ▯ Patients were reluctant to visit the hospital even after being referred by the healers. Social- ▯ Patients' relatives/ family decide the preference of the treatment without the patients' consent THs- ▯ The existence of 'fake' healers ▯ Malpractice traditional practitioners ▯ lack of knowledge and skills of healers to treat mental illness Health system- ▯ lack of financial resources, such as lack of transport costs for faith healers to conduct home visits
Musyimi, Mutiso et al., 2016, Kenya	Qualitative study	clinicians, faith healers and traditional healers randomly selected	30		Individual - ▯ Faith healers felt that some patients failed to visit the health centers even on referral. Health system- ▯ No referrals inherent from traditional healers, faith healers to clinicians, and vice versa
Sorsdahl, Stein et al.,	Qualitative study	Traditional healers who attended workshops on educating traditional healers on the nature of mental illness, signs	24	THs- ▯ Almost all the healers reported a desire to collaborate with allopathic physicians (88%) after they attended the workshop on educating traditional healers on the	THs- ▯ Herbalist-only healers don't need to collaborate because they believe in the efficacy of their practices.

2010, South Africa		and symptoms of depression, treatments, referral by Convenience sample		nature of mental illness, signs and symptoms of depression, treatments, and referral issues.	HPs- - Allopathic physicians do not want to work with traditional healers because they do not view them as effective and valuable.
Sorsdahl, Stein et al., 2013, South Africa	Cross-sectional	Traditional healers selected using convenience sample	100		Health system- - Herbalists were less likely than other types of healers to refer patients with a mental illness to Western health professionals.
Teuton, Dowrick et al., 2007, Uganda	Qualitative study	Indigenous healers, religious healers, and psychiatry professionals using snowball technique	25	THs- - Indigenous healer beliefs suggested that allopathic medicine can be used for symptoms whilst indigenous healing deals with the underlying spiritual causes.	THs- - Religious healers portrayed the indigenous healers as exploitative HPs- - Allopathic healers made little reference to religious healers and were ambivalent towards indigenous healers, portraying them as misleading because of lacking the skills and, abusing clients, restraining clients, and preventing patients from receiving allopathic treatment.

Supplementary table 4 : PRISMA Checklist of items to include when reporting a systematic review or meta-analysis [Adapted from *Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement* ***by*** **Moher D et al, 2015**]

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
ADMINISTRATIVE RMATION					
Title					
Identification	1a	Identify the report as a protocol of a systematic review	☒	☐	
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	☐	☒	
Registration	2	If registered, provide the name of the try (e.g., PROSPERO) and registration number e Abstract	☒	☐	PROSPERO Registration number: CRD42023392905
Authors					
Contact	3a	Provide name, institutional affiliation, and e-address of all protocol authors; provide cal mailing address of corresponding author	☒	☐	
Contributions	3b	Describe contributions of protocol authors dentify the guarantor of the review	☒	☐	
Amendments	4	If the protocol represents an amendment of viously completed or published protocol, ify as such and list changes; otherwise, state for documenting important protocol ndments	☐	☐	
Support					
Sources	5a	Indicate sources of financial or other support ne review	☒	☐	
Sponsor	5b	Provide name for the review funder and/or sor	☐	☐	
Role of sor/funder	5c	Describe roles of funder(s), sponsor(s), or institution(s), if any, in developing the ocol	☐	☐	
ABSTRACT Structured mary	6	Provide a structured summary: ground, objectives, methods, results, lusions and implications of key findings	☒	☐	
INTRODUCTION					
Rationale	8	Describe the rationale for the review in the	☒	☐	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
		ext of what is already known			
Objectives	8	Provide an explicit statement of the tion(s) the review will address with reference rticipants, interventions, comparators, and omes (PICO)	☒	☐	
METHODS					
Eligibility criteria	9	Specify the study characteristics (e.g., PICO, design, setting, time frame) and report acteristics (e.g., years considered, language, cation status) to be used as criteria for ility for the review	☒	☐	
Information sources	10	Describe all intended information sources electronic databases, contact with study ors, trial registers, or other grey literature ces) with planned dates of coverage	☒	☐	
Search strategy	11	Present draft of search strategy to be used least one electronic database, including ed limits, such that it could be repeated	☒	☐	
STUDY RECORDS					
Data management	12a	Describe the mechanism(s) that will be used anage records and data throughout the review	☒	☐	
Selection process	12b	State the process that will be used for ting studies (e.g., two independent reviewers) gh each phase of the review (i.e., screening, ility, and inclusion in meta-analysis)	☒	☐	
Data collection ess	12c	Describe planned method of extracting data reports (e.g., piloting forms, done pendently, in duplicate), any processes for ining and confirming data from investigators	☒	☐	
Data items	13	List and define all variables for which data e sought (e.g., PICO items, funding sources), re-planned data assumptions and ifications	☒	☐	
Outcomes and itization	14	List and define all outcomes for which data e sought, including prioritization of main and ional outcomes, with rationale	☒	☐	
Risk of bias in individual ies	15	Describe anticipated methods for assessing f bias of individual studies, including whether will be done at the outcome or study level, or state how this information will be used in synthesis	☒	☐	
DATA					

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
Synthesis	16a	Describe criteria under which study data will uantitatively synthesized	☒	☐	
	16b	If data are appropriate for quantitative esis, describe planned summary measures, ods of handling data, and methods of ining data from studies, including any planned ration of consistency (e.g., I^2, Kendall's tau)	☒	☐	
	16c	Describe any proposed additional analyses sensitivity or subgroup analyses, meta- ssion)	☒	☐	
	16d	If quantitative synthesis is not appropriate, ibe the type of summary planned	☒	☐	
Meta-bias(es)	17	Specify any planned assessment of meta- es) (e.g., publication bias across studies, tive reporting within studies)	☒	☐	
Confidence in ulative evidence	18	Describe how the strength of the body of nce will be assessed (e.g., GRADE)	☒	☐	
RESULTS					
Study selection	19	Give numbers of studies screened, assessed igibility, and included in the review, with ns for exclusions at each stage, ideally with a diagram.	☒	☐	
Study characteristics	20	For each study, present characteristics for n data were extracted (e.g., study size, PICOS, w-up period) and provide the citations.	☒	☐	
Risk of bias within es	21	Present data on risk of bias of each study if available, any outcome level assessment tem 12).	☒	☐	
Results of individual es	22	For all outcomes considered (benefits or s), present, for each study: (a) simple nary data for each intervention group (b) t estimates and confidence intervals, ideally a forest plot.	☒	☐	
Synthesis of results	23	Present results of each meta-analysis done, ding confidence intervals and measures of stency.	☒	☐	
Risk of bias across es	24	Present results of any assessment of risk of across studies (see Item 15).	☒	☐	
Additional analysis	25	Give results of additional analyses, if done sensitivity or subgroup analyses, meta- ssion [see Item 16]).	☐	☒	
DISCUSSION					
Summary of evidence	26	Summarize the main findings including the	☒	☐	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
		gth of evidence for each main outcome; der their relevance to key groups (e.g., hcare providers, users, and policy makers).			
Limitations	27	Discuss limitations at study and outcome (e.g., risk of bias), and at review-level (e.g., nplete retrieval of identified research, rting bias).	☒	☐	
Conclusions	28	Provide a general interpretation of the ts in the context of other evidence, and cations for future research.	☒	☐	
FUNDING					
Funding	29	Describe sources of funding for the matic review and other support (e.g., supply ta); role of funders for the systematic review.	☒	☐	

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Traditional healing practices, factors influencing to access the practices, and its complementary effect on mental health in sub-Saharan Africa: A systematic review

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Traditional healing practices, factors influencing to access the practices, and its complementary effect on mental health in sub-Saharan Africa: A systematic review

ABSTRACT

Objectives: In areas with limited and unaffordable biomedical mental health services, such as Sub-Saharan Africa, traditional healers are an incredibly well-used source of mental health care. This systematic review synthesizes the available evidence on traditional healing practices, factors to access it, and its effectiveness in improving people's mental health in Sub-Saharan Africa.

Design: Systematic review using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) approach.

Data sources: Pub Med, Medline, CINAHL, and Scopus studies published before December 1, 2022.

Eligibility Criteria: Qualitative and quantitative studies reported traditional healing practices to treat mental health problems in Sub-Saharan African countries.

Data extraction and synthesis: Data were extracted using Covidence software, thematically analyzed, and reported using tables and narrative reports. The methodological quality of the included papers was evaluated using Joanna Briggs Institute quality appraisal tools.

Results: Our systematic review included 51 studies for analysis. The traditional healing practices included faith (spiritual or religious), diviners' healing practices, traditional healing, and herbal medication as complementary. Objectively measured studies stated that people's mental health improved through collaborative care of traditional healing and biomedical care services. In addition, other subjectively measured studies revealed the effect of traditional healing in improving mental health problems. Human rights abuses occur as a result of some traditional practices such as physical abuse, chaining of the patient, and restriction of food or fasting or starving patients. Individual, social, traditional healers, biomedical health care providers, and health system-related factors were identified to access traditional healing.

Conclusion: Although there is no conclusive solid evidence to support the effectiveness of traditional healing alone in improving mental health status, studies included in this review indicated that traditional healing and biomedical services collaborative care improves people's mental health.

PROSPERO registration number: CRD42023392905.

Strengths and limitations of this study

- This systematic review used a comprehensive search not only on the effectiveness of traditional healing but also on the types of practices, the factors that determine access to the practices, and human rights abuse reports.
- The systematic review included a number of papers (51) which applied qualitative and quantitative methods.
- As subjective effectiveness reports of studies are prone to biases, they were reported descriptively.
- Some studies might have been missed due to non-English language studies being excluded.

INTRODUCTION

Globally, 25% of the world's population will experience a mental health problem at some stage in their life. Four hundred fifty million people suffer from mental or neurological disorders, and Over 150 million people suffer from depression globally(1). Anxiety disorder is the most prevalent (7.3%) mental health problem globally, which contributes 5.3% in African cultures as per the global systematic review (2), followed by depression disorder with a worldwide prevalence of 4.7% (3) and 4.1% in Sub-Saharan Africa (SSA) countries (4). Mental health problems contribute about 14% of the global burden of disease globally (5), 12% in Low and middle-income countries (LMICs) (1), 8.1% in high-income countries (HICs) (1), and 10% in SSA (5).

According to the WHO Mental Health Action Plan 2013-2020 report, about 35-50% proportion of people with mental health problems did not receive treatment in HICs and 76-85% in LMICs. This status was even worse for people diagnosed with severe mental health problems in LMICs, where 90% of them did not receive treatment(6). When people with mental health problems are left untreated, the disorders can affect the functionality of individuals, self-care, and adherence to treatments and increase healthcare costs (7). One of the main significant factors for the gap in mental health services in many low-income settings is the lack of mental health professionals (8). However, there were a large number of traditional healers in LMICs compared to medically trained mental health professionals. For example, the ratio of traditional health professionals to the population in Africa is 1:500, while the ratio of physicians to the population is 1:40,000 (9).

World Health Organization(WHO) describes that traditional healing/medicine includes knowledge and skills to practice based on the theories, beliefs, and experiences of indigenous to different cultures that were used to maintain health, as well as to prevent, diagnose, improve, or treat physical and mental health problems(10). When traditional medicine is adopted or imported by other population healers outside their culture, it is termed as complementary or alternative medicine (10). On the other hand, biomedicine is medicine as practiced by holders of M.D. (medical doctor) or D.O. (doctor of osteopathy) degrees and their allied health professionals, such as physical therapists, psychologists, and registered nurses. Other terms for biomedicine include conventional medicine, allopathy, Western, mainstream, orthodox, and regular medicine (11).

Biomedical service in Africa faces various challenges in mental health delivery, ranging from inadequate staffing to sociocultural Stigma and less effort from the government in terms of policies and budgeting (12). In addition, the perception of the cause of mental health problems is a barrier to biomedical mental health care as most people perceive mental health problems as caused by supernatural forces; as a result, some traditional healers use common interventions such as faith-based healing, divination, and endogenous biological treatments (13). Furthermore, traditional healing supports the problem, including psychosocial support through praying, advice, hope, and social support such as personal hygiene, washing clothes, and preparing food (14), praying, incantation, confessions of wrongdoing, providing holy water or ash to patients, and providing advice (15).

The regulation of traditional medicine products, practices, and practitioners is described in the WHO Traditional Medicine Strategy 2014–2023 (16). In a global survey conducted by the WHO, 170 Member States (88%) formally acknowledged their use of traditional medicine through the development of national policies, laws, and regulations, of which 39 African member states responded that they have a national policy and regulation on traditional and complementary medicine with 20 had laws or regulations on herbal medicines (17). However, in most parts of SSA, traditional medicine is provided in open markets, shops, and even at traditional healers without giving any scientific proof of their safety, efficacy, or quality (18).

A systematic review conducted in LMIC settings reported that despite differing conceptualizations of mental illness causation, both traditional healers and biomedical practitioners recognize that patients can benefit from combining both practices and demonstrate a willingness to work together. But, there were concerns about patients' safety and human rights regarding traditional methods (19). The misunderstanding of the practitioners was also reported in a reviewed study in Africa from 22 papers that found that the relationship between traditional and biomedical health practitioners was influenced by power struggles, lack of mutual understanding, competition, distrust, and disrespect (20). However, it is essential to examine the effectiveness of traditional healing on mental health in particular settings and cultures to design a collaborative service with biomedical health care (16).

Evidence shows that traditional and biomedical healthcare systems can coexist and are used simultaneously with the healthcare-seeking pattern of patients traversing multiple systems of care. (21). Systematic review assessment of integrated health systems in Africa revealed that health service users' satisfaction and acceptance of an integrated health system practice were

high(22). However, the review noted that integrating traditional medicine was unsuccessful due to health system-related barriers (23). On the other hand, evidence indicates that integrating traditional healing and biomedical services in African mental health services is enabled by launching policies on integration, employing referral systems, and training on integration for both practitioners and stakeholders (24).

A significant number of studies show that many people in LMICs visit traditional healers for mental health complaints, sometimes in addition to using biomedical psychiatric services (25, 26). Thus, traditional healers will continue to have a significant role in mental health care (27). WHO estimates that around 80% of the population in LMICs depends on traditional healers for their healthcare needs (28). In high-income countries, more patients seek complementary and alternative medicine (CAM) practitioners' care (29). There is also a report in Ethiopia that a high number of people with mental illness visit traditional healing, such as traditional holy water users account for around 60.1%, and having chronic medical illness was the main significantly associated factor among the holy water visitors (30).

Traditional healers play a significant role in recognizing symptoms and treating mental health problems (31), and they also often attribute these issues to supernatural causes-- traditional healers view individuals as a combination of physical, spiritual, moral, and social aspects (32). Therefore, it is the core reason why the WHO's Mental Health Action Plan (2013-2020) recommends the biopsychosocial and spiritual model intervention approach to effectively address mental health care by incorporating traditional healing practices (33).

Traditional healers decide on the treatment options, considering the appropriateness, type of mental health problems, the cause of the problem, the healer's knowledge of mental health problems, and knowledge of treatments type, type of specialization, and experience (18). The treatment approaches by traditional healers to treat people with mental health problems varied according to the problem severity and the type of symptom, such as herbal treatments, holy water, spirituality to 'remove' the illness, talk therapy, and rehabilitation as an additional service without standard training. Care administered by healers is associated with high satisfaction in many cases for individuals with mental health problems because service providers are many, easily accessible, client-centered, offer culturally appropriate treatments, and are culturally closed to clients, which facilitates communication. Healers are respected opinion leaders in their community (34, 35).

Research on traditional healing effectiveness in mental health is minimal, especially in LMICs and SSA settings. To our knowledge, there are only two systematic reviews of evidence on

traditional healing effects in mental health care(36, 37) in LMICs, none in SSA. The current review will focus on SSA with a broad objective, which aims to identify the types of healing practices, the effect of traditional healing and collaborative care outcomes, and their barriers and enablers.

The review answers the following questions in the context of SSA: (i) what types of interventions/approaches are practiced by traditional healers for people with mental health problems? (ii) What are the enabling and barriers to accessing traditional mental health care practices for people with mental health problems? and (iii), what is the effectiveness of traditional healing and collaborative care on mental health outcomes of people with mental health problems?

METHODS

Design, Context, and operational definitions

We employed a systematic review using a pre-defined protocol (PROSPERO registration number: CRD42023392905). This review considered primary studies conducted in SSA countries (38). The study population included in the systematic review were people with mental health problems visiting traditional healing places, people who visited at healthcare institutions, traditional healers, biomedical professionals, policymakers, religious or spiritual persons, and mental health experts. All qualitative and quantitative study designs published before December 1, 2022 were included in the systematic review. We have added operational definitions of key terms below.

Traditional healers were defined as healers who are based on experiences indigenous to different cultures and usually have a long history (39) and/or faith healers who appeal to the spiritual, magical, or religious explanations for the mental health problems in SSA were defined as traditional healers in our systematic review. The traditional healers typically used holy rituals, ceremonies, talismans, divination, prayer, and physical treatments, such as herbs or massage, provided as an additional and with magical/religious meanings of healing modality(40).

Mental health problems encompass conditions commonly characterized by unexpected disturbances in a person's cognition, emotion, and behavioral control, preventing them from functioning effectively(41). The terminology biomedical was named modern, western, conventional, and allopathic in different review studies. We can not find an explicit justification for using either term in various studies. However, a systematic review used the biomedical

word in traditional and biomedical mental health care reviews in LMIC (19). Therefore, we prefer to use the terminology biomedical health service and biomedical health professionals.

Collaborative care means when traditional and biomedical services provide care to patients. Access to health care implies access to the service, a provider, or an institution(42), engaging to start utilizing and adhering to the benefits, including diagnosis of the problems, treatment, and follow-up by the health service system (43). Access takes into account the abilities of individuals and populations to perceive, seek, reach, pay, and engage in healthcare (44).

Eligibility of studies and interventions

Studies reported traditional healing practices with religious, spiritual, or magical explanations of healing modalities, and herbs or massage with magical or religious meaning used to complement or if additional to spiritual treatments were included. The traditional healing was aimed at treating mental health problems of any age group in the general population, including people with physical problems comorbid with mental health problems in SSA countries.

Studies reported that traditional healers who aimed to treat physical, neurological, substance abuse, and intellectual disorders and healing practices aimed to treat mental health problems using herbal medication alone were excluded.

The interventions included in this review are traditional healing practices with religious, spiritual, or magical explanations of healing modalities and herbal medications with magical or religious meaning when used to complement or if the herbal medicine were an additional to spiritual treatments. Collaborative care interventions with traditional and biomedical services to improve people's mental health in SSA were also included. The effectiveness of the mental health outcome was measured using objective and subjective effectiveness measurements.

Outcome measures

Effectiveness in this review refers to the objective/ subjective role of traditional healing effect reports; effectiveness outcomes that can be less objectively quantified rating scales, such as "effectiveness" and "perceived improvement," were included as they are personally and socially relevant outcomes that can be quantified (45). Effectiveness outcome measurement consists of the traditional healing and collaborative care effect to improve the mental health problems measured using objective measurement rating scales of symptoms of mental health problems by professionals and using a subjective report of clients/traditional healers' perceived effectiveness of in mental health outcome of people.

Systematic review search strategy

A systematic search strategy was conducted to select published studies for our systematic review from databases such as PubMed, Medline, CINAHL, and Scopus. An initial research in Google scholar conducted to build the key words for the search strategy, including concept words and synonyms for (a) Traditional healers, (b) Mental Health (c) Sub-Saharan Africa were developed. The initial keywords for the systematic review were "Traditional healers," AND "mental health problem, "AND 'Sub-Saharan Africa". We developed a list of synonyms (Supplementary table 1) for a complete list of terms) for both traditional healing (e.g. religious healing, indigenous healing, diviner), mental health problems (e.g. mental illness, specific psychiatric disorders and positive connotations of mental health problems such as mental health, mental health well-being) and a list of the 48 sub-Saharan African countries name.

Search strategies for each database were separately developed and results were produced using the key terms for a comprehensive search strategy, presented in supplementary table 2. Systematic search strategy in each database conducted search result exported to endnote to removed duplicates. Selected studies were exported to Covidence, and the titles and abstracts were screened in the Covidence system. Two independent reviewers (KB and HG) performed screening for title and abstract, and both reviewers independently and blindly labeled each study with reasons for inclusion and exclusion using Covidence. Then, full text screening was also conducted using the Covidence software, using the inclusion and exclusion criteria. Discussions were carried out among all research team members to decide on the final articles to be included. Then, the included papers were grouped based on the systematic review's three objectives and thematic areas.

Quality of the studies

The methodological quality of the studies was evaluated using quality appraisal tools in the Joanna Briggs Institute (JBI) manual for evidence synthesis (https://jbi.global/critical-appraisal-tools), and Two independent reviewers appraised it. Twenty-four cross-sectional surveys and mixed method papers were evaluated using the JBI quality appraisal tools for analytical cross-sectional studies (Supplementary Table 3a) for the appraisal outputs, nineteen for qualitative papers studies (supplementary table 3b), two for cohort (supplementary table 3c), two for randomized controlled trials (RCTs) (supplementary table 3d) and four for expert opinion pieces (supplementary table 3e).

The methodological quality (or bias) of the studies included in the systematic review is good, as all studies scored above average in the quality appraisal output. There are four expert opinion studies with poor quality appraisal output, as described above, and a study that does not report its sample size (46). Our systematic review followed the referred Reporting Items for Systematic Reviews and Meta-Analyses PRISMA guideline (47) (supplementary table 4) .

Data Extraction and Analysis

The following information was included and extracted from the papers using summary tables: Authors, type of study, population, study setting, sample size, publication year, objective of the study, type of traditional healing, enablers & barriers of healing, outcome measurement, and outcome effect of traditional healing and collaborative care summary findings. Extracted articles were deductively grouped into three objectives i.e. studies focused on the "effectiveness" of traditional healers and collaborative care, studies focused on the type of traditional healing practices, and studies about enablers and barriers of access to traditional healing practices. Further inductive synthesize was also conducted using thematic framework analysis.

The extracted data were reviewed and analyzed thoroughly, and major themes and subthemes were developed after further reading. Then, we grouped and summarized the included studies after quality appraisal into the types of traditional healers, the traditional healing effectiveness, collaborative care effectiveness, and influencing factors to access the healing practice. The main findings of the studies were reported through tables, graphs, and narrative reports. The main results of the selected studies were grouped thematically using thematic analysis (48), and grouped into two summary tables. Supplementary table 5 presents details about types of traditional healing and effectiveness outcome results, and Supplementary table 6 details the key enablers and barriers to accessing traditional healing main findings. The articles grouped under the theme of traditional healing effectiveness and collaborative care describe different types of mental health problems, different scales to measure mental health outcomes and differences in study designs. Therefore, meta-analysis was not undertaken as heterogeneity occur due to the significant differences between studies (49).

Ethics and Dissemination

Ethical approval is not required since the review did not collect primary data.

Patient and Public Involvement

Patients and the public were not directly involved as it was a systematic review. However, the research was considered in the design by measuring the relevance of the topic for the patient's

benefit. Studies with patient participants are included in the review, and the study results will be disseminated in workshops for community representatives.

RESULTS

Characteristics of studies:

A total of 644 search results obtained from electronic databases were imported to Endnote and then exported to Covidence where 287 duplicates were removed. We further excluded 306 articles during the title, abstract, and full-text screening: 269 through the title and abstract and 37 through the full-text screening phase. Finally, 51 studies were identified for data extraction *(Figure 1).*

Among the 51 studies included in our analysis, 48 were from individual countries (14 in South Africa, seven in Ghana, six in Ethiopia, five in Nigeria, five in Kenya, five in Uganda, three in Sudan, one in Burundi, one in Cameroon, one in Tanzania, one in Zimbabwe). Three were across more than one country (one in Nigeria and Ghana, one in Ghana, Kenya, and Nigeria). The publication year of the studies ranged from 1982 to 2022. In terms of study design, 18 studies were cross-sectional, 19 were qualitative, six were mixed methods, two were prospective cohort studies, and one each a cluster randomized controlled trial (CRCT) and randomized controlled trial (RCT). The other papers included were four opinion brief reports.

In terms of population, the population were an adult age group of women and men study subjects. The studies included in the current review consisted of study subjects of individuals without or with mental health problems from the community, traditional healing sites, and biomedical health institutions comprising traditional healers, religious persons, biomedical health care providers, and policymakers. In terms of content, all studies described the different types of traditional healing practices, 12 studies investigated enablers to access traditional healing practices, and nine about the barriers to accessing the traditional healing. Five studies reported about the traditional healing effect in the mental health condition of people and the outcome of effectiveness were stated using subjective and one was used objective measurement. Three objectively measured studies reported the effectiveness of collaborative care. Ten papers also identified findings of traditional healing service outcomes and human rights abuse as an additional outcome of traditional healing practices. The subtopic thematic content was classified according to the three specific objectives of the systematic review.

Role and types of traditional healing

The types of traditional healing practices are summarized as faith (spiritual or religious), diviners healing practices, traditional healing, and herbal medication as an additional treatment with the described healing types. Some studies also reported that traditional healers provide services collaboratively with biomedical healthcare professionals for people with mental health problems in SSA (supplementary table 5).

According to some studies, patients with mental health problems visited traditional or religious healers when they developed mental health problems for the first time, and the percentage of visitors accounts for about 31%,up to 95% range difference, in different studies e (15, 50). In addition, a finding about patients' preference for traditional healing practice reported by a study stated that families mostly decided to seek traditional treatment. The patient participants in the study who decided by themselves in selecting the type of treatment to receive were only 27% (51)This may show the need to work with traditional healers and patients' families as part of the health care system's responsibility.

Faith (spiritual or religious) healing practices:

We identified nineteen studies focusing on faith healers' traditional practices and mechanisms to treat mental health problems (14, 46, 50, 52-67). Pastor faith healers stated that they used methods of praying such as the pastor' laying hands' on clients, using prayer aids like oils and holy water, fasting, and spiritual directions (63). The common holy water treatments were ceremonies, prayer, baptism, drinking the holy water, and providing holy ash to patients (53), and spiritual remedy commonly provides psychosocial support, which includes praying, comfort, advice, hope, and social support such as personal hygiene, wash clothes, preparing foods in addition to the holy water treatments (53, 54).

Faith healers use a variety of procedures, including prayer, drinking and bathing in holy water, exorcism, counseling, and strings of holy stones tied around wrists and ankles during their healing sessions (14). Christian and Muslim faith healers believe that praying means that the 'devil' leaves the patient for them to be 'cured' of a mental health problem, and priests also order holy water to treat mental health problems. The diviner wizards (tanquais) prepare and provide amulets (46), and other religious leaders order clients to kill goats or dogs for sacrifices to appease "God" to forgive whatever has caused the mental health problems(55).

Muslim healers treat by putting their hand on to the patient's head and reading verses to blown onto the client's face directly, or sometimes they blow into natural products, e.g., water, honey, sugar, salt, olive oil, and then the clients add the product to their food to ingest it. In addition, the verses of the Qur'an are written on a piece of paper to be kept with the person at all times, as complementary to spiritual practices like daily prayer and constant remembrance of the Almighty God (Zikr) (56).

Diviners' healing practices:

Twelve studies reported diviners, magical or witchcraft healing practitioners consulted by patients with mental health problems (50, 57-67). The studies identified different divination methods of healing practices such as counseling and praying, casting out demons, witchcraft, erasure using prayers, confessing wrongdoing, laying hands on patients and praying, or providing holy ash to their patients (51, 68-73).

In one study, the majority of the divination healers (86%) reported that they possessed the skills and knowledge required to "cure mental health problems" (74). The divination healers said that the gods show them what the problem is, who is causing it, and how to heal the person (52). However, others reported that the predominant diagnosis was interviewing the patient and/or their relatives. They ask for dreams as a vital clue to identifying the underlying illness (75), and some say that they "just know" the diagnosis with no further clarification (67).

Traditional healing and herbal medication as complementary:

Traditional healers providing magical, religious and/or spiritual meanings of healing modality and using herbal medication as an additional traditional healing to treat mental health problems were also reported in some of the primary studies. Most of the different herbal treatment types were reported by the healers as "unknown names or they don't want to tell" used to treat mental disorders. The traditional healers, including spiritualists, diviners, pastors/sheiks, and other faith healers, administered herbal remedies through drinking, bathing, smoking, sniffing herbs, and induced vomiting (15, 69, 74, 76-85).

Such type traditional healers also provide psychosocial support such as conflict resolution, monetary help, employment or housing assistance, and spiritual or cultural rituals support used to treat mental health problems, spirit/Demonic possession, witch craft, and comorbid physical illness were also provided together with faith healing, divination, herbs (77, 86).

Collaborative care between traditional healers and biomedical healthcare professionals

Some papers provided details of collaboration between traditional healers and biomedical health professionals' attitudes and practices. Three articles reported about the trained traditional healers on mental health conditions, and on biomedical psychiatry care collaboration improves the attitude of healers in the advantage of collaborative service and enhances referral of psychotic patients to biomedical health care services (87-89).

Spiritualists, male traditional healers, and traditional healers who had previously been hospitalized for a mental health problem were more likely to report a willingness to refer patients to hospitals (67). Some faith and traditional healers advise patients to use biomedical treatments alongside spiritual care (69, 84, 90). Traditional healers who use herbal medication as additional to faith and divination healing were less likely than other types of healers to refer patients with mental health problems to biomedical health professionals (83).

A study on biomedical health professionals' suggestion on the possibility of collaborative service provision reported that 89% of nurses perform traditional rituals and customs, 75% visit traditional healers themselves as patients, 58% of nurses agreed that traditional healers could play a positive role in mental health care (91). The nurses believe that traditional healing practice can be used together with psychiatric medication or psychotherapy (91), and Muslim general practitioner doctors acknowledged that spiritual illness exists and acknowledged the existence of a belief in witchcraft, the 'evil eye' and spirit possession and noted that collaboration with and referral to traditional healers are essential (92).

Traditional healing and collaborative care practice outcomes

The following sub-sections demonstrate the findings of studies assessing the effectiveness of traditional healing and collaborative care in mental health outcomes as primary or secondary outcomes. Eight studies analyzed the effects of traditional healing and collaborative care on improving the mental health conditions of people with mental health problems (15, 63, 76, 77, 87-89, 93) (supplementary table 5).

Effectiveness of traditional healing in mental health:

Five studies, which consisted of four subjectively measured analyses in which patients reported subjective perceived effectiveness (15, 63, 77, 89) (supplementary table 5) and one objectively measured study (93) analyzed reports, revealed the effect of traditional healing in improving mental health problems. The objectively measured and prospective cohort study measured the

outcome of effectiveness using the Positive and Negative Syndrome Scale (PANSS) and at four-month follow-up under the traditional healing intervention methods, including praying and fasting at traditional healing admission centers showed the reduction of psychosis symptoms (mean score 118. 36 on admission and 69. 36 on discharge (p = .0001)) (93).

A qualitative study conducted among pastors who worked as faith healers for at least five years explained the reduction of mental health problems symptoms as signs of improvement for patients with mental health problems after both biomedical care and the spiritual care service provision (63). Another qualitative method study that interviewed traditional healers described that providing formal training for traditional healers on introduction to mental health problems resulted in patients who sought care from trained traditional and biomedical healers recovering quickly from mental health problems (89).

A mixed quantitative and qualitative study method study explained that almost half (48%) of depressed patients' at the traditional clinics receiving traditional treatments at traditional healers clinic reported felling of improvement from their mental health problems very much, followed by 45% of the patients reporting partial progress. Patients in the biomedical psychiatry clinic settings and the same study reported similar improvement and satisfaction with the services provided. But, patients at traditional clinics had nearly three times as many visits as those at psychiatric clinics (77).

The forth cross-sectional study with subjective effectiveness measurement study stated that more than half (58%) of the patients with mental health problems reported perceived feeling better after they received the traditional healer's religious praying healing and combined with unknown herbal treatments through oral, via enema and inhaled steam treatments compared to seven (9%) who reported feeling worse and 18 (23%) who said no effect. However, 22% of the patients reported physical, emotional, and sexual human rights abuses by the traditional healers (15).

Effectiveness of collaborative care in mental health:

Three papers on collaborative care effectiveness using objective measurement of patients' outcomes (76, 87, 88) reported that collaborative care improves the mental health problems of patients with psychotic symptoms (supplementary table 5).

A cluster randomized trial study measured the outcome using the Positive and Negative Syndrome Scale (PANSS), and reported that trial participants in the intervention arm received

treatments from faith healers and biomedical healthcare providers and achieved a significantly better reduction in psychotic symptoms where the total mean score of the psychosis symptoms for the intervention versus comparator group with enhanced care as usual was 53.4(sd 19.9) vs. 67.6(sd 23.3) with p< 0.0001) (87). A Prospective cohort study that uses the clinical global impression (CGI) for outcome measurement at 6-month follow-up revealed that more than 20 % symptom reduction of psychotic symptoms (OR 24.87 (95% CI - 7.03_94.84) (76) among the individuals who received both services as compared to the traditional alone or western medicine.

In another study report, participants in the intervention group who received collaborative care by a team of mental health professionals plus prayer care at the traditional healing site camp compared to the control group with enhanced care as usual or with no formal collaboration had significantly lower severity of symptom mental health problem symptoms (mean; intervention group, 1.95, (sd. = 0.57) v. control group 2.39 (sd. = 0.87); P = 0.003), a mean difference of 0.63 points (95% CI 0.59–0.87) (88). The study's effectiveness outcome was measured using the 24-item Brief Psychotic Rating Scale (BPRS) total score outcome at the 6-week follow-up.

Satisfaction with traditional healers' services:

Three studies (57, 78, 86) reported satisfaction of people with mental health problems to traditional healing services (supplementary table 5). The two studies report that patients with mental health problems are satisfied with the traditional healers' treatment and healing process services (78, 86). The third study comprises families and patients reporting satisfaction with the service they received from traditional healers (57).

In a study where people with mental health problems and traditional healers participated, most (95%) of clients were satisfied with the treatment and healing process delivered by the traditional healers (78, 86). The study included patients with mental health problems selected from biomedical psychiatric care institutions and with a history of seeking traditional healing. It reported that patients and their families said they were generally satisfied with the service they received from traditional healers. However, patients and families expressed dissatisfaction with the diviners' services (57).

The common reasons for the patients ' satisfaction with tradition healers' services were patients could pay either by kind or cash, and they could pay after they got improvement; traditional healing was more affordable compared to the hospitals and easily accessible compared to hospitals (86).

Traditional healing human rights abuse practices:

In addition to presenting data on the positive effects of traditional healing on mental health outcomes and service acceptability, there were also numerous references to 'human rights abuses' occurring due to some traditional practices. Articles in our systematic review reported different human rights abuse-related issues as traditional healing service additional outcomes. The commonly mentioned types of abuse were physical abuse, such as beating the patient (15, 51, 53, 79, 93) followed by chaining of the patient (69, 89, 93), locking and restriction of visitors in a dark room (79, 93), restriction of food or fasting or starving patients (79, 93), and incorporate modern ingredients that are potentially toxic (74) (supplementary table 5).

Traditional faith healers use holy water treatments, including ceremonies, prayer, baptism, and drinking of holy water, and psychosocial support, such as providing personal aid to clients, such as hygiene, washing clothes, preparing foods, and supporting the clients to access the psychiatric care site for improvement. However, holy water visitors reported Stigma, physical and verbal abuse, and physical restraint(53). Traditional healers treat patients by praying and adding unknown name herbs to drink, bathe, and sniff. So, they chain the patients forcefully to give the medications(74). Families mostly took the treatment of the traditional healing decision of seeking traditional remedy, and the patients decided only 27% of cases. The patients were also unable to refuse the non-humane treatments (51).

Some studies (69, 89, 93) reported the better mental health outcome effectiveness of traditional healing. However, human rights abuse was reported in the same studies. Clients in a study reported of feeling better after the religious faith traditional healer's treatment. But, religious faith healers' physical human rights abuse was reported such as beating and forced fasting (15). Another study reported the effectiveness of traditional healing in the reduction of psychotic symptoms. However, patients with psychotic mental health problems in the traditional healing center reported human rights abuse (93). Study on collaborative services effectiveness reports improvement of patients' mental health. In contrast, human rights abuse was reported by a study on traditional healers serving alone (89). After training on introduction to mental health problems and essential management provided to traditional healers, non-humane treatments such as chaining of patients by the healers was abolished, respect for the human rights of patients increased, referral systems to biomedical care enhanced and traditional healers' knowledge about mental health and problem improved (89).

Enablers and barriers to access traditional healing practices

In this review, we also summarized 15 studies (14, 53, 57, 59, 63, 68-70, 72, 83, 84, 86, 90-92), with 12 of them qualitative study design, 2 cross-section and one mixed method study about the key enablers and barriers of people with mental health problem to access traditional mental health healing in SSA countries (supplementary table 6). Within the barriers and facilitators subthemes, we have identified issues at different levels: individual, social, traditional healers, biomedical health care providers, and health system-related factors.

Enablers to access traditional healing practices

Traditional healers related enabling factors to access the traditional healing practices were reported by six qualitative studies (14, 63, 69, 84, 86, 90)**.** The enabling factors to access the traditional healing include pull and push factors. Push factors explain why people with mental health problems were pushed away from biomedical care, while pull factors were influencing issues pulled the people towards traditional healing. Therefore, the individual, social, traditional healers' related factors were considered as pull factors. Meanwhile, mainly the biomedical health system and health professionals' related enabling factors were considered push factors for the use of traditional healing practices.

Individual perception of patients indicated that patients were reported better improvement in mental health problem outcomes from traditional healing than hospital care was an enabling factor in one study. As a result, patients frequently visit traditional healing sites (86). According to the traditional healers related factors of the papers report, the enabling pulling factors to access the traditional healing practices were traditional healing service affordable, letting patients to pay later, the accessible nature of traditional healing compared to hospitals care, and traditional healers giving more time to patients for psychosocial support (86, 90). In addition, social support such as hygiene, washing clothes, and preparing foods at traditional healing sites motivate individuals to visit religious holy water healing services frequently (53).

Few faith and traditional healers advise or suggest that patients use biomedical treatments alongside their healing practices, as patients need to follow both services. These were the pulling enabling factors for patients to adhere to traditional healing therapies (14, 90). Traditional healers mainly recommend that patients receive both services for those with clear physiological and psychological symptoms. They justify that spiritual forces can be manifested in psychological and physiological ways (63, 84). Another enabling factor was to improve the attitude of traditional healers toward collaborative care by providing training on the nature of

mental health problems symptoms, treatments and referral issues (69). The training of the traditional healers can be strengthened by biomedical health professionals who believe in the importance of educating traditional practitioners about signs and symptoms of mental illness, referral, and those who have a good attitude toward the traditional healers' support to patients (68). In two studies, nurses and general practitioner doctors good attitude on the possibility of practicing traditional healing as an additional service with biomedical health care was also considered as another enabling factor for patients to adhere to traditional healing benefits (91, 92).

The health system was another subtheme finding result related to traditional healing enabling factor; it was considered a push factor away from biomedical health care and an enabling factor to receive traditional healing in our systematic review. The papers report includes that an inadequate number of biomedical mental health service providers drive patients to prefer traditional healing (90), insufficient and expensive drug supply in biomedical health facilities (86), and using traditional service alone due to a poor integrated system of government policies or regulations for both traditional and biomedical services (59) .

Barriers to access traditional healing practices

On the other hand, barriers to accessing traditional healing practices were reported in nine papers of this systematic review (57, 59, 68-70, 72, 83, 84, 90). The eight studies used the qualitative method and one cross-sectional study, and the included qualitative studies' sample size was adequate. The details were described in the methodology section of the quality appraisal.

Individual related factor report describes that patients not improving at traditional healing sites and linked to biomedical health care by the traditional healers were reluctant to visit the hospital, and it was reported as a barrier due to creating lack of trust in the effectiveness of the traditional healing among patients family (70, 72). Families of the patients were also reported as the barriers to access the traditional healing because families act as the primary decision makers for the treatment preference of patients without their consent (70).

The barriers related to the traditional healers themselves were human rights abuses of traditional healers such as maltreatment, including forced fasting, exorcisms, which include physical beatings (sometimes resulting in death), and chaining to contain agitated patients (84, 90). Two studies also reported the poor competency and existence of 'fake' healers as challenges (59, 70). Some traditional healers understanding about the use the traditional and

biomedical treatments report was that the two treatments should not be taken at the same time and it leads to stopping either of the treatments (57, 68). Not accepting the collaboration of both services at the same time was even worse among the traditional healers who use herbal medication as an additional treatment. Their reason was to believe in their practices' efficacy (69).

The other reported barriers in our systematic review were related to analyzing biomedical health professionals' barriers in accessing traditional healing services. The commonly reported barriers associated with biomedical health professionals include health professionals not believing the traditional healing therapy, saying that traditional healers can't treat severe mental health conditions, considering them as dirty and having lower education status, and not being in favor of referring to traditional healers, believing that diviners charged unfair fees for treatments, not viewing them as effective and valuable, and lacking skills and abusing clients reports (59, 68, 69, 84, 90). Five studies presented that biomedical healthcare professionals are unwilling to collaborate with traditional healing and do not favor referring patients (59, 68, 69, 84, 90) because they do not view them as effective (59, 69, 84). However, some said collaboration would be possible if traditional practitioners got additional mental health care training from biomedical providers and the government regulated the clinical perspective (90).

Most health system-related factors were also reported as barriers to access traditional healing. Lack of effort to develop the relationship between the two systems of healing (68), lack of financial resources support from the health system administration, such as lack of transport cost for faith healers to provide home-based level visit community service (70) and poor referrals systems in the ground from traditional healers to clinicians and vice versa (72, 83) were among the commonly reported health system-related barriers in the included studies of this systematic review.

DISCUSSION

This paper reports systematic review findings in the SSA setting to explore the effectiveness of traditional healing in people's mental health. WHO broadly defines traditional medicine as different traditional healing modalities, including herbal medicine based on indigenous peoples of different cultures, with a long history (31). However, as the existing definitions of traditional healing are vague, it was essential to operationally define it in the current systematic review to include only similar healing modalities of traditional medicine to assess the effectiveness in different countries of SSA. We preferred to operationally define traditional healing based on the expected treatment modalities to treat mental health problems in SSA, mainly spiritual or religious and magical healing treatments (36, 37). In addition, this operational definition is preferred due to the evidence that the traditional healing for mental health in Africa commonly includes a combination of spiritual, magical, and physical or herbal treatments as an addition. However, the herbal remedies given alone to treat the problem were excluded in the operational definition (36, 37).

The systematic search in this review includes the 48 African countries in the SSA setting. The fifty-one reviewed quantitative and qualitative studies published in 40 years (from 1982 to 2022) were found in 11 SSA countries. Generally, the studies focused on the traditional interventions to improve people's mental health provided by traditional healers in SSA. Two systematic review studies were previously conducted to assess the effectiveness of traditional healing in mental health outcomes (36, 37). But, the previous studies conducted in a global setting level, conducted seven years earlier, try to answer the research question for the effectiveness of traditional healing in mental health. In addition, the previous systematic reviews included the "satisfaction subjective report" in their effectiveness operational definition to assess the outcome. In contrast, it was separately reported as an additional traditional healing service outcome in our review. The decision is due to the fear that traditional healers and their clients could interpret the word satisfaction differently.

Common types of traditional healing practices in mental health

Traditional healing practice types such as faith healing, divination, and either faith or divination with herbal medication as complementary are reported findings in SSA to treat mental health problems. The types of traditional healing reports to improve mental health in the current paper are almost similar to topics related to previous reviews (94-96). Our systematic review of the types of healing aligns with the previous review that showed the types of traditional healing

reported by other studies were almost similar, and the cultural beliefs regarding the causation of mental health problems seemed to have influenced the type of treatment sought by the clients; if the cause of the problem was deemed to be religious, spiritual, cultural, or supernatural, the preference was treatment was traditional healing (36).

The types of traditional healing modalities are related to the belief in traditional healing and they are mainly associated with the belief of a supernatural cause of the problem by the people with a mental health problem and the healers (59, 62, 64, 79, 97). This idea was also supported by the systematic review of traditional and religious healers in the pathway to care in Africa (98). Therefore, the reason for people with mental health problems visit the traditional healing first before accessing biomedical mental health care (43-46) could be related mainly to the belief in the cause of mental health problems by patients and their families. The decision on the preference of visiting traditional healing was made by the patients themselves and by their families (44). The above information shows the importance of working with patients' families in developing the health care system, as they are the primary decision-maker stockholders.

Faith healing was the most common traditional healing type reported in the current review, which includes religious and spiritual healing to treat mental health problems (39, 43, 46-62). In contrast, herbal therapy combined with orthodox medicine was the most common type of healing in SSA, followed by faith-based healing methods to treat health problems(95). The difference is the traditional healing for the general population of any health problem verses among the population with mental health problems in SSA setting. A significant number of included studies in the current review also reported that traditional healers provide divination and faith healing as the main modality of treatment and provide unknown names of herbal medications as an additional treatment to treat mental health problems (45,71-80).

Our paper's common faith healing methods were praying, using holy water, fasting, and providing spiritual directions. Faith healing treatments commonly provide psychosocial support through praying, advice, hope, and social support such as personal hygiene, washing clothes, and preparing foods (48, 49). Christian and Muslim faith healers believe that praying means that the 'devil' leaves the patient for them to be 'cured' of a mental health problem (50). In another review report, around half of individuals with mental health problems in Africa seek care from traditional and religious before visiting biomedical health care, and the types of healing methods were similar (98).

The current review showed that the types of healing methods were similar to previous review reports; around half of individuals with mental health problems in SSA seek care from traditional and religious before visiting biomedical healthcare. (98). A significant number of studies also show that many people in LMICs visit traditional healers for mental health complaints, sometimes in addition to using biomedical psychiatric services. (25, 26)Some healing types, such as faith healing treatment components, such as providing psychosocial support through praying, advice, hope, and social support, as well as rehabilitative services, including personal hygiene, washing clothes, and preparing foods for people with mental health problems, are also supported by biomedical service protocols and some biomedical practitioners (48, 49). This implies that traditional healers will continue to have a significant role in mental health care in SSA. (27). Therefore, introducing strategies such as traditional healers' training to create better awareness of mental health conditions and the importance of biomedical psychiatry care collaboration improves the attitude of healers to the advantage of safe and effective collaborative service for people with mental health problems (87-89).

Traditional healers advise patients to use biomedical treatments together with their spiritual care (64, 79, 85). Traditional healers who use herbal medication as an addition to faith and divination healing were less likely than other types of healers to refer patients with mental health problems to biomedical health professionals (78). Biomedical health professionals such as medical doctors and nurses suggest collaborative service with traditional healing provision by believing that the traditional healers play a positive role in mental health care (86), and some Muslim general practitioner doctors acknowledge the spiritual illness existence (87). But, some biomedical health professionals also call the traditional healers "dirty" (72).

However, despite the difference in the concept of mental health problems and its cause between the practitioners, other previous review studies recommend building agreement and interest between two practitioners to work together to improve the lives of the patients in LMICs setting (99, 100). Such understanding can be introduced by recognizing the benefit of collaborative service for the patients and by arranging training and discussion on fundamental mental health problems (99), and innovative approaches are needed to enhance the collaborative service to provide community-based mental health care (98).

Complementary nature of traditional healing effect on mental health outcomes

People with mental health problems improved after receiving traditional healing and biomedical treatment collaborative health care provision in studies that measured outcome objectively (71, 82, 83, 88). Similarly, review studies also support our finding that traditional healing is effective in treating mental health problems, especially when it is combined with biomedical treatments (37), and some other studies also reported people's improved mental health through collaborative care of traditional healing and biomedical care services (58, 82-84).

From subjective reports, perceived improvement of mental health from traditional healing services was also subjectively reported by traditional healing users in the current review result (45, 58, 72, 84). In a different setting, a scoping review in Nepal also said the traditional healers' perceived impact for mild to moderate forms of psychological distress and mental health problems (101). Another previous study supported our finding that mental health problem caused by a person's sinful behaviour related to the religion they follow was believed by the patients and priests to be treated only by religious treatments and the priests' psychosocial support (102, 103). Therefore, the psychosocial content of the traditional healing method can help traditional healing users with mental health problems. A systematic review conducted to compare the efficacy of psychotherapies and pharmacotherapies found almost no significant differences in short-term effectiveness between the two therapies (104).

Traditional healing types were reported to be both effective and ineffective. However, identifying the type of mental health problem and the healing type effectiveness was difficult as most of the studies didn't specify the issues, and it was impossible to define which methods are perceived as effective and which are not. Despite the limitations, many people, especially those with less severe complaints and positive expectations, reported subjective benefits from attending their chosen traditional or spiritual healers (36). Other studies have also indicated the justification for the traditional healing abilities of the placebo effect (or power of belief (105, 106). Traditional healers' psychosocial support from prayer, comfort, advice, hope, and social support, such as personal hygiene, washing clothes and preparing foods, especially in traditional treatment centers, helps to improve the people's mental health status (48, 49). The psychosocial support benefit was supported by biomedical scientific evidence that talk therapy/counseling or psychotherapy can treat mild to moderate severity of mental health problems as the first line of treatment if appropriately provided (107).

Satisfaction with the traditional healers' treatment and healing process services was reported as an additional outcome of the studies' traditional healing effectiveness (46, 73, 81). The common reasons for patients' satisfaction with tradition healers' services were patients could pay either by kind or cash; they could pay after they got improvement, and traditional healing was more affordable compared to the hospitals and easily accessible compared to hospitals (81). In contrast, some patients were dissatisfied with traditional healing (57). A study on African indigenous healers reported that patients and families expressed dissatisfaction with diviners' services (46). The difference could be the difference in human rights abuse practice by the traditional healers, the type of traditional healing, and the severity of the mental health problem of traditional healing users.

Human right abuse of traditional healing practices in mental health

Human rights abuse practices resulted in patients as an additional outcome of traditional healing treatment and the healing practice process. The common human rights abuse practices were physical abuse (44, 45, 48, 74, 88), chaining of the patient (64, 84, 88), locking and restriction of visitors in a dark room (74, 88), restriction of food or fasting or starving patients (74, 88), and incorporate herbal ingredients that are potentially toxic (69). Even though the human right abuse of the traditional practice was not separately discussed as ours in the previous systematic reviews in mental health, the harmful treatments were included in their finding reports (37, 95, 99). Providing training on mental health problems introduction and their basic management at the traditional healing sites to traditional healers was a means to reduce non-humane treatments (84).

Factors Determining the choice of Traditional and Collaborative Mental health care

Traditional healers (THs) are widely used and consulted by up to 80% of people seeking health care in LMICs countries (108). The current study findings also revealed different reasons why people in SSA choose traditional healing practices for mental health care.

The common enabling factors were, traditional healing service affordability, healers letting patients to pay later, accessible nature of traditional healing, healers giving more time to patients for psychosocial support, allowing patients to use both traditional and biomedical services side by side, and providing social support such as hygiene, wash clothes, and preparing foods. (48, 81, 85). In developing countries, the traditional healers' attractiveness could be due to the healers and the clients sharing a common culture and knowledge of mental health

problems (109) and shared spiritual and religious beliefs of mental health problem causation (110).

WHO reported common pushing factors to traditional healing as barriers to accessing biomedical mental health care in SSA, including the biomedical service inefficiency, inadequate, inequitably, limited mental health education, and the patient's belief in health-seeking behavior (111). In addition, the pushing factors from other studies include the inadequate number of biomedical health professionals (85), the drug supply problem (81), and the poor integrated system of government regulations were the pushing factor away from biomedical health care, resulting in enabling elements to prefer traditional healing (54). Alongside to our finding, the scoping review report in LMICs reported that attitudinal, administrative, resource, knowledge, and treatment-related barriers were reported as common barriers in mental health service utilization as evidence to health system-related pushing factors to access traditional healing (112).

Our findings showed that training traditional healers on mental health conditions and biomedical psychiatry care collaboration improves the attitude of healers toward collaborative service. Several studies have shown a desire for increased collaboration in managing mental illnesses among traditional and Western healthcare workers (99, 113). There was also a systematic review of evidence that high satisfaction among health service users of the practice of an integrated health system was high in the assessed African countries (22). Therefore, based on a collaborative mental health care systematic review result in LMICs, traditional healers and biomedical practitioners acknowledge that patients can benefit from a combination of both disciplines and show a willingness to collaborate, even though their conceptualizations of the cause of mental illness differ (99).

However, factors related to attitudinal barriers toward each other of traditional and biomedical practitioners, lack of resources from the government to provide necessary support and collaboration to work there is a need for commitment from the government to provide the necessary support and lack of financial resources were the most prominent barriers to collaborative collaboration in the care of people living with mental health problems (114). It is almost similar to the current study, which results in difficulties accessing traditional healing, including the pushing factors from the biomedical services. Findings on the challenges in accessing traditional healing were also almost similar; a systematic review of traditional healing among the general population of SSA, the barrier to use or accessing traditional

healing-related reports were a lack of belief in patient safety, the efficacy of traditional healing, perceived lack of an appropriate dose and unregulated practitioner practice, absence of health financing for traditional health care and a perceived lack of education and training among traditional practitioners (38).

Families act as main decision makers for the treatment preference of patients without the consent of patients' were reported as social-related barriers to access the traditional healing (65). Therefore, Social barriers can be minimized by enhancing family and community participation to improve people's mental health as part of the health system (115) . Traditional healers related barriers were human rights abuse during the healing practice such a forced fasting, physical abuse, chaining (79, 85), poor competency of 'fake' healers (54, 65), traditional healers understanding about not accepting collaborative traditional and biomedical healing treatments (46, 63).

Similar to our findings from review studies LMICs study, biomedical health professionals humiliated the traditional healers by calling them dirty to the service they provide (72). They have concerns about traditional healers healing in the patients' safety and human rights (99). Lack of effort to develop the relationship between the two systems of healing (63), lack of financial resources support (65), and poor referral systems regulations (67, 78) were among the commonly reported health system-related barriers.

Even though there are human rights abuse reports in the traditional mental health care practices that can affect integration (38), providing training on mental health problems introduction and their basic management at the traditional healing sites to traditional healers during the collaborative practice was a means to reduce non-humane treatments (90). Creating a joint dialogue among professionals aiming to conduct training on identified gaps to improve patients' lives can minimize the obstacles of collaborative care, including human rights abuses (72). The indications of evidence in SSA on the development of integration policies, the manifestation of existing referral systems, and training on integration for practitioners and stakeholders were crucial enablers for integrating traditional healing and biomedical health services (116).

In general, integrating traditional medicine into health sciences curricula, conducting panel discussions for evaluation purposes, developing context-specific collaboration protocols, working on regulation implementation issues, establishing referral pathways, and Providing training for both practitioners on safe integration by including content on how to minimize

abuse, narrowing the misunderstanding about respecting clients' preferences in using both services could help in enhancing safe, collaborative services. Furthermore, as a significant number of people with mental health problems type of treatment being selected by their families' preferences decision with the clients a less limited chance to refuse and they forcefully chain them and give them treatments including non-humane treatments (51), conducting continuous awareness creation in the communities on mental health problems, the types of problems with the ability to decide, the treatment options, and the client's rights could help to mitigate the issue. The advantage of engaging communities through community health workers and traditional healers training in the utilization of integrating services was also supported by a review study on traditional medicine in primary health care in LMICs (117). These collaborating mechanisms could be practiced to integrate with the health care system in SSA as most of the African WHO member states have a national policy and regulations on traditional and complementary medicine (118). However, as the resource limitation and lack of commitment will continue as a challenge, advocacy through professional associations, awareness creation, and review meetings with stakeholders could enhance the implementation of the policies.

Limitations and Strengths of the Study

The current systematic review addressed broad issues, including the types of traditional healing, influencing factors to access traditional healing, effectiveness of healing, and potential harms of traditional healing practices from quantitative and qualitative studies. However, some of the subjective reports of mental health outcomes are prone to biases. In addition, some studies might have been missed due to non-English language studies being excluded, leading to information bias. However, most studies conducted in SSA were published in English.

CONCLUSION

Despite the barriers to accessing traditional healing, many people with mental health problems continue to seek help from the different types of traditional healing such as faith healing, divination, and either faith or divination with herbal medication as complementary are reported findings in SSA to treat mental health problems. Traditional healing, especially when combined with biomedical treatments as collaborative care, has been shown to be effective in treating mental health problems. Collaborative service can reduce the harmful practices in traditional healing sites through workshop discussion and training. Therefore, traditional healing methods have a role and significantly affect mental health care in sub-Saharan Africa.

RECOMMENDATIONS

Our systematic review suggests that collaborating traditional healing and biomedical mental health care helps to improve people's mental health. By minimizing the barriers to accessing traditional healing, such as maltreatment, and minimizing the pushing factors from biomedical mental health services, such as the inadequate number of biomedical mental health professionals, drug supply, and poor integrated health system policies, we can improve the traditional and biomedical collaborative care services to improve people's mental health. Working on reducing human rights abuse by traditional healers can improve collaborative care by providing training and conducting workshop discussions with both practitioners and health system leaders. Context-specific types of healing, perceptions, and strategies of collaborative care need to be researched and identified. Context-specific effectiveness of collaborative care requires further investigation.

Contributorship statement

Kenfe Tesfay Berhe contributed to the article, starting from the conception of the title, designing the methodology, systematic search from the databases, screening studies to be included, data extraction, interpreting of extracted data, writing the manuscript, revising the manuscript, and approving the final manuscript. **Hailay Abrha Gesesew** contributed to the conception of the title, designing the methodology, reviewing the screened included studies, reviewing extracted data, interpreting extracted data, writing the manuscript, revising the manuscript, and approving the final manuscript. **Paul Russell Ward** also contributed to the conception of the title, designing the methodology, reviewing the screened included studies, reviewing extracted data, interpreting extracted data, writing the manuscript, revising the manuscript, and approving the final manuscript.

Competing interest

There is no competing interest among the authors.

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There will not be data to be shared later as all the necessary information is included in the article.

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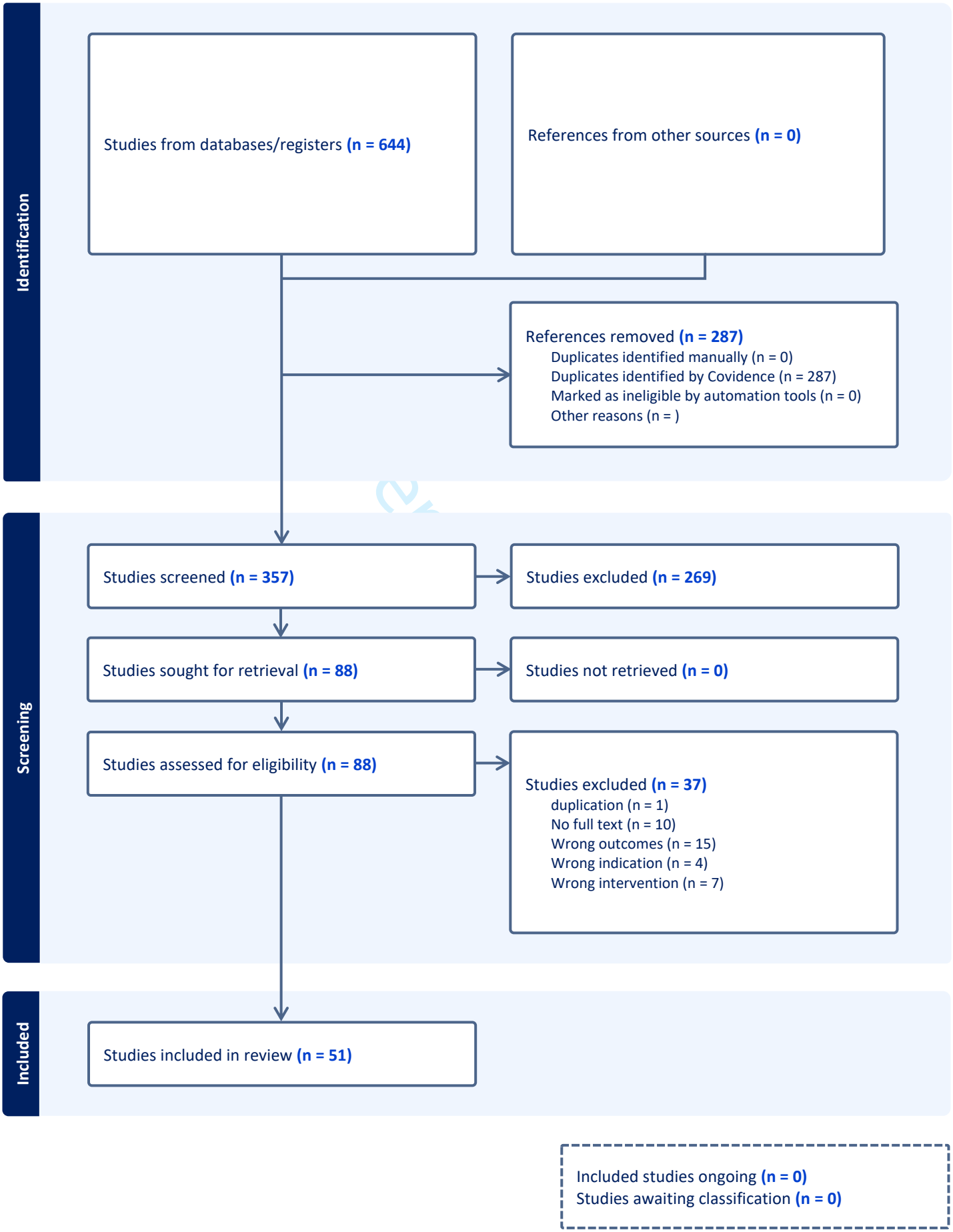
List of Figures

Figure 1: PRISMA Flow chart of traditional medicine and mental health, a systematic review in SSA, December 1, 2022



Supplementary tables:

Supplementary Table 1: Searching terms for concepts **(a)** Traditional healers, **(b)** Mental Health **(c)** Sub-Saharan Africa

(a) Traditional healer/healing	**(b) Mental health**	**(c) Sub-Sahara Africa**
Traditional healing	Mental health problem	Sub-Saharan Africa
Religious healing	Mental health disorder	West African
Indigenous healing	Mental illness	Central Africa
Spiritual healing	Mental disorder	East Africa
Ritual healing	Mental distress	Southern Africa
Faith healing	Psychosis	Horn of Africa
Prayer Healing	Depression	All 48 sub-Saharan countries' names was included by OR Boolean Operator search.
Traditional practitioner	Anxiety	
Traditional healer	Schizophrenia	
Religious healer	Mania	
Spiritual healer	PTSD	
Faith healer	Behavioural disorders	
Diviner*	psychosocial problems	

Prayer*	Psychological distress	
Magic*	Psychological complaints	
Talismans	Psychological disturbance	
Witchcraft	Somatic complaints	
Holy water	Mental health	
	Emotional health	
	Psychological health	
	Mental hygiene	
	Mental health wellbeing	
	Psychological wellbeing	
	Psychosocial wellbeing	
	Mental health promotion	
	Common mental disorders	

Supplementary Table 2: Comprehensive search strategy for each data bases (PubMed, Medline, Scopus, and CINAHL)

Supplementary table 2a: **Pub med** searching strategy and results (Date of Search run on December 1, 2022)

#	Query	Results
1 (a)	((((((((((((((((("Traditional healing"[All Fields] OR "Religious healing"[All Fields] OR "Indigenous healing"[All Fields] OR "Spiritual healing"[All Fields] OR "Ritual healing"[All Fields] OR "Faith healing"[All Fields] OR "Prayer Healing"[All Fields] OR "Traditional practitioner"[All Fields] OR "Traditional healer"[All Fields] OR "Religious healer"[All Fields] OR "Spiritual healer"[All Fields]	21,804 results

	OR "Faith healer"[All Fields] OR "diviner*"[All Fields] OR "prayer*"[All Fields] OR "magic*"[All Fields] OR "Talismans"[All Fields] OR "Witchcraft"[All Fields] OR "Holy water"[All Fields])	
2 (b)	((((((((((((((((((((("Mental health problem"[All Fields] OR "Mental health disorder"[All Fields] OR "Mental illness"[All Fields] OR "Mental disorder"[All Fields] OR "Mental distress"[All Fields] OR "Psychosis"[All Fields] OR "Depression"[All Fields] OR "Anxiety"[All Fields] OR "Schizophrenia"[All Fields] OR "Mania"[All Fields] OR "PTSD"[All Fields] OR "Behavioral disorders"[All Fields] OR "Psychosocial problems"[All Fields] OR "Psychological distress"[All Fields] OR "Psychological complaints"[All Fields] OR "Psychological disturbance"[All Fields] OR "Somatic complaints"[All Fields] OR "Mental health"[All Fields] OR "Emotional health"[All Fields] OR "Psychological health"[All Fields] OR "Mental hygiene"[All Fields] OR "Mental health wellbeing"[All Fields] OR "Psychological wellbeing"[All Fields] OR "Psychosocial wellbeing"[All Fields] OR "Mental health promotion"[All Fields] OR "Common mental disorders"[All Fields])	1,121,026 results
3 (c)	((("Sub-Saharan Africa"[All Fields] OR "Angola"[All Fields] OR "Benin"[All Fields] OR "Botswana"[All Fields] OR "Burundi"[All Fields] OR "Cameroon"[All Fields] OR "Cape Verde"[All Fields] OR "Central African Republic"[All Fields] OR "Chad"[All Fields] OR "Comoros"[All Fields] OR "Republic of the Congo"[All Fields] OR "Democratic Republic of the Congo"[All Fields] OR "Cote d'Ivoire"[All Fields] OR "Djibouti"[All Fields] OR "Equatorial Guinea"[All Fields] OR "Eritrea"[All Fields] OR "Ethiopia"[All Fields] OR "Gabon"[All Fields] OR "The Gambia"[All Fields] OR "Ghana"[All Fields] OR "Guinea"[All Fields] OR "Guinea-Bissau"[All Fields] OR "Kenya"[All Fields] OR "Liberia"[All Fields] OR "Madagascar"[All Fields] OR "Malawi"[All Fields] OR "Mali"[All Fields] OR "Mauritania"[All Fields] OR "Mauritius"[All Fields] OR "Mozambique"[All Fields] OR "Namibia"[All Fields] OR "Niger"[All Fields] OR "Nigeria"[All Fields] OR "Rwanda"[All Fields] OR "Sao Tome and Principe"[All Fields] OR "Senegal"[All Fields] OR "Seychelles"[All Fields] OR "Sierra Leone"[All Fields] OR "Somalia"[All Fields] OR "South Africa"[All Fields] OR "South Sudan"[All Fields] OR "Sudan"[All Fields] OR "Swaziland"[All Fields] OR "Tanzania"[All Fields] OR "Togo"[All Fields] OR "Uganda"[All Fields] OR "Zambia"[All Fields] OR "Zimbabwe"[All Fields] OR "Burkina Faso"[All Fields] OR "West African"[All Fields] OR "Horn of Africa"[All Fields] OR "Central Africa"[All Fields] OR "East Africa"[All Fields] OR "Southern Africa"[All Fields])	644,637 results
3	1 AND 2 AND 3; limited with species (human), language (English)	213 results

Supplementary table 2b: **Medline/** Ovid MEDLINE(R) searching strategy and results (Date of Search run on December 1, 2022)

#	Query	Results
1.	traditional healing.mp. or medicine, traditional/	1,309
2.	Religious healing.mp. or faith healing/	199
3.	Indigenous healing.mp.	220
4.	Spiritual healing.mp.	1,358
5.	Ritual healing.mp.	205
6.	Faith healing.mp.	1,714
7.	Prayer Healing.mp.	202
8.	Traditional practitioner.mp.	1,470
9.	Traditional healer.mp.	3,320
10.	Religious healer.mp.	159
11.	Spiritual healer.mp.	143
12.	Faith healer.mp.	644
13.	Diviner.mp.	70
14.	Prayer*.mp.	3,252
15.	Magic*.mp.	15,980
16.	Talismans.mp.	168
17.	Witchcraft.mp.	948
18.	Holy water.mp.	99
19.	1-19 with or Boolean operator	**22,798**
20.	Mental health problem.mp.	22,877
21.	Mental health disorder.mp.	152,612

22.	Mental illness.mp.	167,652
23.	Mental disorder.mp.	242,594
24.	Mental distress.mp.	5,253
25.	Psychosis.mp.	79,134
26.	Depression.mp.	502,194
27.	Anxiety.mp.	303,594
28.	Schizophrenia.mp.	162,999
29.	Mania.mp.	12,649
30.	PTSD.mp.	45,416
31.	Behavioural disorders.mp.	16,274
32.	Psychosocial problems.mp.	5,963
33.	Psychological distress.mp.	29,771
34.	Psychological complaints.mp.	1,071
35.	Psychological disturbance.mp.	2,484
36.	Somatic complaints.mp.	2,939
37.	Mental health.mp.	406,108
38.	Emotional health.mp.	41,916
39.	Psychological health.mp.	30,582
40.	Mental hygiene.mp.	35,178
41.	Mental health wellbeing.mp.	2,885
42.	Psychological wellbeing.mp.	3,111
43.	Psychosocial wellbeing.mp.	792
44.	Mental health promotion.mp.	2,509

45.	Common mental disorders.mp.	5,344
46.	20- 45 with or Boolean operator	**1,248,711**
47.	Sub-Saharan Africa	**659,320**
48.	19 and 46 and 47	292
49.	limit 48 to English language and humans	**231**

Supplementary table 2c: **Scopus** searching strategy and results (Date of Search run on December 1, 2022)

#	Query	Result
1	TITLE ("Traditional healing" OR "Religious healing" OR "Indigenous healing "OR "Spiritual healing" OR "Ritual healing" OR "Faith healing" OR "Prayer Healing" OR "Traditional practitioner" OR "Traditional healer" OR "Religious healer" OR "Spiritual healer" OR "Faith healer" OR Diviner* OR Prayer* OR Magic* OR Talismans OR Witchcraft OR "Holy water") TITLE-ABS-KEY ("Traditional healing" OR "Religious healing " OR "Spiritual healing" OR "Ritual healing" OR "Faith healing" OR "Prayer Healing" OR "Traditional practitioner" OR "Traditional healer" OR "Religious healer" OR "Spiritual healer" OR "Faith healer" OR diviner* OR prayer* OR magic* OR talismans OR witchcraft OR "Holy water")	85,076
2	TITLE ("Mental health problem" OR "Mental health disorder" OR "Mental illness" OR "Mental disorder" OR "Mental distress" OR Psychosis OR Depression OR Anxiety OR Schizophrenia OR Mania OR PTSD OR "Behavioural disorders" OR "Psychosocial problems" OR "Psychological distress" OR "Psychological complaints" OR "Psychological disturbance" OR "Somatic complaints" OR "Mental health" OR "Emotional health" OR "Psychological health" OR "Mental hygiene" OR "Mental health wellbeing" OR "Psychological wellbeing" OR "Psychosocial wellbeing" OR "Mental health promotion" OR "Common mental disorders") **TITLE-ABS-KEY** (***"Mental health problem"*** OR ***"Mental health disorder"*** OR ***"Mental illness"*** OR ***"Mental disorder"*** OR ***"Mental distress"*** OR ***psychosis*** OR ***depression*** OR ***anxiety*** OR ***schizophrenia*** OR ***mania*** OR ***ptsd*** OR ***"Behavioural disorders"*** OR ***"Psychosocial problems"*** OR ***"Psychological distress"*** OR ***"Psychological complaints"*** OR ***"Psychological disturbance"*** OR ***"Somatic complaints"*** OR ***"Mental health"*** OR ***"Emotional health"*** OR ***"Psychological health"*** OR ***"Mental hygiene"*** OR ***"Mental health wellbeing"*** OR ***"Psychological wellbeing"*** OR ***"Psychosocial wellbeing"*** OR ***"Mental health promotion"*** OR ***"Common mental disorders"***)	1,800,596
3	TITLE ("Angola" OR "Benin" OR "Botswana" OR "Burkina Faso" OR "Burundi" OR "Cameroon" OR "Cape Verde" OR "Central African Republic" OR "Chad" OR "Comoros" OR "Republic of the Congo" OR "Democratic Republic of the Congo" OR "Cote d'Ivoire" OR "Djibouti" OR "Equatorial Guinea" OR "Eritrea" OR "Ethiopia" OR "Gabon" OR "The Gambia" OR "Ghana" OR "Guinea" OR "Guinea-Bissau" OR "Kenya" OR "Liberia" OR "Madagascar" OR "Malawi" OR "Mali" OR "Mauritania" OR "Mauritius" OR "Mozambique" OR "Namibia" OR "Niger" OR "Nigeria" OR "Rwanda" OR "Sao Tome and Principe" OR "Senegal" OR "Seychelles" OR "Sierra Leone" OR "Somalia" OR "South Africa" OR "South Sudan" OR "Sudan" OR "Swaziland" OR "Tanzania" OR "Togo" OR "Uganda" OR "Zambia" OR	1,029,207

	"Zimbabwe" OR "Sub-Saharan Africa" OR" West African" OR "Horn of Africa" OR "Central Africa" OR "East Africa" OR " Southern Africa") TITLE-ABS-KEY (***"Angola"*** OR ***"Benin"*** OR ***"Botswana"*** OR ***"Burkina Faso"*** OR ***"Burundi"*** OR ***"Cameroon"*** OR ***"Cape Verde"*** OR ***"Central African Republic"*** OR ***"Chad"*** OR ***"Comoros"*** OR ***"Republic of the Congo"*** OR ***"Democratic Republic of the Congo"*** OR ***"Cote d'Ivoire"*** OR ***"Djibouti"*** OR ***"Equatorial Guinea"*** OR ***"Eritrea"*** OR ***"Ethiopia"*** OR ***"Gabon"*** OR ***"The Gambia"*** OR ***"Ghana"*** OR ***"Guinea"*** OR ***"Guinea-Bissau"*** OR ***"Kenya"*** OR ***"Liberia"*** OR ***"Madagascar"*** OR ***"Malawi"*** OR ***"Mali"*** OR ***"Mauritania"*** OR ***"Mauritius"*** OR ***"Mozambique"*** OR ***"Namibia"*** OR ***"Niger"*** OR ***"Nigeria"*** OR ***"Rwanda"*** OR ***"Sao Tome and Principe"*** OR ***"Senegal"*** OR ***"Seychelles"*** OR ***"Sierra Leone"*** OR ***"Somalia"*** OR ***"South Africa"*** OR ***"South Sudan"*** OR ***"Sudan"*** OR ***"Swaziland"*** OR ***"Tanzania"*** OR ***"Togo"*** OR ***"Uganda"*** OR ***"Zambia"*** OR ***"Zimbabwe"*** OR ***"Sub-Saharan Africa"*** OR ***" West African"*** OR ***"Horn of Africa"*** OR ***"Central Africa"*** OR ***"East Africa"*** OR ***" Southern Africa"***)	
4	1 AND 2 AND 3, limited to English language, subject area and country	181

Supplementary table 2d: **CINAHL** Searching strategy and results (Date of Search run on December 1, 2022)

#	Query	Result
S1	TI (Traditional healing OR Indigenous healing) OR TI Holy water OR TI (Traditional practitioner OR Traditional healer) OR TI Diviner* OR TI Witchcraft OR TI Magic* OR TI Talismans OR TI (Religious healer OR Spiritual healer OR Faith healer OR Prayer*) OR TI (Spiritual healing OR Religious healing OR Ritual healing OR Faith healing OR Prayer Healing)	**3,882**
S2	TI (Mental health problem OR Mental health disorder OR Mental illness OR Mental disorder OR Mental distress) OR TI Psychosis OR TI Depression OR TI Anxiety OR TI Schizophrenia OR TI Mania OR TI PTSD OR TI Behavioural disorders OR TI (Psychosocial problems OR Psychological distress OR Psychological complaints OR Psychological disturbance) OR TI Somatic complaints OR TI Common mental disorders	**129,598**
S3	TI (Mental health OR Emotional health OR Mental hygiene OR Mental health wellbeing OR Mental health promotion) OR TI (Psychological health OR Psychological wellbeing OR	**61,091**

	Psychosocial wellbeing)	
S4	s2 OR s3 (TI (Mental health problem OR Mental health disorder OR Mental illness OR Mental disorder OR Mental distress) OR TI Psychosis OR TI Depression OR TI Anxiety OR TI Schizophrenia OR TI Mania OR TI PTSD OR TI Behavioural disorders OR TI (Psychosocial problems OR Psychological distress OR Psychological complaints OR Psychological disturbance) OR TI Somatic complaints OR TI Common mental disorders) OR (TI (Mental health OR Emotional health OR Mental hygiene OR Mental health wellbeing OR Mental health promotion) OR TI (Psychological health OR Psychological wellbeing OR Psycho-social wellbeing))	**183,567**
S5	TI Sub-Saharan Africa OR TI West African OR TI Horn of Africa OR TI Central Africa OR TI East Africa OR TI Southern Africa	**4,172**
S6	TI (Angola OR Benin OR Botswana OR Burkina Faso OR Burundi OR Cameroon OR Cape Verde OR Central African Republic OR Chad OR Comoros OR Republic of the Congo OR Democratic Republic of the Congo OR Cote d'Ivoire OR Djibouti OR Equatorial Guinea OR Eritrea OR Ethiopia OR Gabon OR The Gambia OR Ghana OR Guinea OR Guinea-Bissau OR Kenya OR Liberia OR Madagascar OR Malawi OR Mali OR Mauritania OR Mauritius OR Mozambique OR Namibia OR Niger OR Nigeria OR Rwanda OR Sao Tome and Principe OR Senegal OR Seychelles OR Sierra Leone OR Somalia OR South Africa OR South Sudan OR Sudan OR Swaziland OR Tanzania OR Togo OR Uganda OR Zambia OR Zimbabwe)	**51,487**
S7	55 OR s6 (TI Sub-Saharan Africa OR TI West African OR TI Horn of Africa OR TI Central Africa OR TI East Africa OR TI Southern Africa) OR (TI (Angola OR Benin OR Botswana OR Burkina Faso OR Burundi OR Cameroon OR Cape Verde OR Central African Republic OR Chad OR Comoros OR Republic of the Congo OR Democratic Republic of the Congo OR Cote d'Ivoire OR Djibouti OR Equatorial Guinea OR Eritrea OR Ethiopia OR Gabon OR The Gambia OR Ghana OR Guinea OR Guinea-Bissau OR Kenya OR Liberia OR Madagascar OR Malawi OR Mali OR Mauritania OR Mauritius OR Mozambique OR Namibia OR Niger OR Nigeria OR Rwanda OR Sao Tome and Principe OR Senegal OR Seychelles OR Sierra Leone OR Somalia OR South Africa	55,311

	OR South Sudan OR Sudan OR Swaziland OR Tanzania OR Togo OR Uganda OR Zambia OR Zimbabwe))	
S8	S1 AND s4 AND s7 limited to English language and Humane (TI (Traditional healing OR Indigenous healing) OR TI Holy water OR TI (Traditional practitioner OR Traditional healer) OR TI Diviner* OR TI Witchcraft OR TI Magic* OR TI Talismans OR TI (Religious healer OR Spiritual healer OR Faith healer OR Prayer*) OR TI (Spiritual healing OR Religious healing OR Ritual healing OR Faith healing OR Prayer Healing)) AND ((TI (Mental health problem OR Mental health disorder OR Mental illness OR Mental disorder OR Mental distress) OR TI Psychosis OR TI Depression OR TI Anxiety OR TI Schizophrenia OR TI Mania OR TI PTSD OR TI Behavioural disorders OR TI (Psychosocial problems OR Psychological distress OR Psychological complaints OR Psychological disturbance) OR TI Somatic complaints OR TI Common mental disorders) OR (TI (Mental health OR Emotional health OR Mental hygiene OR Mental health wellbeing OR Mental health promotion) OR TI (Psychological health OR Psychological wellbeing OR Psycho-social wellbeing))) AND ((TI Sub-Saharan Africa OR TI West African OR TI Horn of Africa OR TI Central Africa OR TI East Africa OR TI Southern Africa) OR (TI (Angola OR Benin OR Botswana OR Burkina Faso OR Burundi OR Cameroon OR Cape Verde OR Central African Republic OR Chad OR Comoros OR Republic of the Congo OR Democratic Republic of the Congo OR Cote d'Ivoire OR Djibouti OR Equatorial Guinea OR Eritrea OR Ethiopia OR Gabon OR The Gambia OR Ghana OR Guinea OR Guinea-Bissau OR Kenya OR Liberia OR Madagascar OR Malawi OR Mali OR Mauritania OR Mauritius OR Mozambique OR Namibia OR Niger OR Nigeria OR Rwanda OR Sao Tome and Principe OR Senegal OR Seychelles OR Sierra Leone OR Somalia OR South Africa OR South Sudan OR Sudan OR Swaziland OR Tanzania OR Togo OR Uganda OR Zambia OR Zimbabwe))	19

Supplementary table 3: JBI quality appraisal outputs

Supplementary table 3a: JBI quality appraisal outputs for analytical cross sectional and mixed method studies (n=24)

Covidence #	Sample criteria	Study subject & setting	Valid & reliable exposure measure	Objective outcome	Confounding identified	dealing confounding	Valid & reliable outcome measurem	Appropriate analysis	Overall appraisal

			ment	conditi on			ent		
#61	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#79	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#106	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#172	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Include
#234	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#243	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#252	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#300	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#318	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#326	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#421	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#454	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#460	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#474	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#512	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#591	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#598	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#607	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Include
#610	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#649	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#675	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include

#679	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#697	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#701	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include

Supplementary table 3b: JBI quality appraisal outputs for qualitative studies (n=19)

Covidence #	Philosophical perspective and methodological congruity	Methodology and objective congruity	Methodology and data collection method congruity	Methodology and data analysis congruity	Methodology and results interpretation congruity	Researcher culturally or theoretically statement	Researcher influence on research or vice versa	Participants' representation	Ethical consideration	Conclusions appropriateness	Overall appraisal
#85	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Unclear	Yes	Yes	Include
#100	Yes	Yes	Yes	No	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#103	Yes	Yes	Yes	No	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#112	Yes	Yes	Yes	No	Yes	Unclear	Unclear	Unclear	Yes	Yes	Include
#186	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#231	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#304	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Unclear	Yes	Yes	Include
#309	Yes	Yes	Yes	No	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#361	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#370	Yes	Yes	Yes	No	Yes	Unclear	Unclear	Yes	Yes	Yes	Include

#371	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#431	Yes	Yes	Yes	No	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#452	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#457	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#590	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#604	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#614	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#653	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#688	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include

Supplementary table 3c: JBI quality appraisal outputs for cohort studies (n=2)

Covidence #	Groups recruited from the same population	Similar measurement of exposures	valid and reliable Exposure measurement	Confounding identified	Dealing confounding	participants free of outcome at exposure time	Valid and reliable outcomes measurement	Sufficient follow up time for outcomes	follow up complete or reasons to loss to follow up described	Incomplete follow up addressed	Appropriate analysis	Overall appraisal
#58	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#601	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include

Supplementary table 3d: JBI quality appraisal outputs for randomized controlled trail studies (n=2)

Covidence #	true randomization used	treatment groups concealed	Similar treatment groups at the baseline	Participants blinded to treatment assignment	Delivering treatment blind to treatment assignment	Assessors blinded to treatment assignment	Treatment groups treated identically other than the intervention of interest	Completed follow up or managed during analysis	Groups analyzed to which they were randomized	Similar outcomes measurement	reliable outcome measurement	Appropriate analysis	Appopriate trial design ,	Overall appraisal
#267	Yes	Yes	yes	yes	yes	Unclear	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#494	Yes	Yes	yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include

Supplementary table 3e: JBI quality appraisal outputs for opinion studies report (n=4)

Covidence #	Source	Field of expertise	Population of interest	position and logic	Reference/s	Incongruence	Overall appraisal
#67	Yes	yes	Yes	Yes	Yes	No	Include
#98	Yes	Yes	Yes	Yes	Yes	No	Include
#305	Yes	No	NA	Yes	Yes	No	Include

#324	Yes	No	NA	Yes	yes	No	Include

Supplementary table 4 : PRISMA Checklist of items to include when reporting a systematic review or meta-analysis [Adapted from *Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement* ***by*** **Moher D et al, 2015**]

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
ADMINISTRATIVE RMATION					
Title					
Identification	1a	Identify the report as a protocol of a systematic review	☒	☐	
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	☐	☒	
Registration	2	If registered, provide the name of the try (e.g., PROSPERO) and registration number e Abstract	☒	☐	PROSPERO Registration number: CRD42023392905
Authors					
Contact	3a	Provide name, institutional affiliation, and il address of all protocol authors; provide cal mailing address of corresponding author	☒	☐	
Contributions	3b	Describe contributions of protocol authors dentify the guarantor of the review	☒	☐	
Amendments	4	If the protocol represents an amendment of	☐	☐	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
		viously completed or published protocol, ify as such and list changes; otherwise, state for documenting important protocol ndments			
Support					
Sources	5a	Indicate sources of financial or other ort for the review	☒	☐	
Sponsor	5b	Provide name for the review funder and/or sor	☐	☐	
Role of sor/funder	5c	Describe roles of funder(s), sponsor(s), or institution(s), if any, in developing the ocol	☐	☐	
ABSTRACT Structured mary	6	Provide a structured summary: ground, objectives, methods, results, lusions and implications of key findings	☒	☐	
INTRODUCTION					
Rationale	8	Describe the rationale for the review in the ext of what is already known	☒	☐	
Objectives	8	Provide an explicit statement of the tion(s) the review will address with reference rticipants, interventions, comparators, and omes (PICO)	☒	☐	
METHODS					
Eligibility criteria	9	Specify the study characteristics (e.g., PICO, design, setting, time frame) and report cteristics (e.g., years considered, language,	☒	☐	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
		cation status) to be used as criteria for ility for the review			
Information sources	10	Describe all intended information sources electronic databases, contact with study ors, trial registers, or other grey literature es) with planned dates of coverage	☒	☐	
Search strategy	11	Present draft of search strategy to be used least one electronic database, including ed limits, such that it could be repeated	☒	☐	
STUDY RECORDS					
Data management	12a	Describe the mechanism(s) that will be used anage records and data throughout the w	☒	☐	
Selection process	12b	State the process that will be used for ting studies (e.g., two independent wers) through each phase of the review (i.e., ning, eligibility, and inclusion in meta- sis)	☒	☐	
Data collection ess	12c	Describe planned method of extracting data reports (e.g., piloting forms, done pendently, in duplicate), any processes for ning and confirming data from investigators	☒	☐	
Data items	13	List and define all variables for which data e sought (e.g., PICO items, funding sources), re-planned data assumptions and ifications	☒	☐	
Outcomes and itization	14	List and define all outcomes for which data e sought, including prioritization of main and ional outcomes, with rationale	☒	☐	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
Risk of bias in idual studies	15	Describe anticipated methods for assessing f bias of individual studies, including whether vill be done at the outcome or study level, or state how this information will be used in synthesis	☒	☐	
DATA					
Synthesis	16a	Describe criteria under which study data will uantitatively synthesized	☒	☐	
	16b	If data are appropriate for quantitative esis, describe planned summary measures, ods of handling data, and methods of ining data from studies, including any ed exploration of consistency (e.g., I^2, all's tau)	☒	☐	
	16c	Describe any proposed additional analyses sensitivity or subgroup analyses, meta-ssion)	☒	☐	
	16d	If quantitative synthesis is not appropriate, ibe the type of summary planned	☒	☐	
Meta-bias(es)	17	Specify any planned assessment of meta-es) (e.g., publication bias across studies, tive reporting within studies)	☒	☐	
Confidence in ulative evidence	18	Describe how the strength of the body of nce will be assessed (e.g., GRADE)	☒	☐	
RESULTS					
Study selection	19	Give numbers of studies screened, assessed igibility, and included in the review, with ns for exclusions at each stage, ideally with a diagram.	☒	☐	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
Study characteristics	20	For each study, present characteristics for n data were extracted (e.g., study size, PICOS, w-up period) and provide the citations.	☒	☐	
Risk of bias within es	21	Present data on risk of bias of each study if available, any outcome level assessment tem 12).	☒	☐	
Results of individual es	22	For all outcomes considered (benefits or s), present, for each study: (a) simple nary data for each intervention group (b) t estimates and confidence intervals, ideally a forest plot.	☒	☐	
Synthesis of results	23	Present results of each meta-analysis done, ding confidence intervals and measures of stency.	☒	☐	
Risk of bias across es	24	Present results of any assessment of risk of across studies (see Item 15).	☒	☐	
Additional analysis	25	Give results of additional analyses, if done sensitivity or subgroup analyses, meta- ssion [see Item 16]).	☐	☒	
DISCUSSION					
Summary of evidence	26	Summarize the main findings including the gth of evidence for each main outcome; der their relevance to key groups (e.g., hcare providers, users, and policy makers).	☒	☐	
Limitations	27	Discuss limitations at study and outcome (e.g., risk of bias), and at review-level (e.g., nplete retrieval of identified research, ting bias).	☒	☐	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
Conclusions	28	Provide a general interpretation of the ts in the context of other evidence, and cations for future research.	☒	☐	
FUNDING					
Funding	29	Describe sources of funding for the matic review and other support (e.g., supply ta); role of funders for the systematic review.	☒	☐	

Supplementary Table 5: **Type of interventions practiced by traditional healers and effectiveness outcomes for people with mental health problems in sub-Sahara African countries, Dec 1, 2022**

Study	Study	Population and	Sam	Types of traditional healing practices and its characteristics	Traditional healing and collaborative	Additional outcomes of

characteristics	design /type	selection	ple size		outcome/effect in the mental health condition of people	traditional healing practices
Abbo C., 2011, Uganda	Prospective cohort	Psychotic patients aged 18 and above age attending traditional healing practice (Both Traditional healing and biomedical services vs only traditional healer as comparator)	132	The traditional healers treat psychosis by appeasing the spirits, divination, and herbs depending on the perceived cause.	• Patients under both traditional healing and biomedical services had symptom reduction at follow-up. Over 80% of the subjects used traditional healing and biomedical services concurrently, and concurrent use was greatest in the first 3 months of follow-up. • The outcome was measured by objective improvement of Psychosis symptoms using the clinical global impression (CGI), and Patients under both traditional healing and biomedical services had more than 20% symptom reduction at 6-month follow-ups, OR 24.87 (95% CI - 7.03_94.84).	
Ensink and Robertson, 1999, South Africa	Qualitative study	Randomly selected Patients from first admissions to a large psychiatric institution.	62	More than half (61%) of the patients consulted indigenous faith healers and diviners during the 12 months preceding the study.		Most of (70%)both patients with psychiatry disorder and their families reported subjectively that they were generally satisfied with the service they received from traditional healers.

Gureje, Appiah-Poku et al, 2020, Nigeria and Ghana	cluster randomized controlled trial	Clusters of 51 (26 intervention and 25 control, with 307 patients) were randomly allocated (a primary care clinic and neighboring traditional and faith healers facilities) with a one-to-one ratio, stratified by size to an intervention group or enhanced care as usual as a comparator. Aged 18 years or over are admitted at traditional and faith healing facilities for psychotic treatments of individuals recruited	307	The intervention included collaborative shared care delivered by trained traditional and faith healers and primary healthcare workers.	Follow-up at 6 months was completed for 152 (91.6%) subjects in the intervention arm and for 134(95%) subjects in the control arm. Trial participants in the intervention arm achieved a significantly better primary outcome(reduction in psychotic symptoms)at 6 months than controls (Positive and Negative Syndrome Scale(PANSS) total mean score 53.4(sd 19.9) vs. 67.6(sd 23.3; adjusted mean difference: −15.01 (95%CI −21.17 to −8.84; p< 0.0001). Collaborative shared care delivered by traditional and faith healers and conventional healthcare providers for people with psychosis was effective. Scaling up improved care for this vulnerable population in low-resource settings was the study recommendation.	
Johnson, Chin et al., 2017, Uganda	Mixed methods study	Participants were patients at traditional healing and patient care providers from psychiatry and traditional clinics.	38	• Types of traditional healers include herbalists, including smoking and sniffing herbs, spiritualists, diviners, pastors/sheiks, and faith healers. • While some rely on a single approach, many employ various methods, such as herbal medications, Counseling, conflict resolution, monetary support, employment or housing assistance, and spiritual or cultural rituals.	• Almost half (48%) of the depressed patients at the traditional clinics receiving traditional treatments subjectively reported that they had improved very much, followed by 45% reporting partial improvement. Patients in both settings reported similar levels of improvement and satisfaction. • Patients at traditional clinics had nearly three times as many visits than the patients at psychiatric.	

Kpobi and Swartz,2018, Ghana	Qualitative study	Pastors worked as faith healers for at least five years	10	• Pastor faith healers stated that they used prayer to identify the disorder and its causal factors and treat the problem. • The investigations included interviewing the patient and/or their family observations of their behavior. • The treatment method was predominantly prayer, such as the pastor laying his hands on them, using prayer aids like oils and holy water, fasting, 'spiritual counseling' or 'spiritual directions'.	Pastors reported that they had perceived a good effect in improving the patient's condition by providing both biomedical care and spiritual care that they provided.	
Mbwayo, Ndetei et al., 2013, Kenya	Cross-sectional	Traditional healers and their patients in the research sites were randomly selected.	364	• The traditional healers commonly to treat mental illness by combining herbal treatment with Counseling and they provide spiritual care. • Mental illness, Spirit/Demonic possession, Witch craft and physical illness were separately reported types of diagnosis by the traditional healers.		95% of patients responded that they were satisfied with the traditional healers' services
Ofori-Atta, Attafuah et al.,2018, Ghana	RCT	Participants with serious mental illness screened ICD-10 criteria and 18–65 years old. Randomization was conducted using a card sorting method and there were 71 randomized participants in the intervention group and 68 in the control group (total n = 139). Intervention group of participants receive collaborative service by a team of mental health professionals plus prayer camp care VS Control of Participants received usual prayer camp treatment (usual care including forced	139	Psychotic patients who receive both traditional and modern psychiatry care had good improvement.	On the 6-week 24-item Brief Psychotic Rating Scale (BPRS) total score, participants in the intervention group had significantly lower scores (lower symptom levels) than controls (intervention group, 1.95, (s.d. = 0.57) v. control group 2.39 (s.d. = 0.87); P = 0.003), a mean difference of 0.63 points (95% CI 0.59–0.87) representing an effect size (Cohen's d) of –0.48.	

		fasting, prayer, and the use of chain restraints).				
Shehu and Durga Rao, 2020, Nigeria	Mixed methods study	Mentally sick persons and Traditional healers were purposively selected	60	For mental disorders, clients are given herbs both in liquid and powdered form by the healer, applied on the body of the client and the clients are given this liquid form for internal use, and powder is given for inhalation and praying.		Majority of (95%) of clients were satisfied with the treatment and healing process rendered by the traditional healers.
Sorketti, Zainal et al., 2013, Sudan	Prospective follow-up cohort study	All adult inpatients with psychotic disorders receiving treatment in traditional healer centers	129	The traditional healers' intervention methods were praying, Restriction of food, chaining the patient, beating the patient, isolation in a dark room, and Restriction of visitors.	There was a significant reduction of psychotic symptoms in the Positive and Negative Syndrome Scale (PANSS) score (p = .0001) after around 4 months of treatment. The mean for the overall PANSS score was 118.36 on admission and 69.36 on discharge.	- Human rights abuse such as Restriction of food, chaining the patient, beating the patient, isolation in a dark room, Restriction of visitors
Yaro, Asampong et al, 2020, Ghana	Qualitative study	Traditional healers, spiritual healers, patients, and their carers and nurses using Purposive sampling	54	• After training, there was the abolition of chaining and the use of shackles by these healers, with increasing respect for the human rights of patients. • After the training on mental health conditions and enhancing referral systems, participants improved their knowledge about mental health and illness.	Collaboration service providing training on mental health conditions among healers of mental illness results in quick recovery of patients who seek care at traditional and spiritual healers centers.	- Human rights abuse, such as chaining and using of shackles by these healers before the training
Zingela, van Wyk et al.,	Cross-sectional	Adult psychiatry patients at psychiatric hospitals and community psychiatry	258	• Religious healing and combining ritual and herbal treatments through oral, via enema, and inhaled steam. • 31% of the psychiatry patients had consulted a healer in the past year	58% of the clients reported feeling better after the healer's treatment, compared to seven (9%) who reported feeling worse	Human rights abuse, such as clients reported physical

2019, South Africa		settings.			and 18 (23%) who said no effect.	abuse (22%)by the healers
Asher, Birhanu et al, 2021, Ethiopia	Qualitative study	Individuals attended the psychiatry service at holy water site	174	• Holy water treatments were ceremonies, prayer, baptism, and drinking of holy water and psychosocial support such as providing personal support to clients such as hygiene, wash clothes, preparing foods and support to access psychiatric care by the clients get improvement in the site • Stigma, physical and verbal abuse towards holy water users and physical restraint by the attendants was observed.		Stigma, physical and verbal abuse towards holy water users and physical restraint by the attendants was observed.
Esan, Appiah-Poku et al, 2019, Three sub-Saharan African countries (Ghana, Kenya and Nigeria)	Cross-sectional	Traditional healers who provide the treatment of mental disorders	693	• The types of traditional healers were Diviners, Christian faith healers, Islamic faith healers, herbalists and faith healers, and Witchcraft. Fetish practices, Rituals, Orthodox medications, Prayer, and fasting are the common interventions the healers provide. • Most of them (> 70%) treat both physically and mentally ill persons. • Non-humane treatments such as flogging, locking patients up in cages, keeping patients in over-crowded rooms, preventing patients from having their baths, forcing patients to go on fasts (or starving patients), and restricting patient movements through shackling, beating, and sleeping on bare floor were reported.		Non-humane treatments such as flogging, locking patients up in cages, keeping patients in over-crowded rooms, preventing patients from having their baths, forcing patients to go on fasts (or starving patients) and restricting patient movements through shackling, beating and sleeping on bare floor were reported.
Omer and Mufaddel, 2018, Sudan	Cross-sectional	Patients at outpatient clinic were asked about previous history of seeking treatment from traditional healers.	131	• There were two common traditional methods, including incantation and erasure (locally known as Al-mihaya) each representing 43.2% of all methods and treatment with oil (sesame or olive oil), phylacteries (locally known as hijab) and beating. • 84% of patients reported a previous history of seeking traditional treatment for psychiatric illness before the modern treatment. • Families mostly decided to seek traditional treatment and the patients took the decision in only 27% of cases.		Human right abuse such as beating.
Sorsdahl,	Qualitativ	Traditional healers who	50	• They give herbs (unknown names) to drink and bathe for all		Human rights abuse

Flisher et al., 2010, South Africa	e study	attended a workshop on mental health advocacy selected by Convenience sample		and to sniff for half of them, together with praying for the spiritual causes of mental illness. • Forceful methods, such as tying them up with ropes and chains, were described (34%), and they incorporate modern ingredients that are potentially toxic. • Most of the healers reported possessing the skills and knowledge required to "cure a mental illness" (86%).		such as Forceful methods such as tying them up with ropes and chains were described and they incorporate modern ingredients that are potentially toxic.
Abbo C. etal, 2009, Uganda	Cross-sectional	Patients attending traditional healers for psychological distress selected consecutively	387	The traditional healers use various methods that include appeasing the spirits, divination, and herbs to treat psychosis.		
Abiodun OA, 1995, Nigeria	Brief report	All psychiatry patients (ICD-10) age 16 and older who attended the psychiatric clinic of general hospital.	238	• The traditional healing practices include herbal remedies, ritual cures, fasting, prayer, and holy water from religious healers. • Family members played essential roles in 87 % of patients about the type of practitioner to consult. • 95% of patients reported that they had first contacted traditional or religious healers when they developed a mental illness.		
Adewuya A. etal , 2009, Nigeria	Cross-sectional	General population selected from communities through a multistage probability sampling technique	2,078	• The preferred treatment option was spiritual healers by 41% of respondents followed by 30 % of them endorsed traditional healers practice. • Female gender and lower education were correlated with visiting spiritual and traditional healers practice preference		
Ae-Ngibise K. etal , 2010, Ghana	Qualitative study	Participants of policy makers, health professionals, users of psychiatric services, teachers, police officers, academics, and religious and traditional healers were included	120	Traditional and faith healer mechanisms were reported, such as using prayers, fasting and anointing oils or holy water, Confessions of wrongdoing, and psychosocial support as an additional		

Akighir, A., 1982, Nigeria	Opinions	The general population between the ages of 18 and 30 years old from rural or urban areas and selected randomly	80	Most subjects tend to believe strongly in mystical causes of madness and also felt that traditional healers have a vital role to play in the treatment of Psychiatric disorders.		
Akol, Moland et al, 2018, Uganda	Qualitative study	Traditional healers of people with mental illness selected Purposively	20	Most Traditional healers believed that traditional medicine is the only effective treatment for mental ill-health. For example, several traditional healers cited the inability of clinical providers to expel maggots from patients' brains.		
Ally and Laher, 2008, South Africa	Qualitative study	Muslim Healers from community using convenience sampling	6	Muslim healers treat by putting their hand on to the patient's head and reading verses and then blowing onto the client and/ or into natural products, e.g. water, honey, sugar, salt, olive oil, and the person is to use them when cooking, or they are to be ingested by the individual. Also, the verses of the Qur'aan are written on a piece of paper to be kept with the person at all times, and spiritual practices like daily prayer and constant remembrance of the Almighty (Zikr).		
Appiah-Poku, Laugharne et al, 2004, Ghana	Cross-sectional	New Patients presenting to Psychiatry services	322	Most patients with mental health problems seek help from religious (mostly Christian) pastors and traditional healers before approaching health services. The role of Christian pastors has been increased rather than traditional healers.		
Burns, Jhazbhay et al, 2011 Soth Africa	Cross-sectional	First-episode psychotic patients (16 years to 45 age) visited the Hospital	54	38.5% had seen a traditional healer before making contact with formal mental health services and 49% of the psychotic patients attributed their illness to spiritual/traditional reasons.		

Campbell-Hall, Petersen et al, 2010, South Africa	Qualitative study	Stakeholders of the formal health sector, NGO sector, traditional practitioners and mental health service users recruited from district clinics	90	• All participants generally felt that traditional practitioners have a role to play in the provision of mental health care, especially in terms of Counseling and psychological support for common mental health problems and could give them and their families strength in recovery. • Two-thirds of health service users reported having additionally used and first approached the services of traditional or faith practitioners		.
Filiatreau, Ebasone et al., 2021, Cameroon	Cross-sectional	>21 of age with symptoms of a mental disorder initiating care for HIV in Health Facilities	161	50% of HIV patients with mental illnesss beginning HIV care receive care from an informal source, 17% of individuals reported ever seeking help from a traditional healer, and 40.4% from a religious leader.		
Girma and Tesfaye, 2011, Ethiopia	Cross-sectional	Psychiatry patients attending the outpatient department of the psychiatry clinic at Specialized Hospital recruited Consecutively	384	• Traditional healers were the first place where help was sought for mental illness in this population. • 30.2% of the patients sought traditional treatment from either a religious healer or an herbalist (20.1%) before they came to the hospital.		
Irankunda and Heatherington, 2017, Burundi	Cross-sectional	Participants were drawn from general patients awaiting primary health care services.	198	• Participants receive spiritual treatment that provides social support from prayer, comfort, advice, and Hopes.. • The majority (88%) of respondents expected spiritual treatment to work.		
Jacobsson and Merdasa, 1991, Ethiopia	Qualitative study	Psychiatry patients, health workers in hospitals and from, Coptic priests, Muslim sheiks, and other traditional healers interviewed	Not reported	Christian and Muslim leaders Pray and the devil leave the patient and priests also order holy water to treat mental disorders. The diviner wizard (tanquais) prepare and provide amulets		

Jaiyeoba, 1988, Nigeria	Opinions	NA	NA	Goats or dogs are killed for sacrifices to appease "God" to forgive whoever has caused the illness, holy water bathing, and praying practices to treat mental illness.		
January and Sodi, 2006, Zimbabwe	Qualitative study	Faith healers from Apostolic churches using a procedure of snowball sampling	21	Faith healers use a variety of procedures like prayer, holy water to drink and bathe, Exorcism, Counseling, and holy stones string tied around wrists and ankles during their healing sessions.		
Kahana, 1985, Ethipia	Brief report	NA	NA	Zar is usually believed to be caused by the possession by Zar spirits and to be treated by Zar doctor. If believed to be caused by Evil Eye , they referred to "Tanqway" (the sorcerer treats by exorcism) and to the "dabtara" (amulet-writer or "ktab").		
Kahn and Kelly, 2001, South Africa	Mixed methods study	Nurses working in Psychiatric Hospital	93	• Most nurses perform traditional rituals and customs (89%) and visit traditional healers as patients (75%). • 58% of nurses agreed that traditional healers could play a positive role in mental health care, and they conclude that traditional healing as an adjunct to psychiatric medication or psychotherapy.		
Kpobi and Swartz, 2018, Ghana	Qualitative study	Indigenous healers selected through snowballing	8	• The most common means of treatment to get relief was through confession. So, such people need to confess and then get some relief. • The traditional healer said that the gods show us what the problem is, who is causing it and how to heal the person".		
Kpobi and Swartz, 2019, Ghana	Qualitative study	Muslim Traditional Healers vselected using snowballing	10	• All Muslim Traditional Healers reported that the primary mode of healing was through the words of the Qur'an using Verses, and all of these processes were done to banish or repel the evil spirit. • The predominant mode of diagnosis was through interviewing the patient and/or their relatives, and they asked for dreams as a vital clue to identifying the underlying illness.		

Mohamed-Kaloo and Laher, 2014, South Africa	Qualitative study	Muslim general practitioner(GP) doctors in private practice use a convenience sample	10	• The Muslim GP Doctors reported that patients regularly consulted traditional healers such as maulanas (Muslim clergy) and sangomas (African traditional healers). • The majority of the Muslim GP Doctors acknowledged that spiritual illness exists and acknowledged the existence of a belief in witchcraft, the 'evil eye' and spirit possession and noted that collaboration with and referral to traditional healers are important		
Musyimi, Mutiso et al, 2018, Kenya	Qualitative study	Traditional healers, faith healers and clinicians selected through simple random sampling	36	• Among faith healers, the commonly used methods varied from Counseling and prayer, casting out demons, and conducting home visits to offer additional help. • All these professionals' differences influenced the process of managing patients with mental illness.		
Musyimi, Mutiso et al, 2017, Kenya	Cross-sectional	Adult patients consulting the trained THPs were selected Using a systematic random sampling technique	100	All adult patients seek care from traditional healers such as diviners and herbalists or faith healers, who use treatments such as prayers, laying hands on patients, or providing holy water and ash to their patients.		
Musyimi, Mutiso et al., 2016, Kenya	Qualitative study	Faith healers and traditional healers are selected Randomly	30	Traditional and faith healers treat using praying commonly and refer patients to the clinic, especially in cases of severe mental illnesses and for medical problems.		
Musyimi, Mutiso et al., 2017, Kenya	Cross-sectional	Adult patients with mental health problems seeking care from traditional and faith healers	433	Among the visitors of traditional and faith healers, 71% of them were depressed, and 65.5% of them were under the treatment of faith healers.		

Ngoma, Prince et al., 2003, Tanzania	Cross-sectional	Adult Patients from PHCs and from THCs were selected using consecutive sampling	354	• In traditional healer centers, diviners, herbalist-ritualists, Herbalists (steam baths, and mineral and animal extracts) and faith healers manage patients. • The prevalence of common mental disorders among THC patients (48%) was doubles that of PHC patients (24%).		
Shange and Ros, 2022, South Africa	Qualitative study	Traditional healers treat people with mental health problems	14	Healers are used to treat mental illness, including removing evil spirits through washing, steaming, induced vomiting, and administering herbal remedies.		
Sorketti, Zainal et al., 2012, Sudan	Cross-sectional	All inpatients who were diagnosed by the traditional healer to have mental illness and admitted to the healing center	405	More than half (52%) of participants said they had **not** previously visited any mental health facilities because they did not know about the psychiatry service and mental health services were not helpful or useful for them.		
Sorsdahl, Stein et al., 2010, South Africa	Qualitative study	Traditional healers practicing who attended workshops on educating traditional healers on the nature of the mental illness, signs and symptoms of depression treatments and referral mechanisms selected using a Convenience sample	24	The traditional healers' characteristics were diviners with diagnostic powers, both a diviner and herbalist.		
Sorsdahl, Stein et al., 2013,	Cross-sectional	Traditional healers selected using convenience sample	100	Most of this study's healers (75%) can be classified as diviners (who have diagnostic powers). A minority can be classified as herbalists (14%) who dispense herbal medicines and faith healers (5%).		

South Africa						
Sorsdahl, Stein et al., 2009, South Africa	Community based survey	Participants with mental disorder diagnoses for mood, anxiety, and substance use disorders.	3651	• Traditional, religious and spiritual were the healers. • The use of traditional healers in the full sample was predicted by older age, black race, unemployment, lower education, and having an anxiety or a substance use disorder.		
Teshager, Kerebih et al, 2020, Ethiopia	Cross-sectional	Outpatients from the psychiatry clinic treatment selected consecutively	423	Around 71% of the patients sought help from religious healers for the first time before they visit psychiatry care at the hospital, and 2.6% of them from traditional healers.		
Teuton, Dowrick et al., 2007, Uganda	Qualitative study	Indigenous healers, religious healers and psychiatrists using snowball technique	25	The indigenous, religious, and allopathic healers' attitudes towards other parts of the healing context varied.		
van der Watt, Menze et al, 2021, South Africa	Mixed methods study	Traditional healers recruited using the snowball method.	118	• The traditional healers identify themselves as "sangoma" (holy man or women), Healer, spiritualists and Herbalist. Most of all the types of healers' said "Just know" as the diagnosis mode. • Spiritualists, male THs, and THs who had previously been hospitalized for a mental disorder were more likely to report a willingness to refer patients to biomedical hospitals.		
van der Zeijst, Veling et al.,	Mixed methods study	Traditional health practitioners, formal health practitioners, patients and relatives	27	• According to participants, when ancestors are calling someone to become a THP, this person is possessed by ancestral spirits. • The result shows that the ancestral calling to become a traditional health Practitioner might announce itself with		

2021, South Africa		were recruited		symptoms of mental illness, including unusual perceptual experiences, for which some participants consider mouthwash (training to become a traditional health Practitioner) as the only effective cure.		
Yeshanew, Belete et al., 2020, Ethiopia	Mixed methods study	Adult people in the town at household using multistage sampling technique	964	• Habitual healers and herbal treatments, including holy water, are reported as common healing practices. • Of respondents who agreed that mental illness needs treatment, about 44.1% had the intent to seek help from traditional medical practice.		

Supplementary Table 6: Enablers and barriers of traditional healing practices for people with mental health problems in sub-Sahara African countries, Dec 1, 2022

Study characteristics	**Study design /type**	**Population and selection**	**Sample size**	**Enablers** to traditional healing practice	**Barriers** to traditional healing practice
Ae-Ngibise K. etal , 2010, Ghana	Qualitative study	Policy makers, health professionals, users of psychiatric services, teachers, police officers, academics, and religious and traditional healers were recruited	120	THs related – ✓ The availability, accessibility, and affordability nature of traditional healing ✓ Faith healers' understandings of mental illness cause consistency with cultural explanation. ✓ Few faith and traditional healers advise patients to use conventional treatments alongside spiritual care. Health system related- ✓ Inadequate number of conventional mental health service providers ✓ Biomedical services were frequently described as expensive	THs related – ✓ Human rights abuses committed by traditional healers were reported, such as 'maltreatment', 'neglect',, and exploitations, including forced fasting, exorcisms which include physical beatings (sometimes resulting in death), chaining to contain agitated patients, and forced confinement. ✓ Traditional healers doubt the value of 'conventional' psychiatric treatments effectiveness. For example, traditional healers remarked that 'conventional' medical practitioners treat the symptoms, not the causes. HPs related- ✓ Few biomedical practitioners emphasized that collaboration would only be possible if traditional practitioners were 'educated', 'trained', and 'regulated from a clinical perspective. ✓ Some biomedical professionals believe not to refer patients with

					severe mental health conditions. ✓ Nurses revealed that positive interactions with different traditional healing systems result in strong follow-up of modern medicine.
Akol, Moland et al, 2018, Uganda	Qualitative study	Traditional healers with mental illness Purposively selected	20	Health system- ✓ The government is taking the lead in integrating them with formal health systems ✓ laws and policies, increased recognition or advocacy to community	THs- ✓ Traditional healer peers' poor competency ✓ Traditional healers did not trust biomedical practitioners' skill HPs- ✓ All traditional healers believed that clinical providers are not willing to collaborate with traditional healers because they consider them as dirty and have a lower education status.
Asher, Birhanu et al, 2021, Ethiopia	Qualitative study	Individuals attended the psychiatry service at holy water site	174	Health system- ✓ To Improve collaboration between spiritual and psychiatric care, mental health services provided at the holy water site clinic ✓ Social support such as hygiene, washing clothes, preparing foods, and support to access psychiatric care provided by the trained and improved clients at the holy water site. ✓ A training manual was developed for holy water priests and attendants adapted from a manual for support workers of homeless people with mental illness in Addis Ababa (Fekadu et al., 2014). The training changed their attitudes towards psychiatric treatment	
Campbel l-Hall, Petersen et al, 2010, South Africa	Qualitative study	Formal health sector stakeholders, NGO sector, traditional practitioners and mental health service users recruited	90	HPs- ✓ Health workers believe in the importance of educating traditional practitioners about signs and symptoms of mental illness and referral. ✓ All Health workers believed that traditional practitioners could support patients.	THs- ✓ Some THs opinions about the use of traditional and biomedical treatment said the two medicines should not be taken at the same time. HPs- ✓ Health workers reportedly did not prevent mental health patients from consulting traditional practitioners but mainly were not in favor of referring to traditional healers Health system- ✓ lack of a working relationship between the two methods of healing in the ground

Ensink and Robertson, 1999, South Africa	Qualitative study	Random sample of 62 patients was selected from first admissions to a large psychiatric institution.	62		Social- ✓ transport costs as many families traveled far to consult diviners with good reputations THs- ✓ Diviners charged the highest fees for treatment as compared to modern psychiatry care.
January and Sodi, 2006, Zimbabwe	Qualitative study	Faith healers using snowball sampling	21	THs- ✓ More than half (66.6%) of the faith healers favored collaboration with Western-trained healthcare providers.	
Kahn and Kelly, 2001, South Africa	Mixed methods study	Nurses working in Psychiatric Hospital	93	HPs- ✓ The study concludes that the nurses would not endorse traditional healing as a replacement for psychiatric medication or psychotherapy but as an **adjunct** to these.	
Kpobi and Swartz, 2018, Ghana	Qualitative study	Pastors worked as faith healers	10	THs - ✓ Pastor faith healers recommend patients receive biomedical care for the physiological effects of their illness as spiritual forces may manifest in psychological and physiological ways.	
Mbwayo, Ndetei et al., 2013, Kenya	Cross-sectional	Traditional healers and their patients randomly selected	364	Individual- ✓ Patients visit traditional healing than hospitals because Patients report Poor outcomes from hospital care. THs – ✓ Traditional healers give more time to patients, ✓ Traditional healers could let patients pay later ✓ Traditional healing was more affordable compared to	

				hospitals Health system- ✓ Patients report inadequate drug supply	
Mohamed-Kaloo and Laher, 2014 South Africa	Qualitative study	Muslim general practitioners (GPs) by convenience sample	10	HPs- ✓ GPs noted that collaboration and referral to traditional healers are essential for faith healing.	
Musyimi, Mutiso et al, 2018, Kenya	Qualitative study	Traditional healers, faith healers and clinicians, through simple random sampling	36	Health system - ✓ Existence of rules and regulation ✓ Provide training to prevent patient mistreatment, enhance awareness of mental health practice, and collaborate by gov't.	Individual - ✓ Patients were reluctant to visit the hospital even after being referred by the healers. Social- ✓ Patients' relatives/ family decide the preference of the treatment without the patients' consent THs- ✓ The existence of 'fake' healers ✓ Malpractice traditional practitioners ✓ lack of knowledge and skills of healers to treat mental illness Health system- ✓ lack of financial resources, such as lack of transport costs for faith healers to conduct home visits
Musyimi, Mutiso et al., 2016, Kenya	Qualitative study	clinicians, faith healers and traditional healers randomly selected	30		Individual - ✓ Faith healers felt that some patients failed to visit the health centers even on referral. Health system- ✓ No referrals inherent from traditional healers, faith healers to clinicians, and vice versa
Sorsdahl, Stein et al.,	Qualitative study	Traditional healers who attended workshops on educating traditional healers on the nature of mental illness, signs	24	THs- ✓ Almost all the healers reported a desire to collaborate with allopathic physicians (88%) after they attended the workshop on educating traditional healers on the	THs- ✓ Herbalist-only healers don't need to collaborate because they believe in the efficacy of their practices.

2010, South Africa		and symptoms of depression, treatments, referral by Convenience sample		nature of mental illness, signs and symptoms of depression, treatments, and referral issues.	HPs- ✓ Allopathic physicians do not want to work with traditional healers because they do not view them as effective and valuable.
Sorsdahl, Stein et al., 2013, South Africa	Cross-sectional	Traditional healers selected using convenience sample	100		Health system- ✓ Herbalists were less likely than other types of healers to refer patients with a mental illness to Western health professionals.
Teuton, Dowrick et al., 2007, Uganda	Qualitative study	Indigenous healers, religious healers, and psychiatry professionals using snowball technique	25	THs- ✓ Indigenous healer beliefs suggested that allopathic medicine can be used for symptoms whilst indigenous healing deals with the underlying spiritual causes.	THs- ✓ Religious healers portrayed the indigenous healers as exploitative HPs- ✓ Allopathic healers made little reference to religious healers and were ambivalent towards indigenous healers, portraying them as misleading because of lacking the skills and, abusing clients, restraining clients, and preventing patients from receiving allopathic treatment.

Supplementary table 4 : PRISMA Checklist of items to include when reporting a systematic review or meta-analysis [Adapted from *Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement* ***by*** **Moher D et al, 2015**]

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
ADMINISTRATIVE RMATION					
Title					
Identification	1a	Identify the report as a protocol of a systematic review	☒	☐	
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	☐	☒	
Registration	2	If registered, provide the name of the try (e.g., PROSPERO) and registration number e Abstract	☒	☐	PROSPERO Registration number: CRD42023392905
Authors					
Contact	3a	Provide name, institutional affiliation, and il address of all protocol authors; provide cal mailing address of corresponding author	☒	☐	
Contributions	3b	Describe contributions of protocol authors dentify the guarantor of the review	☒	☐	
Amendments	4	If the protocol represents an amendment of viously completed or published protocol, ify as such and list changes; otherwise, state for documenting important protocol ndments	☐	☐	
Support					
Sources	5a	Indicate sources of financial or other ort for the review	☒	☐	
Sponsor	5b	Provide name for the review funder and/or sor	☐	☐	
Role of sor/funder	5c	Describe roles of funder(s), sponsor(s), or institution(s), if any, in developing the ocol	☐	☐	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
ABSTRACT Structured mary	6	Provide a structured summary: ground, objectives, methods, results, lusions and implications of key findings	☒	☐	
INTRODUCTION					
Rationale	8	Describe the rationale for the review in the ext of what is already known	☒	☐	
Objectives	8	Provide an explicit statement of the tion(s) the review will address with reference rticipants, interventions, comparators, and omes (PICO)	☒	☐	
METHODS					
Eligibility criteria	9	Specify the study characteristics (e.g., PICO, design, setting, time frame) and report acteristics (e.g., years considered, language, cation status) to be used as criteria for ility for the review	☒	☐	
Information sources	10	Describe all intended information sources electronic databases, contact with study ors, trial registers, or other grey literature ces) with planned dates of coverage	☒	☐	
Search strategy	11	Present draft of search strategy to be used least one electronic database, including ed limits, such that it could be repeated	☒	☐	
STUDY RECORDS					
Data management	12a	Describe the mechanism(s) that will be used anage records and data throughout the w	☒	☐	
Selection process	12b	State the process that will be used for ting studies (e.g., two independent wers) through each phase of the review (i.e., ning, eligibility, and inclusion in meta- sis)	☒	☐	
Data collection ess	12c	Describe planned method of extracting data reports (e.g., piloting forms, done endently, in duplicate), any processes for ning and confirming data from investigators	☒	☐	
Data items	13	List and define all variables for which data e sought (e.g., PICO items, funding sources), re-planned data assumptions and	☒	☐	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
		lifications			
Outcomes and itization	14	List and define all outcomes for which data e sought, including prioritization of main and ional outcomes, with rationale	☒	☐	
Risk of bias in idual studies	15	Describe anticipated methods for assessing f bias of individual studies, including whether vill be done at the outcome or study level, or state how this information will be used in synthesis	☒	☐	
DATA					
Synthesis	16a	Describe criteria under which study data will uantitatively synthesized	☒	☐	
	16b	If data are appropriate for quantitative esis, describe planned summary measures, ods of handling data, and methods of ining data from studies, including any ed exploration of consistency (e.g., I^2, all's tau)	☒	☐	
	16c	Describe any proposed additional analyses sensitivity or subgroup analyses, meta-ssion)	☒	☐	
	16d	If quantitative synthesis is not appropriate, ibe the type of summary planned	☒	☐	
Meta-bias(es)	17	Specify any planned assessment of meta-es) (e.g., publication bias across studies, tive reporting within studies)	☒	☐	
Confidence in ulative evidence	18	Describe how the strength of the body of nce will be assessed (e.g., GRADE)	☒	☐	
RESULTS					
Study selection	19	Give numbers of studies screened, assessed igibility, and included in the review, with ns for exclusions at each stage, ideally with a diagram.	☒	☐	
Study characteristics	20	For each study, present characteristics for n data were extracted (e.g., study size, PICOS, w-up period) and provide the citations.	☒	☐	
Risk of bias within es	21	Present data on risk of bias of each study if available, any outcome level assessment tem 12).	☒	☐	
Results of individual	22	For all outcomes considered (benefits or	☒	☐	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
es		s), present, for each study: (a) simple nary data for each intervention group (b) t estimates and confidence intervals, ideally a forest plot.			
Synthesis of results	23	Present results of each meta-analysis done, ding confidence intervals and measures of stency.	☒	☐	
Risk of bias across es	24	Present results of any assessment of risk of across studies (see Item 15).	☒	☐	
Additional analysis	25	Give results of additional analyses, if done sensitivity or subgroup analyses, meta- ssion [see Item 16]).	☐	☒	
DISCUSSION					
Summary of evidence	26	Summarize the main findings including the gth of evidence for each main outcome; der their relevance to key groups (e.g., hcare providers, users, and policy makers).	☒	☐	
Limitations	27	Discuss limitations at study and outcome (e.g., risk of bias), and at review-level (e.g., nplete retrieval of identified research, rting bias).	☒	☐	
Conclusions	28	Provide a general interpretation of the ts in the context of other evidence, and cations for future research.	☒	☐	
FUNDING					
Funding	29	Describe sources of funding for the matic review and other support (e.g., supply ta); role of funders for the systematic review.	☒	☐	

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Traditional healing practices, factors influencing to access the practices, and its complementary effect on mental health in sub-Saharan Africa: A systematic review

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Traditional healing practices, factors influencing to access the practices, and its complementary effect on mental health in sub-Saharan Africa: A systematic review

ABSTRACT

Objectives: In areas with limited and unaffordable biomedical mental health services, such as sub-Saharan Africa (SSA), traditional healers are an incredibly well-used source of mental health care. This systematic review synthesises the available evidence on traditional healing practices, factors to access it, and its effectiveness in improving people's mental health in Sub-Saharan Africa.

Design: Systematic review using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) approach.

Data sources: PubMed, Medline, CINAHL, and Scopus studies published before December 1, 2022.

Eligibility Criteria: Qualitative and quantitative studies reported traditional healing practices to treat mental health problems in sub-Saharan African countries published in English before 1 December 2022.

Data extraction and synthesis: Data were extracted using Covidence software, thematically analysed, and reported using tables and narrative reports. The methodological quality of the included papers was evaluated using Joanna Briggs Institute quality appraisal tools.

Results: In total, 51 studies were included for analysis. Traditional healing practices included faith based (spiritual or religious) healing, diviner healing practices, and herbal therapies as complementary to other traditional healing types. Objectively measured studies stated that people's mental health improved through collaborative care of traditional healing and biomedical care services. In addition, other subjectively measured studies revealed the effect of traditional healing in improving the mental health status of people. Human rights abuses occur as a result of some traditional practices, including physical abuse, chaining of the patient, and restriction of food or fasting or starving patients. Individual, social, traditional healers, biomedical health care providers, and health system-related factors were identified to access traditional healing services.

Conclusion: Although there is no conclusive, high-level evidence to support the effectiveness of traditional healing alone in improving mental health status. Moreover, the included studies in this review indicated that traditional healing and biomedical services collaborative care improve people's mental health.

PROSPERO registration number: CRD42023392905.

Strengths and limitations of this study

- This systematic review used a comprehensive search not only on the effectiveness of traditional healing but also on the types of practices, the factors that determine access to the practices, and human rights abuse reports.
- The systematic review included a number of papers (51) which applied qualitative and quantitative methods.
- As subjective effectiveness reports of studies are prone to biases, they were reported descriptively.
- Some studies might have been missed due to non-English language studies being excluded.

INTRODUCTION

Globally, 25% of the world's population will experience a mental health problem at some stage in their life. Worldwide, 450 million people suffer from mental or neurological disorders, and over 150 million people suffer from depression.[1] Anxiety disorder is the most prevalent (7.3%) mental health problem in the world, followed by depressive disorder (4.7%).[2] In Africa, 5.3% of the population have diagnosed anxiety disorder [3] and 4.1% have depression in sub-Saharan Africa (SSA).[4] Mental health problems contribute to about 14% of the global burden of disease,[5] 12% in low and middle-income countries (LMICs),[1] 8.1% in high-income countries (HICs),[1] and 10% in SSA[5].

According to the World Health Organization (WHO) Mental Health Action Plan 2013-2020, about 35-50% of people with mental health problems did not receive treatment in HICs, although this rises to 76-85% in LMICs. This status was even worse for people diagnosed with severe mental health problems in LMICs, where 90% of them did not receive treatment.[6] When people with mental health problems are left untreated, the disorders can affect the functionality of individuals, self-care, and adherence to treatments and increase healthcare costs.[7] One of the main significant factors for the gap in mental health services in many LMICs is the lack of biomedically trained mental health professionals [8]. However, there are many traditional healers in LMICs compared to biomedically trained mental health professionals. For example, the ratio of traditional healers to the population in Africa is 1:500, while the ratio of physicians to the population is 1:40,000.[9]

The WHO describes traditional healing/medicine as including knowledge and skills to practice based on the theories, beliefs, and experiences of indigenous cultures that were used to maintain health, as well as to prevent, diagnose, improve, or treat physical and mental health problems.[10] When traditional healing/medicine is adopted or imported by healers outside the host culture, it is termed complementary or alternative medicine.[10] In contrast to traditional medicine/healers, within this paper, we use the term 'biomedicine' or 'biomedical services' to refer to the broad range of healthcare professionals who are usually trained in universities (e.g. medical doctors, nurses, psychologists) and formally recognised by professional organisations (e.g. Colleges of Medicine or Nursing). Other terms for biomedicine include conventional medicine, allopathy, Western, mainstream, orthodox, and regular medicine.[11]

Biomedical services in SSA face various challenges in mental health service delivery, ranging from inadequate staffing to sociocultural stigma and less focus from the government in terms

of policies and budgeting.[12] In addition, the perception of the cause of mental health problems is a barrier to using biomedical mental health care as a high proportion of the population perceive mental health problems as caused by supernatural forces.[13] Traditional healing responds to the perception that mental health is caused by supernatural forces by offering faith-based healing and divination, including praying, and focusing on hope,[14] in addition to incantation, confessions of wrongdoing, and providing holy water or ash to patients. [15]

The regulation of traditional medicine products, practices, and practitioners is described in the WHO Traditional Medicine Strategy 2014–2023. [16] In a global survey conducted by the WHO, 170 Member States (88%) formally acknowledged their use of traditional medicine through the development of national policies, laws, and regulations. In Africa, 39 member states responded that they have a national policy and regulation on traditional and complementary medicine, with 20 having laws or regulations on herbal medicines.[17] However, in most parts of SSA, traditional medicine is provided in open markets, shops, and even at traditional healers without providing any scientific evidence of their safety, efficacy, or quality.[18]

A systematic review conducted in LMIC settings reported that despite differing conceptualisations of mental illness causation, both traditional healers and biomedical practitioners recognise that patients can benefit from combining both practices and demonstrate a willingness to work together. However, there were concerns about patient safety and human rights regarding traditional methods.[19] A different systematic review of literature from Africa was less positive about the potential collaboration between traditional healing and biomedicine, stating that the relationship between traditional and biomedical health practitioners was influenced by power struggles, lack of mutual understanding, competition, distrust, and disrespect.[20]. Before we can argue for the need for a collaborative model, we firstly need to examine the effectiveness of traditional healing on mental health in particular settings and cultures, which, if effective, could be used as evidence to design a collaborative model between traditional and biomedical services.[16]

Evidence shows that traditional and biomedical healthcare systems can coexist and are used simultaneously with the healthcare-seeking pattern of patients traversing multiple systems of care. [21] A systematic review of integrated health systems in Africa revealed that health service users' satisfaction and acceptance of an integrated health system practice were high.[22] However, the review noted that integrating traditional medicine was unsuccessful due to health system-related barriers.[23] On the other hand, evidence indicates that integrating traditional healing and

biomedical services in African mental health services is enabled by launching policies on integration, employing referral systems, and training on integration for both practitioners and stakeholders.[24]

A significant number of studies show that many people in LMICs visit traditional healers for mental health complaints, sometimes in addition to using biomedical psychiatric services. [25, 26] Thus, traditional healers will continue to have a significant role in mental health care.[27]
The WHO estimates that around 80% of the population in LMICs depends on traditional healers for their healthcare needs.[28] In Ethiopia, the use of holy water as a cure for chronic illnesses is high, with 60% of people with a mental illness using holy water.[29]

Traditional healers play a significant role in recognising symptoms and treating mental health problems, [30] and they also often attribute these issues to spiritual, moral and supernatural causes. [31] Therefore, it is the core reason why the WHO's Mental Health Action Plan (2013-2020) recommends the biopsychosocial and spiritual model intervention approach to effectively address mental health care by incorporating traditional healing practices.[32]

Traditional healers decide on the treatment options, considering their perceptions and knowledge of different traditional treatments, the type of mental health problems, the cause of the problem.[18] The treatment approaches by traditional healers to treat people with mental health problems varied according to the severity of problems and the type of symptom. Some of the treatment approaches comprise herbal treatments, holy water, spirituality to 'remove' the illness, talk therapy, and rehabilitation as an additional service without standard training on rehabilitation care standard for people with mental health problems. Services administered by traditional healers is associated with high satisfaction in many cases for individuals with mental health problems. This may be due to the high number of traditional healers who are easily accessible, respected opinion leaders and offer culturally appropriate treatments, which facilitates open communication.[33, 34]

To our knowledge, there are only two systematic reviews of evidence on traditional healing effects in mental health care in LMICs,[35, 36] and none in SSA. The current review focuses on SSA, and addresses the following review questions: (i) what types of interventions/approaches are practiced by traditional healers for people with mental health problems? (ii) What are the enabling and barriers to accessing traditional mental health care practices for people with

mental health problems? and (iii), what is the effectiveness of traditional healing and collaborative care on mental health outcomes of people with mental health problems?

METHODS

Design, context, and operational definitions

We employed a systematic review using a pre-defined protocol (PROSPERO registration number: CRD42023392905). This review considered primary studies conducted in SSA countries.[37] The study population were people with mental health problems in SSA visiting traditional healing places or biomedical health care institutions, traditional healers, religious or spiritual persons, biomedical professionals including mental health professionals. All qualitative and quantitative study designs published before December 1, 2022 were included in the systematic review. We have added operational definitions of key terms below.

Traditional healers were defined as: healers who are based on indigenous experiences [38] and/or faiths who appeal to the spiritual, magical, or religious explanations for the mental health problems. The traditional healers typically used holy rituals, ceremonies, talismans, divination, prayer, and physical treatments comprising, but not limited to, herbs or massage, provided as an additional and with magical/religious meanings of healing modality.[39] Mental health problems encompass conditions commonly characterised by unexpected disturbances in a person's cognition, emotion, and behavioural control, preventing them from functioning effectively.[40]

Collaborative care means when traditional and biomedical services jointly provide care to patients. Access to health care implies access to the service, a provider, or an institution,[41] engaging to start utilising and adhering to the benefits, including diagnosis of the problems, treatment, and follow-up by the health service system.[42] Access takes into account the abilities of individuals and populations to perceive, seek, reach, pay, and engage in healthcare.[43]

Eligibility of studies and interventions

Studies reporting the use of traditional healing practices with religious, spiritual, or magical explanations of healing modalities, and herbs or massage with magical or religious meaning used to complement or in addition to spiritual treatments were included. The traditional healing was aimed at treating mental health problems of any age group in the general population, including people with physical problems comorbid with mental health problems in SSA countries.

Collaborative care interventions with traditional and biomedical services to improve people's mental health in SSA were also included. Healing practices aimed to treat mental health problems using herbal medication alone were excluded. We have also excluded studies focusing on traditional healing for physical, neurological, substance abuse, and intellectual disorders. The effectiveness of the mental health outcome was measured using objective and subjective effectiveness measurements.

Outcome measures

The mental health outcomes in the included studies were determined using objective and subjective measurements. The mental health outcome measurement consists of assessing the effect of traditional healing alone and collaborative care on people's mental health status.

Objectively measured mental health outcome refers to the mental health status determination using standardised scale-based quantifiable questionnaires including mental health problem symptom rating scales developed by biomedical experts. Whereas subjective measurement refers to assessments that rely on the individuals' self-reports and perception of improvement in mental health status by the traditional healing visitors, visitors' families, and traditional healers.

Systematic review search strategy

A systematic search strategy was conducted to select published studies from PubMed, Medline, CINAHL, and Scopus. Initial research in Google Scholar was conducted to build the key words for the search strategy, including concept words and synonyms for: (a) Traditional healers, (b) Mental Health, and (c) Sub-Saharan Africa. The initial keywords for the systematic review were "Traditional healers," AND "mental health problem, "AND 'sub-Saharan Africa". We developed a list of synonyms (Supplementary Table 1 for a complete list of terms) for both traditional healing (e.g. religious healing, indigenous healing, diviner), mental health problems (e.g. mental illness, specific psychiatric disorders and positive connotations of mental health problems such as mental health, mental health well-being) and a list of the 48 sub-Saharan African countries.

Search strategies for each database were separately developed and results were produced using the key terms for a comprehensive search strategy, presented in Supplementary Table 2. Search results were exported to Endnote to removed duplicates. Selected studies were exported to Covidence, and the titles and abstracts were screened in Covidence. Two independent

reviewers (KTB and HAG) performed screening for title and abstract, and both reviewers independently and blindly labeled each study with reasons for inclusion and exclusion. Full text screening was then conducted, using the inclusion and exclusion criteria. Discussions were carried out among all research team members to decide on the final articles to be included. The included papers were grouped based on the systematic review's three objectives and thematic areas.

Quality of the Included Studies

The methodological quality of the studies was evaluated by two reviewers (KTB and HAG) using quality appraisal tools in the Joanna Briggs Institute (JBI) manual for evidence synthesis (https://jbi.global/critical-appraisal-tools). Twenty-four cross-sectional surveys and mixed method papers were evaluated using the JBI quality appraisal tools for analytical cross-sectional studies (Supplementary Table 3a) for the appraisal outputs, 19 for qualitative papers studies (Supplementary Table 3b), two for cohort (Supplementary Table 3c), two for randomised controlled trials (RCTs) (Supplementary Table 3d) and four for expert opinion pieces (Supplementary Table 3e).

The methodological quality (or bias) of the studies included in the systematic review was good, as all studies scored above average in the quality appraisal output. There were four expert opinion studies with poor quality appraisal and a study that did not report its sample size.[44] Our systematic review followed the referred Reporting Items for Systematic Reviews and Meta-Analyses PRISMA guideline (Supplementary Table 4).[45]

Data Extraction and Analysis

We extracted data on Authors, type of study, population, study setting, sample size, publication year, objective of the study, and summary of findings. The summary of findings was deductively grouped into: "effectiveness" of traditional healers and collaborative care, type of traditional healing practices, and enablers and barriers of access to traditional healing practices. Further inductive synthesis was then conducted using thematic framework analysis.[46]

Briefly, the framework analysis includes familiarising with the data through reading and further re-reading of the transcripts, generating initial codes, developing a working analytical framework and grouping codes into theme. Supplementary Table 5 presents details about types of traditional healing and effectiveness outcome results, and Supplementary Table 6 details the key enablers

and barriers to accessing traditional healing main findings. Meta-analysis was not undertaken due to the heterogeneity nature of the available data in the included.[47]

Ethics

Ethical approval is not required since the review did not collect primary data.

Patient and Public Involvement

Patients and the public were not directly involved as it was a systematic review. However, the research was considered in the design by measuring the relevance of the topic for the patient's benefit. Studies with patient participants are included in the review, and the study results will be disseminated in workshops for community representatives.

RESULTS

Characteristics of studies

A total of 644 search results obtained from electronic databases were imported to Endnote and then exported to Covidence, where 287 duplicates were removed. We further excluded 306 articles during the title, abstract, and full-text screening: 269 through the title and abstract and 37 through the full-text screening phase. Finally, 51 studies were identified for data extraction (*Figure 1*).

Of the 51 identified studies, 48 were from individual countries: 14 in South Africa, seven in Ghana, six in Ethiopia, five in Nigeria, five in Kenya, five in Uganda, three in Sudan, one in Burundi, one in Cameroon, one in Tanzania, one in Zimbabwe. Three were across more than one country (one in Nigeria and Ghana, one in Ghana, Kenya, and Nigeria). The studies were published between 1982 and 2022, and majority (19) of them qualitative followed by 18 cross-sectional studies and 6 mixed methods. There were two experimental studies, one each cluster randomised controlled trial (CRCT) and randomised controlled trial (RCT). The other papers included were four opinion brief reports. All participants in the included studies were adults.

As described below, thematically, all studies described the different types of traditional healing practices, 12 studies investigated enablers to access traditional healing practices, and nine about the barriers to accessing the traditional healing.

Role and types of traditional healing

The types of traditional healing practices are summarised as faith (spiritual or religious), diviners healing practices, traditional healing, and herbal medication as an adjunct treatment alongside one of the other forms of traditional healing. Some studies also reported that traditional healers provide services collaboratively with biomedical healthcare professionals for people with mental health problems in SSA (Supplementary Table 5).

Evidence shows that patients with mental health problems visited traditional or religious healers when they developed mental health problems for the first time, although the number of visitors varied by setting ranging 31% in South Africa to 95% in Nigeria.[15, 48] One study found that only 27% of people attending a traditional healer made the personal choice to attend, with their family members making the decision for them.[49]

Faith (spiritual or religious) healing practices

Nineteen studies focused on faith healers' traditional practices and mechanisms to treat mental health problems.[14, 44, 48, 50-65] Pastor faith healers used methods of praying such as the pastor 'laying hands' on clients, using prayer aids like oils and holy water, fasting, and spiritual directions.[61] The common holy water treatments were ceremonies, prayer, baptism, drinking and bathing in holy water, and providing holy ash to patients.[51] Spiritual remedies included praying, comfort, advice, hope, and social support such as personal hygiene, washing clothes, and preparing foods in addition to the holy water treatments.[51, 52] In addition, exorcism, counselling, and strings of holy stones tied around wrists and ankles were used during healing sessions.[14]

Christian and Muslim faith healers believe that praying means that the 'devil' leaves the patient for them to be 'cured' of a mental health problem, and priests also order holy water to treat mental health problems.[52-54] The diviner wizards (*tanquais*) prepare and provide amulets,[44] and other religious leaders order clients to kill goats or dogs for sacrifices to appease "God" to forgive whatever has caused the mental health problems.[53] Muslim healers treat people with a mental health problems by putting their hand on to the patient's head and reading verses from the Qur'an, which are blown onto the client's face directly, or sometimes they blow into natural products (e.g., water, honey, sugar, salt, olive oil), and then the clients add the product to their food to ingest it. In addition, the verses of the Qur'an are written on a piece of paper to be kept with the person at all times, as complementary to spiritual practices like daily prayer and constant remembrance of the Almighty God (Zikr).[54]

Diviners' healing practices

Twelve studies reported diviners, magical or witchcraft healing practitioners consulted by patients with mental health problems.[48, 55-65] The studies identified different divination methods of healing practices such as counselling and praying, casting out demons, witchcraft, erasure using prayers, confessing wrongdoing, laying hands on patients and praying, or providing holy ash to their patients.[49, 66-71]

In one study, the majority of the divination healers (86%) reported that they possessed the skills and knowledge required to "cure mental health problems".[72] The divination healers said that the Gods show them what the problem is, who is causing it, and how to heal the person.[50] However, others reported that the predominant diagnosis was interviewing the patient and/or their relatives.[73] They asked the patients about their dreams as a vital clue to identifying the underlying illness,[73] and some said that they "just know" the diagnosis with no further clarification.[65]

Traditional healing and herbal medication as complementary

Traditional healers providing magical, religious and/or spiritual meanings of healing modality and using herbal medication as an adjunct to treat mental health problems were also reported. The traditional healers, including spiritualists, diviners, pastors/sheiks, and other faith healers, administered herbal remedies through drinking, bathing, smoking, sniffing herbs, and induced vomiting.[15, 67, 72, 74-83] Two studies asked traditional healers about the name of the herbal therapy they used to treat mental disorders, and the healers' responses were reported as "unknown names or they don't want to tell". [67, 75]

Few traditional healers who prescribe herbs with faith healing together also provide psychosocial support such as conflict resolution, monetary help, employment or housing assistance, and spiritual or cultural rituals support used to treat mental health problems.[75, 84]

Collaborative care between traditional healers and biomedical healthcare professionals

Three articles reported that collaboration between traditional healers and biomedical psychiatric professionals improved the attitude of traditional healers towards biomedical care, and increased the referral of patients with psychosis to biomedical healthcare services.[85-87]

Spiritualists, male traditional healers, and traditional healers who had previously been hospitalised for a mental health problem were more likely to report a willingness to refer

patients to hospitals.[65] Some faith and traditional healers advise patients to use biomedical treatments alongside spiritual care.[67, 82, 88] Traditional healers who use herbal medication as additional to faith and divination healing were less likely than other types of healers to refer patients with mental health problems to biomedical health professionals.[81]

A study with biomedical health professionals reported that 89% of nurses perform traditional rituals and customs, 75% visit traditional healers themselves as patients, and 58% of nurses agreed that traditional healers could play a positive role in mental health care.[89] The nurses believed that traditional healing practice could be used together with psychiatric medication or psychotherapy,[89] and Muslim general practitioners acknowledged that spiritual illness exists and acknowledged the existence of a belief in witchcraft, the 'evil eye' and spirit possession and noted that collaboration with and referral to traditional healers are essential.[90]

Traditional healing and collaborative care practice outcomes

The following sub-sections demonstrate the findings of studies assessing the effectiveness of traditional healing and collaborative care in mental health outcomes as primary or secondary outcomes. Eight studies analysed the effects of traditional healing and collaborative care on improving the mental health conditions of people with mental health problems (Supplementary Table 5).[15, 61, 74, 75, 85-87, 91]

Effectiveness of traditional healing in mental health

Five studies, which consisted of four subjectively measured analyses in which patients reported subjective perceived effectiveness [15, 61, 75, 87] (Supplementary Table 5) and one objectively measured study,[91] revealed the effect of traditional healing in improving mental health problems. The objectively measured and prospective cohort study measured the outcome of effectiveness using the Positive and Negative Syndrome Scale (PANSS) and at four-month follow-up under the traditional healing intervention methods, including praying and fasting at traditional healing admission centres showed the reduction of psychosis symptoms (mean score 118 on admission and 69 on discharge ($p = .0001$)).[91]

A qualitative study conducted among pastors who worked as faith healers for at least five years explained the reduction of mental health problems symptoms as signs of improvement for patients with mental health problems after both biomedical care and the spiritual care service provision [61]. Another qualitative study that interviewed traditional healers described that providing formal training for traditional healers on introduction to mental health problems

resulted in patients who sought care from trained traditional and biomedical healers recovering quickly from mental health problems.[87]

A mixed quantitative and qualitative study explained that almost half (48%) of patients with depression receiving traditional treatments reported feelings of improvement from their mental health problems very much, followed by 45% of the patients reporting partial progress. Patients in the biomedical psychiatry clinic settings and the same study reported similar improvement and satisfaction with the services provided. But, patients at traditional clinics had nearly three times as many visits as those at psychiatric clinics.[75]

The fourth cross-sectional study with subjective effectiveness measurement study stated that more than half (58%) of the patients with mental health problems reported perceived feeling better after they received the traditional healer's religious praying healing and combined with unknown herbal treatments through oral, via enema and inhaled steam treatments compared to seven (9%) who reported feeling worse and 18 (23%) who said no effect. However, 22% of the patients reported physical, emotional, and sexual human rights abuses by the traditional healers.[15]

Effectiveness of collaborative care in mental health

Three papers on collaborative care effectiveness[74, 85, 86] reported that collaborative care improves the mental health problems of patients with psychotic symptoms (Supplementary Table 5).

A cluster randomised trial found that participants in the intervention arm who received treatments from faith healers and biomedical healthcare providers achieved a significantly better reduction in psychotic symptoms compared with participants in the control group who received enhanced routine care ($p< 0.0001$).[85] A Prospective cohort study also found more than 20 % symptom reduction of psychotic symptoms (OR 24.87 (95% CI - 7.03_94.84) among individuals who received both services as compared to the traditional alone or western medicine.[74] Another experimental study also depicted that participants who received collaborative care by a team of mental health professionals plus prayer care at the traditional healing site camp had significantly lower severity of symptom mental health problems symptoms compared to the control group who received enhanced routine care by either traditional or biomedical professionals or both as usual but with no formal collaborative care ($P = 0.003$).[86]

Satisfaction with traditional healers' services

Three studies[55, 76, 84] reported satisfaction of people with mental health problems to traditional healing services (Supplementary Table 5). The two studies report that patients with mental health problems are satisfied with the traditional healers' treatment and healing process services [76, 84]. The third study comprises families and patients reporting satisfaction with the service they received from traditional healers.[55]

In a study where people with mental health problems and traditional healers participated, most (95%) of clients were satisfied with the treatment and healing process delivered by the traditional healers.[76, 84] The study included patients with mental health problems selected from biomedical psychiatric care institutions and with a history of seeking traditional healing. It reported that patients and their families said they were generally satisfied with the service they received from traditional healers. However, patients and families expressed dissatisfaction with the diviners' services.[55]

The common reasons for patient satisfaction with traditional healer's services were that patients could engage in payment-in-kind (i.e. to provide work or services and providing personal assets in lieu of a cash payment) or they could pay only if their symptoms improved. In addition, traditional healing is more affordable and more easily accessible than Hospitals.[84]

Traditional healing human rights abuse practices

There were numerous references to 'human rights abuses', including beating the patient, [15, 49, 51, 77, 91] chaining of the patient, [67, 87, 91] locking and restriction of visitors in a dark room, [77, 91] restriction of food or fasting or starving patients, [77, 91] and incorporate modern ingredients that are potentially toxic (Supplementary Table 5).[72]

Holy water visitors reported stigma, physical and verbal abuse, and physical restraint.[51] Traditional healers treat patients by praying and adding unknown herbs to drink, bathe, and sniff, and have been reported to chain the patients forcefully to give the medications.[72] Given that families often decided for patients to go to the traditional healers, patients were also unable to refuse the non-humane treatments.[49]

Whilst some studies [67, 87, 91] reported better mental health outcomes resulted from traditional healing services, these studies also reported human rights abuse. A study by Zingela et al. revealed that there were clients who reported of feeling better after the religious faith traditional healer's treatment, although the religious faith healer's physical human rights abuse such as beating and forced fasting was simultaneously reported.[15] This was also supported by another

study which reported the effectiveness of traditional healing in the reduction of psychotic symptoms, although patients with psychotic mental health problems in the traditional healing centre reported human rights abuse.[91] However, after providing training on introduction to mental health problems and essential management provided to traditional healers, non-humane treatments such as chaining of patients by the healers was abolished, respect for the human rights of patients increased, referral systems to biomedical care enhanced and traditional healers' knowledge about mental health problem improved.[87]

Enablers and barriers to access traditional healing practices

In this review, we also summarised 15 studies [14, 51, 55, 57, 61, 66-68, 70, 81, 82, 84, 88-90] about the key enablers and barriers of people with mental health problems to access traditional mental health healing in SSA countries (Supplementary Table 6). Within the barriers and facilitators subthemes, we have identified issues at different levels: individual, social, traditional healers, biomedical health care providers, and health system-related factors.

Enablers to access traditional healing practices

Enablers to using traditional healers were reported by six qualitative studies, [14, 61, 67, 82, 84, 88] understood as both pull and push factors. Push factors explain why people with mental health problems were pushed away from biomedical care, while pull factors were influencing issues that pulled the people towards traditional healing.

The perception of patients of an improvement in their mental health due to traditional healing was a key enabler, resulting in patients frequently visit traditional healing sites.[84] Further pull factors included traditional healers making the services being affordable and accessible, allowing patients to pay later, and giving more time to patients for psychosocial support.[84, 88] In addition, social support such as hygiene, washing clothes, and preparing foods at traditional healing sites motivate individuals to visit religious holy water healing services frequently.[51]

Two studies reported the relationship of enabling factors and collaborative care that few faith based traditional healers advise or suggest that patients use biomedical treatments alongside their healing practices, as patients need to follow both services. These were the enabling factors for patients to adhere to traditional healing therapies by allowing them to use both services.[14, 88] The traditional healers mainly recommend patients to receive both services were for those with clear physiological and psychological symptoms. They justify for the reason that spiritual forces can be manifested in psychological and physiological ways.[61, 82] Providing training to

traditional healers on the nature of mental health problems symptoms, treatments and referral issues towards enhancing collaborative care were also reported as another enabling factor for adherence in traditional healing.[66, 67] In two studies, nurses and general practitioner doctors with positive attitude on the possibility of practicing traditional healing as an additional service with biomedical health care was also considered as another enabling factor for patients to adhere to traditional healing benefits.[89, 90]

The health system was considered a push factor away from biomedical health care and an enabling factor to receive traditional healing, due to an inadequate number of biomedical mental health service providers drive patients to prefer traditional healing,[88] insufficient and expensive drug supply in biomedical health facilities, [84] and using traditional service alone due to a poor integrated system of government policies or regulations for both traditional and biomedical services.[57]

Barriers to access traditional healing practices

Barriers to accessing traditional healing practices were reported in nine papers.[55, 57, 66-68, 70, 81, 82, 88] The lack of prognosis of patients who visited traditional healers, reflecting the ineffectiveness of traditional healers, may create a lack of trust on healers.[68, 70] On another note, families acted as the primary decision makers for the treatment preference of patients without their consent, implying patients may be denied to access to traditional healing sites by their families.[68]

The barriers related to the traditional healers themselves included human rights abuses by traditional healers, such as maltreatment, including forced fasting, exorcisms, which include physical beatings (sometimes resulting in death), and chaining to contain agitated patients.[82, 88] Two studies also reported the poor competency and existence of 'fake' healers as challenges [57, 68]. Some traditional healers believed that traditional and biomedical treatments should not be taken simultaneously and suggested to stop either of the treatments;[55, 66] it was even worse among the traditional healers who combined herbal therapy.[67]

The other reported barriers were related to biomedical health professionals' perceptions of traditional healing services, including health professionals not believing the traditional healing therapy, saying that traditional healers cannot treat severe mental health conditions, considering them as dirty and having lower education status, believing that diviners charged unfair fees for treatments, and lacking skills and abusing clients reports.[57, 66, 67, 82, 88] Five studies presented

that biomedical healthcare professionals were unwilling to collaborate with traditional healing and do not favour referring patients [57, 66, 67, 82, 88] because they do not view them as effective.[57, 67, 82] However, some said the collaboration would be possible if traditional practitioners obtained additional mental health care training from biomedical providers and the government regulated to monitor the traditional healing practices of patient care.[88]

Most health system-related factors were also reported as barriers to access traditional healing, including a lack of effort to develop the relationship between the two systems of healing,[66] lack of financial resources support from the health system administration, such as lack of transport cost for faith healers to provide home-based level visit community service [68] and poor referrals systems in the ground from traditional healers to clinicians and vice versa.[70, 81]

DISCUSSION

Two systematic review studies were previously conducted to assess the effectiveness of traditional healing in mental health outcomes in a global setting.[35, 36] Our systematic review synthesised evidence on the types of traditional healing, the factors that influence access to the healing service, and its effectiveness in improving the mental health status of people in SSA. This review is the first of its type to the best of the author's knowledge in SSA setting and the most recent study in the last 7 years in LMICs, including its broader objective with qualitative and quantitative methods.

Common types of traditional healing practices in mental health

Our systematic review found that traditional healing practices were categorised as either as faith healing, divination, or faith/divination with herbal medication as an adjunct therapy, which is similar to previous reviews.[92-94] The traditional healers who used herbal treatment types to treat mental health problems were not interested in naming the herbal by saying they didn't want to tell or report as unknown names.[15, 67, 72, 74-83] might be related to the patent registration of the intellectual property, lack of trust in its confidentiality for its ritual significance and commerciality issues.[18] This may also result in difficulties in monitoring its standard by regulatory bodies about health side effects and measuring herbal effectiveness.

Specifically, the types of traditional healing modalities are related to the belief in traditional healing and they are mainly associated with the belief of a supernatural cause of the problem by the people with a mental health problem and the healers.[57, 60, 62, 77, 95] This idea was also supported by a systematic review conducted elsewhere.[96] This implies that the reason for

people with mental health problems visit the traditional healing first before accessing biomedical mental health care[42, 43 44] could be related mainly to the belief in the cause of mental health problems by patients and their families. In addition, only less than one-third of people attending a traditional healer made the personal choice of the type of traditional healing as their family members made the decision for them.[49] This may show the need to work with traditional healers and patients' families as part of the health care system's responsibility.

The types of healing methods were similar to previous review reports, with around half of individuals with mental health problems in SSA seeking care from traditional healers before visiting biomedical healthcare.[96] A significant number of studies also show that many people in LMICs visit traditional healers for mental health complaints, sometimes in addition to using biomedical psychiatric services.[25, 26] This implies that traditional healers will continue to have a significant role in mental health care in SSA.[27] Therefore, introducing strategies such as traditional healers' training to create better awareness of mental health conditions and the importance of biomedical psychiatry care collaboration improves the attitude of healers to the advantage of safe and effective collaborative service for people with mental health problems. [85-87]

Despite the reported difference in the concept of mental health problems, including the illness cause and treatments between the practitioners, other previous review studies recommend building agreement and interest between two practitioners is possible to work together aiming at improving the lives of the patients in LMICs. [97, 98] Such understanding can be introduced by recognising the benefit of collaborative service for the patients and by arranging training and discussion on fundamental mental health problems, [97] and innovative approaches are needed to enhance the collaborative service to provide community-based mental health care. [96]

Complementary nature of traditional healing effect on mental health outcomes

Evidence in this review [74, 85, 86] and from previous review[36] show that people with mental health problems improved after receiving a combination of traditional healing and biomedical treatments. Some other studies also reported people's improved mental health through collaborative care of traditional healing and biomedical care services [80-82]. Another previous study also supported the effectiveness of traditional healing findings for mild to moderate levels of mental health problems and mental health problems caused by a person's sinful behaviour related to the religion they follow was treated better by religious treatments through the priests'

psychosocial support.[99, 100] Therefore, the psychosocial content of the traditional healing method can help traditional healing users with mental health problems. This can be supported by the evidence that psychotherapies and pharmacotherapies efficacy showed that almost no significant differences in between the two therapies for short term improvement.[101]

Traditional healing types were reported to be both effective and ineffective. However, identifying the type of mental health problem and the healing type effectiveness was difficult as most of the studies didn't specify the issues, and it was impossible to define which methods are perceived as effective and which are not. Despite the limitations, many people, especially those with less severe complaints and positive expectations, reported subjective benefits from attending their chosen traditional or spiritual healers.[35] Traditional healers' psychosocial support helps to improve the people's mental health status,[47] as this was supported by biomedical scientific evidence revealing its capacity to treat mild to moderate severity of mental health problems.[102]

Satisfaction with the traditional healers' treatment and healing process services was reported as an additional outcome of the studies' traditional healing effectiveness.[55, 76, 84] The most common reasons for patient satisfaction with the services of traditional healers was the affordability and accessibility compared to Hospitals, that patients could pay in-kind, and only if their symptoms improved.[84] In contrast, some patients were dissatisfied with traditional healing. For instance, a study on African indigenous healers reported that patients and families expressed dissatisfaction with diviners' services.[55] The difference could be the difference in human rights abuse practice by the traditional healers, the type of traditional healing, and the severity of the mental health problems of traditional healing users.

Human rights abuse concerns of traditional healing practices in mental health

Even though the human rights abuse of the traditional practice was not separately discussed as ours in the previous systematic reviews in mental health, the harmful treatments were included in their finding reports.[36, 93, 97] In discussing the relationship between the mental health traditional healing practices and human rights abuse, this review shows almost similar findings on the experiences of traditional healing visitor individuals who have faced human rights abuses, commonly physical abuse las reported by five studies, [15, 49, 51, 77, 91] chaining of the patient (64, 84, 88), locking restriction of visitors in a dark room, restriction of food,[67, 87, 91], and incorporating herbal ingredients that are potentially toxic.[72]

Our finding aligns with the previous research reports conducted in the area of traditional healing aimed at treating mental health problems regarding concerns about patients' safety related to human rights abuse [19]. In addition, the herbal methods also raised issues related to its safety such as incorporating herbal ingredients that are potentially toxic,[72] efficacy and quality problems.[18]

Even though there are human rights abuse reports in the traditional mental health care practices that can affect integration,[37] providing training to the healers on the introduction to mental health problems, mainly identification of its symptomatic manifestations and their basic management skills for proper care at the traditional healing sites was a means to reduce non-humane treatments.[88] Therefore, as the current and previous findings suggested, this implies a need for greater integration of traditional and biomedical care to enhance the quality of care by minimising human rights violations.

Factors determining the choice of traditional and collaborative mental health care

The current study findings revealed different reasons why people in SSA choose traditional healing practices for mental health care. Accessibility of traditional healing services, extended time for psychosocial support, flexibility of payment options for patients, [84, 88] and provision of social support services[51] were among the big categories of identified as enabling factors. Previous studies in SSA also revealed that the traditional healers' attractiveness could be due to the healers and the clients sharing a common culture and knowledge of mental health problems[103] and shared spiritual and religious beliefs of mental health problem causation.[104]

Similar to our review, other studies [52, 79, 83, 105, 106] also reported pushing factors from biomedical services play a role as enablers to access traditional healing; the factors reported were inadequate access to biomedical health care services,[105] limited mental health education,[106] patient's attitude related the poor biomedical health-seeking behaviour, [105] inadequate number of biomedical health professionals,[83] drug supply problem,[79] and poorly integrated system of government regulations and administrations.[52, 106]

Findings on the barriers in accessing traditional healing were almost similar with previously conducted studies; the barriers in accessing traditional healing services were attitudinal barriers toward each other of traditional and biomedical practitioners, biomedical professionals concerns about traditional healers healing in the patients' safety,[97] poor referral systems

regulations,[65] the efficacy of traditional healing, perceived lack of an appropriate dose and unregulated practitioner practice, absence of health financing for traditional health care, a perceived lack of training among traditional practitioners, and traditional healers human right abuse reports.[37, 107] few has also found that families act as barriers by making decisions for the treatment preference of patients without the consent of patients' were reported as social-related barriers to access the traditional healing.[68] Therefore, social barriers can be minimised by enhancing family and community participation to improve people's mental health as part of the health system.[108]

Our findings showed an implication that training traditional healers on mental health conditions and biomedical psychiatry care collaboration helps to tackle the barriers and improves the attitude of healers toward collaborative service, and this was supported by several studies.[22, 97, 109] Therefore, based on a collaborative mental health care systematic review result in LMICs, traditional healers and biomedical practitioners acknowledge that patients can benefit from a combination of both disciplines and show a willingness to collaborate, even though their conceptualisations of the cause of mental illness differ.[97] Creating a joint dialogue among professionals aiming to conduct training on identified gaps to improve patients' lives can minimise the obstacles of collaborative care, including human rights abuses.[70] The indications of evidence in SSA on the development of integration policies, the manifestation of existing referral systems, and training on integration for practitioners and stakeholders were crucial enablers for integrating traditional healing and biomedical health services.[110]

In general, integrating traditional medicine into health sciences curricula, conducting panel discussions for evaluation purposes, developing context-specific collaboration protocols, working on regulation implementation issues, establishing referral pathways, and providing training for both practitioners on safe integration by including content on how to minimise abuse, narrowing the misunderstanding about respecting clients' preferences in using both services could help in enhancing safe, collaborative services. The advantage of engaging communities through community health workers and traditional healers training in the utilisation of integrating services was also supported by a review study on traditional medicine in primary health care in LMICs.[111] These collaborating mechanisms could be practiced to integrate with the health care system in SSA as most of the African WHO member states have a national policy and regulations on traditional and complementary medicine.[112] However, as the resource limitation and lack of commitment will continue as a challenge, advocacy through

professional associations, awareness creation, and review meetings with stakeholders could enhance the implementation of the policies.

Limitations and Strengths of the Study

The current systematic review addressed broad issues, including the types of traditional healing, influencing factors to access traditional healing, effectiveness of healing, and potential harms of traditional healing practices from quantitative and qualitative studies. However, the study has the following limitations, First, some of the subjective reports of mental health outcomes are prone to biases. Second, some studies might have been missed due to non-English language studies being excluded, leading to information bias.

Conclusion and recommendations

Despite the barriers to accessing traditional healing, many people with mental health problems continue to seek help from the different types of traditional healing such as faith healing, divination, and either faith or divination with herbal medication as complementary are reported findings in SSA to treat mental health problems. Traditional healing, especially when combined with biomedical treatments as collaborative care, has been shown to be effective in treating mental health problems. Collaborative service can reduce the harmful practices in traditional healing sites through workshop discussion and training. Furthermore, working on reducing human rights abuse by traditional healers can improve collaborative care by providing training and conducting workshop discussions with both practitioners and health system leaders. Therefore, traditional healing methods can have a role and significantly affect mental health care in sub-Saharan Africa. Context-specific types of healing, perceptions, and strategies of collaborative care need to be researched and identified. Context-specific effectiveness of collaborative care requires further investigation.

Contributorship statement

Kenfe Tesfay Berhe (KTB) contributed to the article, starting from the conception of the title, designing the methodology, systematic search from the databases, screening studies to be included, data extraction, interpreting of extracted data, writing the manuscript, revising the manuscript, and approving the final manuscript. Hailay Abrha Gesesew (HAG) contributed to the conception of the title, designing the methodology, reviewing the screened included studies, reviewing extracted data, interpreting extracted data, writing the manuscript, revising the manuscript, and approving the final manuscript. Paul Russell Ward (PW) also contributed to

the conception of the title, designing the methodology, reviewing the screened included studies, reviewing extracted data, interpreting extracted data, writing the manuscript, revising the manuscript, and approving the final manuscript.

KTB is responsible for the overall content as a guarantor who accepts full responsibility for the finished work and/or the conduct of the study, has access to the data, and controls the decision to publish.

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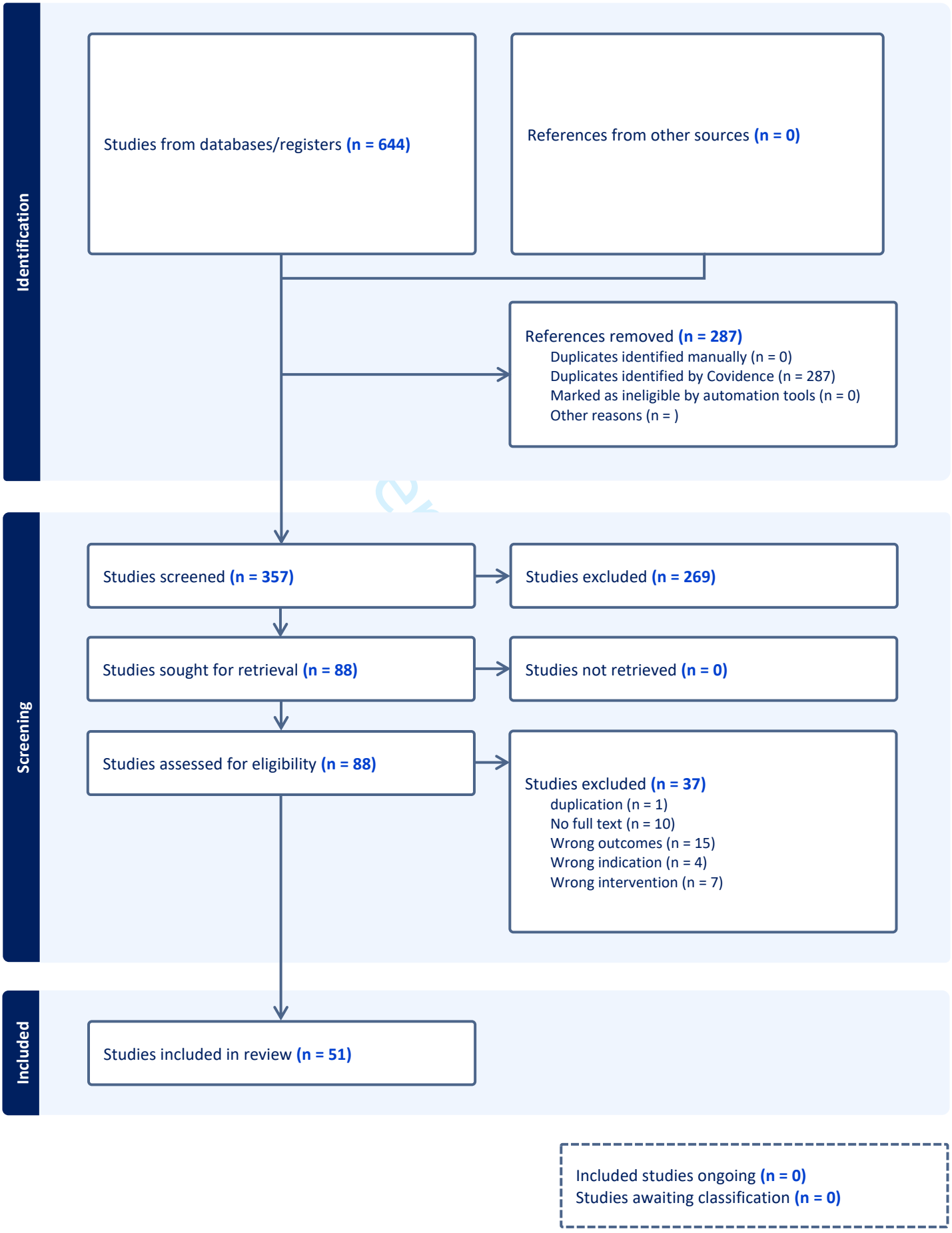
List of Figures

Figure 1: PRISMA Flow chart of traditional medicine and mental health, a systematic review in SSA, December 1, 2022



Supplementary tables:

Supplementary Table 1: Searching terms for concepts **(a)** Traditional healers, **(b)** Mental Health **(c)** Sub-Saharan Africa

(a) Traditional healer/healing	**(b) Mental health**	**(c) Sub-Sahara Africa**
Traditional healing	Mental health problem	Sub-Saharan Africa
Religious healing	Mental health disorder	West African
Indigenous healing	Mental illness	Central Africa
Spiritual healing	Mental disorder	East Africa
Ritual healing	Mental distress	Southern Africa
Faith healing	Psychosis	Horn of Africa
Prayer Healing	Depression	All 48 sub-Saharan countries' names was included by OR Boolean Operator search.
Traditional practitioner	Anxiety	
Traditional healer	Schizophrenia	
Religious healer	Mania	
Spiritual healer	PTSD	
Faith healer	Behavioural disorders	
Diviner*	psychosocial problems	

Prayer*	Psychological distress	
Magic*	Psychological complaints	
Talismans	Psychological disturbance	
Witchcraft	Somatic complaints	
Holy water	Mental health	
	Emotional health	
	Psychological health	
	Mental hygiene	
	Mental health wellbeing	
	Psychological wellbeing	
	Psychosocial wellbeing	
	Mental health promotion	
	Common mental disorders	

Supplementary Table 2: Comprehensive search strategy for each data bases (PubMed, Medline, Scopus, and CINAHL)

Supplementary table 2a: **Pub med** searching strategy and results (Date of Search run on December 1, 2022)

#	Query	Results
1 (a)	((((((((((((((((("Traditional healing"[All Fields] OR "Religious healing"[All Fields] OR "Indigenous healing"[All Fields] OR "Spiritual healing"[All Fields] OR "Ritual healing"[All Fields] OR "Faith healing"[All Fields] OR "Prayer Healing"[All Fields] OR "Traditional practitioner"[All Fields] OR "Traditional healer"[All Fields] OR "Religious healer"[All Fields] OR "Spiritual healer"[All Fields]	21,804 results

	OR "Faith healer"[All Fields] OR "diviner*"[All Fields] OR "prayer*"[All Fields] OR "magic*"[All Fields] OR "Talismans"[All Fields] OR "Witchcraft"[All Fields] OR "Holy water"[All Fields])	
2 (b)	((((((((((((((((((((((("Mental health problem"[All Fields] OR "Mental health disorder"[All Fields] OR "Mental illness"[All Fields] OR "Mental disorder"[All Fields] OR "Mental distress"[All Fields] OR "Psychosis"[All Fields] OR "Depression"[All Fields] OR "Anxiety"[All Fields] OR "Schizophrenia"[All Fields] OR "Mania"[All Fields] OR "PTSD"[All Fields] OR "Behavioral disorders"[All Fields] OR "Psychosocial problems"[All Fields] OR "Psychological distress"[All Fields] OR "Psychological complaints"[All Fields] OR "Psychological disturbance"[All Fields] OR "Somatic complaints"[All Fields] OR "Mental health"[All Fields] OR "Emotional health"[All Fields] OR "Psychological health"[All Fields] OR "Mental hygiene"[All Fields] OR "Mental health wellbeing"[All Fields] OR "Psychological wellbeing"[All Fields] OR "Psychosocial wellbeing"[All Fields] OR "Mental health promotion"[All Fields] OR "Common mental disorders"[All Fields])	1,121,026 results
3 (c)	((("Sub-Saharan Africa"[All Fields] OR "Angola"[All Fields] OR "Benin"[All Fields] OR "Botswana"[All Fields] OR "Burundi"[All Fields] OR "Cameroon"[All Fields] OR "Cape Verde"[All Fields] OR "Central African Republic"[All Fields] OR "Chad"[All Fields] OR "Comoros"[All Fields] OR "Republic of the Congo"[All Fields] OR "Democratic Republic of the Congo"[All Fields] OR "Cote d'Ivoire"[All Fields] OR "Djibouti"[All Fields] OR "Equatorial Guinea"[All Fields] OR "Eritrea"[All Fields] OR "Ethiopia"[All Fields] OR "Gabon"[All Fields] OR "The Gambia"[All Fields] OR "Ghana"[All Fields] OR "Guinea"[All Fields] OR "Guinea-Bissau"[All Fields] OR "Kenya"[All Fields] OR "Liberia"[All Fields] OR "Madagascar"[All Fields] OR "Malawi"[All Fields] OR "Mali"[All Fields] OR "Mauritania"[All Fields] OR "Mauritius"[All Fields] OR "Mozambique"[All Fields] OR "Namibia"[All Fields] OR "Niger"[All Fields] OR "Nigeria"[All Fields] OR "Rwanda"[All Fields] OR "Sao Tome and Principe"[All Fields] OR "Senegal"[All Fields] OR "Seychelles"[All Fields] OR "Sierra Leone"[All Fields] OR "Somalia"[All Fields] OR "South Africa"[All Fields] OR "South Sudan"[All Fields] OR "Sudan"[All Fields] OR "Swaziland"[All Fields] OR "Tanzania"[All Fields] OR "Togo"[All Fields] OR "Uganda"[All Fields] OR "Zambia"[All Fields] OR "Zimbabwe"[All Fields] OR "Burkina Faso"[All Fields] OR "West African"[All Fields] OR "Horn of Africa"[All Fields] OR "Central Africa"[All Fields] OR "East Africa"[All Fields] OR "Southern Africa"[All Fields])	644,637 results
3	1 AND 2 AND 3; limited with species (human), language (English)	213 results

Supplementary table 2b: **Medline/** Ovid MEDLINE(R) searching strategy and results (Date of Search run on December 1, 2022)

#	Query	Results
1.	traditional healing.mp. or medicine, traditional/	1,309
2.	Religious healing.mp. or faith healing/	199
3.	Indigenous healing.mp.	220
4.	Spiritual healing.mp.	1,358
5.	Ritual healing.mp.	205
6.	Faith healing.mp.	1,714
7.	Prayer Healing.mp.	202
8.	Traditional practitioner.mp.	1,470
9.	Traditional healer.mp.	3,320
10.	Religious healer.mp.	159
11.	Spiritual healer.mp.	143
12.	Faith healer.mp.	644
13.	Diviner.mp.	70
14.	Prayer*.mp.	3,252
15.	Magic*.mp.	15,980
16.	Talismans.mp.	168
17.	Witchcraft.mp.	948
18.	Holy water.mp.	99
19.	1-19 with or Boolean operator	**22,798**
20.	Mental health problem.mp.	22,877
21.	Mental health disorder.mp.	152,612

22.	Mental illness.mp.	167,652
23.	Mental disorder.mp.	242,594
24.	Mental distress.mp.	5,253
25.	Psychosis.mp.	79,134
26.	Depression.mp.	502,194
27.	Anxiety.mp.	303,594
28.	Schizophrenia.mp.	162,999
29.	Mania.mp.	12,649
30.	PTSD.mp.	45,416
31.	Behavioural disorders.mp.	16,274
32.	Psychosocial problems.mp.	5,963
33.	Psychological distress.mp.	29,771
34.	Psychological complaints.mp.	1,071
35.	Psychological disturbance.mp.	2,484
36.	Somatic complaints.mp.	2,939
37.	Mental health.mp.	406,108
38.	Emotional health.mp.	41,916
39.	Psychological health.mp.	30,582
40.	Mental hygiene.mp.	35,178
41.	Mental health wellbeing.mp.	2,885
42.	Psychological wellbeing.mp.	3,111
43.	Psychosocial wellbeing.mp.	792
44.	Mental health promotion.mp.	2,509

45.	Common mental disorders.mp.	5,344
46.	20- 45 with or Boolean operator	**1,248,711**
47.	Sub-Saharan Africa	**659,320**
48.	19 and 46 and 47	292
49.	limit 48 to English language and humans	**231**

Supplementary table 2c: **Scopus** searching strategy and results (Date of Search run on December 1, 2022)

#	Query	Result
1	TITLE ("Traditional healing" OR "Religious healing" OR "Indigenous healing "OR "Spiritual healing" OR "Ritual healing" OR "Faith healing" OR "Prayer Healing" OR "Traditional practitioner" OR "Traditional healer" OR "Religious healer" OR "Spiritual healer" OR "Faith healer" OR Diviner* OR Prayer* OR Magic* OR Talismans OR Witchcraft OR "Holy water") TITLE-ABS-KEY ("Traditional healing" OR "Religious healing " OR "Spiritual healing" OR "Ritual healing" OR "Faith healing" OR "Prayer Healing" OR "Traditional practitioner" OR "Traditional healer" OR "Religious healer" OR "Spiritual healer" OR "Faith healer" OR diviner* OR prayer* OR magic* OR talismans OR witchcraft OR "Holy water")	85,076
2	TITLE ("Mental health problem" OR "Mental health disorder" OR "Mental illness" OR "Mental disorder" OR "Mental distress" OR Psychosis OR Depression OR Anxiety OR Schizophrenia OR Mania OR PTSD OR "Behavioural disorders" OR "Psychosocial problems" OR "Psychological distress" OR "Psychological complaints" OR "Psychological disturbance" OR "Somatic complaints" OR "Mental health" OR "Emotional health" OR "Psychological health" OR "Mental hygiene" OR "Mental health wellbeing" OR "Psychological wellbeing" OR "Psychosocial wellbeing" OR "Mental health promotion" OR "Common mental disorders") **TITLE-ABS-KEY** (***"Mental health problem"*** OR ***"Mental health disorder"*** OR ***"Mental illness"*** OR ***"Mental disorder"*** OR ***"Mental distress"*** OR ***psychosis*** OR ***depression*** OR ***anxiety*** OR ***schizophrenia*** OR ***mania*** OR ***ptsd*** OR ***"Behavioural disorders"*** OR ***"Psychosocial problems"*** OR ***"Psychological distress"*** OR ***"Psychological complaints"*** OR ***"Psychological disturbance"*** OR ***"Somatic complaints"*** OR ***"Mental health"*** OR ***"Emotional health"*** OR ***"Psychological health"*** OR ***"Mental hygiene"*** OR ***"Mental health wellbeing"*** OR ***"Psychological wellbeing"*** OR ***"Psychosocial wellbeing"*** OR ***"Mental health promotion"*** OR ***"Common mental disorders"***)	1,800,596
3	TITLE ("Angola" OR "Benin" OR "Botswana" OR "Burkina Faso" OR "Burundi" OR "Cameroon" OR "Cape Verde" OR "Central African Republic" OR "Chad" OR "Comoros" OR "Republic of the Congo" OR "Democratic Republic of the Congo" OR "Cote d'Ivoire" OR "Djibouti" OR "Equatorial Guinea" OR "Eritrea" OR "Ethiopia" OR "Gabon" OR "The Gambia" OR "Ghana" OR "Guinea" OR "Guinea-Bissau" OR "Kenya" OR "Liberia" OR "Madagascar" OR "Malawi" OR "Mali" OR "Mauritania" OR "Mauritius" OR "Mozambique" OR "Namibia" OR "Niger" OR "Nigeria" OR "Rwanda" OR "Sao Tome and Principe" OR "Senegal" OR "Seychelles" OR "Sierra Leone" OR "Somalia" OR "South Africa" OR "South Sudan" OR "Sudan" OR "Swaziland" OR "Tanzania" OR "Togo" OR "Uganda" OR "Zambia" OR	1,029,207

	"Zimbabwe" OR "Sub-Saharan Africa" OR" West African" OR "Horn of Africa" OR "Central Africa" OR "East Africa" OR " Southern Africa") TITLE-ABS-KEY (***"Angola"*** OR ***"Benin"*** OR ***"Botswana"*** OR ***"Burkina Faso"*** OR ***"Burundi"*** OR ***"Cameroon"*** OR ***"Cape Verde"*** OR ***"Central African Republic"*** OR ***"Chad"*** OR ***"Comoros"*** OR ***"Republic of the Congo"*** OR ***"Democratic Republic of the Congo"*** OR ***"Cote d'Ivoire"*** OR ***"Djibouti"*** OR ***"Equatorial Guinea"*** OR ***"Eritrea"*** OR ***"Ethiopia"*** OR ***"Gabon"*** OR ***"The Gambia"*** OR ***"Ghana"*** OR ***"Guinea"*** OR ***"Guinea-Bissau"*** OR ***"Kenya"*** OR ***"Liberia"*** OR ***"Madagascar"*** OR ***"Malawi"*** OR ***"Mali"*** OR ***"Mauritania"*** OR ***"Mauritius"*** OR ***"Mozambique"*** OR ***"Namibia"*** OR ***"Niger"*** OR ***"Nigeria"*** OR ***"Rwanda"*** OR ***"Sao Tome and Principe"*** OR ***"Senegal"*** OR ***"Seychelles"*** OR ***"Sierra Leone"*** OR ***"Somalia"*** OR ***"South Africa"*** OR ***"South Sudan"*** OR ***"Sudan"*** OR ***"Swaziland"*** OR ***"Tanzania"*** OR ***"Togo"*** OR ***"Uganda"*** OR ***"Zambia"*** OR ***"Zimbabwe"*** OR ***"Sub-Saharan Africa"*** OR ***" West African"*** OR ***"Horn of Africa"*** OR ***"Central Africa"*** OR ***"East Africa"*** OR ***" Southern Africa"***)	
4	1 AND 2 AND 3, limited to English language, subject area and country	181

Supplementary table 2d: **CINAHL** Searching strategy and results (Date of Search run on December 1, 2022)

#	Query	Result
S1	TI (Traditional healing OR Indigenous healing) OR TI Holy water OR TI (Traditional practitioner OR Traditional healer) OR TI Diviner* OR TI Witchcraft OR TI Magic* OR TI Talismans OR TI (Religious healer OR Spiritual healer OR Faith healer OR Prayer*) OR TI (Spiritual healing OR Religious healing OR Ritual healing OR Faith healing OR Prayer Healing)	**3,882**
S2	TI (Mental health problem OR Mental health disorder OR Mental illness OR Mental disorder OR Mental distress) OR TI Psychosis OR TI Depression OR TI Anxiety OR TI Schizophrenia OR TI Mania OR TI PTSD OR TI Behavioural disorders OR TI (Psychosocial problems OR Psychological distress OR Psychological complaints OR Psychological disturbance) OR TI Somatic complaints OR TI Common mental disorders	**129,598**
S3	TI (Mental health OR Emotional health OR Mental hygiene OR Mental health wellbeing OR Mental health promotion) OR TI (Psychological health OR Psychological wellbeing OR	**61,091**

	Psychosocial wellbeing)	
S4	s2 OR s3 (TI (Mental health problem OR Mental health disorder OR Mental illness OR Mental disorder OR Mental distress) OR TI Psychosis OR TI Depression OR TI Anxiety OR TI Schizophrenia OR TI Mania OR TI PTSD OR TI Behavioural disorders OR TI (Psychosocial problems OR Psychological distress OR Psychological complaints OR Psychological disturbance) OR TI Somatic complaints OR TI Common mental disorders) OR (TI (Mental health OR Emotional health OR Mental hygiene OR Mental health wellbeing OR Mental health promotion) OR TI (Psychological health OR Psychological wellbeing OR Psycho-social wellbeing))	**183,567**
S5	TI Sub-Saharan Africa OR TI West African OR TI Horn of Africa OR TI Central Africa OR TI East Africa OR TI Southern Africa	**4,172**
S6	TI (Angola OR Benin OR Botswana OR Burkina Faso OR Burundi OR Cameroon OR Cape Verde OR Central African Republic OR Chad OR Comoros OR Republic of the Congo OR Democratic Republic of the Congo OR Cote d'Ivoire OR Djibouti OR Equatorial Guinea OR Eritrea OR Ethiopia OR Gabon OR The Gambia OR Ghana OR Guinea OR Guinea-Bissau OR Kenya OR Liberia OR Madagascar OR Malawi OR Mali OR Mauritania OR Mauritius OR Mozambique OR Namibia OR Niger OR Nigeria OR Rwanda OR Sao Tome and Principe OR Senegal OR Seychelles OR Sierra Leone OR Somalia OR South Africa OR South Sudan OR Sudan OR Swaziland OR Tanzania OR Togo OR Uganda OR Zambia OR Zimbabwe)	**51,487**
S7	55 OR s6 (TI Sub-Saharan Africa OR TI West African OR TI Horn of Africa OR TI Central Africa OR TI East Africa OR TI Southern Africa) OR (TI (Angola OR Benin OR Botswana OR Burkina Faso OR Burundi OR Cameroon OR Cape Verde OR Central African Republic OR Chad OR Comoros OR Republic of the Congo OR Democratic Republic of the Congo OR Cote d'Ivoire OR Djibouti OR Equatorial Guinea OR Eritrea OR Ethiopia OR Gabon OR The Gambia OR Ghana OR Guinea OR Guinea-Bissau OR Kenya OR Liberia OR Madagascar OR Malawi OR Mali OR Mauritania OR Mauritius OR Mozambique OR Namibia OR Niger OR Nigeria OR Rwanda OR Sao Tome and Principe OR Senegal OR Seychelles OR Sierra Leone OR Somalia OR South Africa	55,311

	OR South Sudan OR Sudan OR Swaziland OR Tanzania OR Togo OR Uganda OR Zambia OR Zimbabwe))	
S8	S1 AND s4 AND s7 limited to English language and Humane (TI (Traditional healing OR Indigenous healing) OR TI Holy water OR TI (Traditional practitioner OR Traditional healer) OR TI Diviner* OR TI Witchcraft OR TI Magic* OR TI Talismans OR TI (Religious healer OR Spiritual healer OR Faith healer OR Prayer*) OR TI (Spiritual healing OR Religious healing OR Ritual healing OR Faith healing OR Prayer Healing)) AND ((TI (Mental health problem OR Mental health disorder OR Mental illness OR Mental disorder OR Mental distress) OR TI Psychosis OR TI Depression OR TI Anxiety OR TI Schizophrenia OR TI Mania OR TI PTSD OR TI Behavioural disorders OR TI (Psychosocial problems OR Psychological distress OR Psychological complaints OR Psychological disturbance) OR TI Somatic complaints OR TI Common mental disorders) OR (TI (Mental health OR Emotional health OR Mental hygiene OR Mental health wellbeing OR Mental health promotion) OR TI (Psychological health OR Psychological wellbeing OR Psycho-social wellbeing))) AND ((TI Sub-Saharan Africa OR TI West African OR TI Horn of Africa OR TI Central Africa OR TI East Africa OR TI Southern Africa) OR (TI (Angola OR Benin OR Botswana OR Burkina Faso OR Burundi OR Cameroon OR Cape Verde OR Central African Republic OR Chad OR Comoros OR Republic of the Congo OR Democratic Republic of the Congo OR Cote d'Ivoire OR Djibouti OR Equatorial Guinea OR Eritrea OR Ethiopia OR Gabon OR The Gambia OR Ghana OR Guinea OR Guinea-Bissau OR Kenya OR Liberia OR Madagascar OR Malawi OR Mali OR Mauritania OR Mauritius OR Mozambique OR Namibia OR Niger OR Nigeria OR Rwanda OR Sao Tome and Principe OR Senegal OR Seychelles OR Sierra Leone OR Somalia OR South Africa OR South Sudan OR Sudan OR Swaziland OR Tanzania OR Togo OR Uganda OR Zambia OR Zimbabwe))	19

Supplementary table 3: JBI quality appraisal outputs

Supplementary table 3a: JBI quality appraisal outputs for analytical cross sectional and mixed method studies (n=24)

Covidence #	Sample criteria	Study subject & setting	Valid & reliable exposure measure	Objective outcome	Confounding identified	dealing confounding	Valid & reliable outcome measurem	Appropriate analysis	Overall appraisal

			ment	conditi on			ent		
#61	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#79	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#106	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#172	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Include
#234	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#243	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#252	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#300	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#318	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#326	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#421	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#454	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#460	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#474	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#512	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#591	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#598	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#607	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Include
#610	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#649	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#675	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include

#679	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#697	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#701	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include

Supplementary table 3b: JBI quality appraisal outputs for qualitative studies (n=19)

Covidence #	Philosophical perspective and methodological congruity	Methodology and objective congruity	Methodology and data collection method congruity	Methodology and data analysis congruity	Methodology and results interpretation congruity	Researcher culturally or theoretically statement	Researcher influence on research or vice versa	Participants' representation	Ethical consideration	Conclusions appropriateness	Overall appraisal
#85	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Unclear	Yes	Yes	Include
#100	Yes	Yes	Yes	No	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#103	Yes	Yes	Yes	No	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#112	Yes	Yes	Yes	No	Yes	Unclear	Unclear	Unclear	Yes	Yes	Include
#186	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#231	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#304	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Unclear	Yes	Yes	Include
#309	Yes	Yes	Yes	No	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#361	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#370	Yes	Yes	Yes	No	Yes	Unclear	Unclear	Yes	Yes	Yes	Include

#371	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#431	Yes	Yes	Yes	No	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#452	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#457	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#590	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#604	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#614	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#653	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include
#688	Yes	Yes	Yes	Yes	Yes	Unclear	Unclear	Yes	Yes	Yes	Include

Supplementary table 3c: JBI quality appraisal outputs for cohort studies (n=2)

Covidence #	Groups recruited from the same population	Similar measurement of exposures	valid and reliable Exposure measurement	Confounding identified	Dealing confounding	participants free of outcome at exposure time	Valid and reliable outcomes measurement	Sufficient follow up time for outcomes	follow up complete or reasons to loss to follow up described	Incomplete follow up addressed	Appropriate analysis	Overall appraisal
#58	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#601	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include

Supplementary table 3d: JBI quality appraisal outputs for randomized controlled trail studies (n=2)

Covidence #	true randomization used	treatment groups concealed	Similar treatment groups at the baseline	Participants blinded to treatment assignment	Delivering treatment blind to treatment assign ment	Assessors blinded to treatment assignment	Treatment groups treated identically other than the intervention of interest	Completed follow up or managed during analysis	Groups analyzed to which they were randomized	Similar outcomes measurement	reliable outcome measurement	Appropriate analysis	Appopriate trial design ,	Overall appraisal
#267	Yes	Yes	yes	yes	yes	Unclear	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
#494	Yes	Yes	yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include

Supplementary table 3e: JBI quality appraisal outputs for opinion studies report (n=4)

Covidence #	Source	Field of expertise	Population of interest	position and logic	Reference/s	Incongruence	Overall appraisal
#67	Yes	yes	Yes	Yes	Yes	No	Include
#98	Yes	Yes	Yes	Yes	Yes	No	Include
#305	Yes	No	NA	Yes	Yes	No	Include

#324	Yes	No	NA	Yes	yes	No	Include

Supplementary table 4 : PRISMA Checklist of items to include when reporting a systematic review or meta-analysis [Adapted from *Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement* ***by*** **Moher D et al, 2015**]

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
ADMINISTRATIVE RMATION					
Title					
Identification	1a	Identify the report as a protocol of a systematic review	☒	☐	
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	☐	☒	
Registration	2	If registered, provide the name of the try (e.g., PROSPERO) and registration number e Abstract	☒	☐	PROSPERO Registration number: CRD42023392905
Authors					
Contact	3a	Provide name, institutional affiliation, and il address of all protocol authors; provide cal mailing address of corresponding author	☒	☐	
Contributions	3b	Describe contributions of protocol authors dentify the guarantor of the review	☒	☐	
Amendments	4	If the protocol represents an amendment of	☐	☐	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
		viously completed or published protocol, ify as such and list changes; otherwise, state for documenting important protocol ndments			
Support					
Sources	5a	Indicate sources of financial or other ort for the review	☒	☐	
Sponsor	5b	Provide name for the review funder and/or sor	☐	☐	
Role of sor/funder	5c	Describe roles of funder(s), sponsor(s), or institution(s), if any, in developing the ocol	☐	☐	
ABSTRACT Structured mary	6	Provide a structured summary: ground, objectives, methods, results, lusions and implications of key findings	☒	☐	
INTRODUCTION					
Rationale	8	Describe the rationale for the review in the ext of what is already known	☒	☐	
Objectives	8	Provide an explicit statement of the tion(s) the review will address with reference rticipants, interventions, comparators, and omes (PICO)	☒	☐	
METHODS					
Eligibility criteria	9	Specify the study characteristics (e.g., PICO, design, setting, time frame) and report cteristics (e.g., years considered, language,	☒	☐	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
		cation status) to be used as criteria for ility for the review			
Information sources	10	Describe all intended information sources electronic databases, contact with study ors, trial registers, or other grey literature es) with planned dates of coverage	☒	☐	
Search strategy	11	Present draft of search strategy to be used least one electronic database, including ed limits, such that it could be repeated	☒	☐	
STUDY RECORDS					
Data management	12a	Describe the mechanism(s) that will be used anage records and data throughout the w	☒	☐	
Selection process	12b	State the process that will be used for ting studies (e.g., two independent wers) through each phase of the review (i.e., ning, eligibility, and inclusion in meta-sis)	☒	☐	
Data collection ess	12c	Describe planned method of extracting data reports (e.g., piloting forms, done pendently, in duplicate), any processes for ning and confirming data from investigators	☒	☐	
Data items	13	List and define all variables for which data e sought (e.g., PICO items, funding sources), re-planned data assumptions and ifications	☒	☐	
Outcomes and itization	14	List and define all outcomes for which data e sought, including prioritization of main and ional outcomes, with rationale	☒	☐	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
Risk of bias in idual studies	15	Describe anticipated methods for assessing f bias of individual studies, including whether vill be done at the outcome or study level, or state how this information will be used in synthesis	☒	☐	
DATA					
Synthesis	16a	Describe criteria under which study data will uantitatively synthesized	☒	☐	
	16b	If data are appropriate for quantitative esis, describe planned summary measures, ods of handling data, and methods of ining data from studies, including any ed exploration of consistency (e.g., I^2, all's tau)	☒	☐	
	16c	Describe any proposed additional analyses sensitivity or subgroup analyses, meta-ssion)	☒	☐	
	16d	If quantitative synthesis is not appropriate, ibe the type of summary planned	☒	☐	
Meta-bias(es)	17	Specify any planned assessment of meta-es) (e.g., publication bias across studies, tive reporting within studies)	☒	☐	
Confidence in ulative evidence	18	Describe how the strength of the body of nce will be assessed (e.g., GRADE)	☒	☐	
RESULTS					
Study selection	19	Give numbers of studies screened, assessed igibility, and included in the review, with ns for exclusions at each stage, ideally with a diagram.	☒	☐	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
Study characteristics	20	For each study, present characteristics for n data were extracted (e.g., study size, PICOS, w-up period) and provide the citations.	☒	☐	
Risk of bias within es	21	Present data on risk of bias of each study if available, any outcome level assessment tem 12).	☒	☐	
Results of individual es	22	For all outcomes considered (benefits or s), present, for each study: (a) simple nary data for each intervention group (b) t estimates and confidence intervals, ideally a forest plot.	☒	☐	
Synthesis of results	23	Present results of each meta-analysis done, ding confidence intervals and measures of stency.	☒	☐	
Risk of bias across es	24	Present results of any assessment of risk of across studies (see Item 15).	☒	☐	
Additional analysis	25	Give results of additional analyses, if done sensitivity or subgroup analyses, meta- ssion [see Item 16]).	☐	☒	
DISCUSSION					
Summary of evidence	26	Summarize the main findings including the gth of evidence for each main outcome; der their relevance to key groups (e.g., hcare providers, users, and policy makers).	☒	☐	
Limitations	27	Discuss limitations at study and outcome (e.g., risk of bias), and at review-level (e.g., nplete retrieval of identified research, ting bias).	☒	☐	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
Conclusions	28	Provide a general interpretation of the ts in the context of other evidence, and cations for future research.	☒	☐	
FUNDING					
Funding	29	Describe sources of funding for the matic review and other support (e.g., supply ta); role of funders for the systematic review.	☒	☐	

Supplementary Table 5: **Type of interventions practiced by traditional healers and effectiveness outcomes for people with mental health problems in sub-Sahara African countries, Dec 1, 2022**

Study	Study	Population and	Sam	Types of traditional healing practices and its characteristics	Traditional healing and collaborative	Additional outcomes of

characteristics	design /type	selection	ple size		outcome/effect in the mental health condition of people	traditional healing practices
Abbo C., 2011, Uganda	Prospective cohort	Psychotic patients aged 18 and above age attending traditional healing practice (Both Traditional healing and biomedical services vs only traditional healer as comparator)	132	The traditional healers treat psychosis by appeasing the spirits, divination, and herbs depending on the perceived cause.	• Patients under both traditional healing and biomedical services had symptom reduction at follow-up. Over 80% of the subjects used traditional healing and biomedical services concurrently, and concurrent use was greatest in the first 3 months of follow-up. • The outcome was measured by objective improvement of Psychosis symptoms using the clinical global impression (CGI), and Patients under both traditional healing and biomedical services had more than 20% symptom reduction at 6-month follow-ups, OR 24.87 (95% CI - 7.03_94.84).	
Ensink and Robertson, 1999, South Africa	Qualitative study	Randomly selected Patients from first admissions to a large psychiatric institution.	62	More than half (61%) of the patients consulted indigenous faith healers and diviners during the 12 months preceding the study.		Most of (70%)both patients with psychiatry disorder and their families reported subjectively that they were generally satisfied with the service they received from traditional healers.

Gureje, Appiah-Poku et al, 2020, Nigeria and Ghana	cluster randomized controlled trial	Clusters of 51 (26 intervention and 25 control, with 307 patients) were randomly allocated (a primary care clinic and neighboring traditional and faith healers facilities) with a one-to-one ratio, stratified by size to an intervention group or enhanced care as usual as a comparator. Aged 18 years or over are admitted at traditional and faith healing facilities for psychotic treatments of individuals recruited	307	The intervention included collaborative shared care delivered by trained traditional and faith healers and primary healthcare workers.	Follow-up at 6 months was completed for 152 (91.6%) subjects in the intervention arm and for 134(95%) subjects in the control arm. Trial participants in the intervention arm achieved a significantly better primary outcome(reduction in psychotic symptoms)at 6 months than controls (Positive and Negative Syndrome Scale(PANSS) total mean score 53.4(sd 19.9) vs. 67.6(sd 23.3; adjusted mean difference: −15.01 (95%CI −21.17 to −8.84; p< 0.0001). Collaborative shared care delivered by traditional and faith healers and conventional healthcare providers for people with psychosis was effective. Scaling up improved care for this vulnerable population in low-resource settings was the study recommendation.	
Johnson, Chin et al., 2017, Uganda	Mixed methods study	Participants were patients at traditional healing and patient care providers from psychiatry and traditional clinics.	38	• Types of traditional healers include herbalists, including smoking and sniffing herbs, spiritualists, diviners, pastors/sheiks, and faith healers. • While some rely on a single approach, many employ various methods, such as herbal medications, Counseling, conflict resolution, monetary support, employment or housing assistance, and spiritual or cultural rituals.	• Almost half (48%) of the depressed patients at the traditional clinics receiving traditional treatments subjectively reported that they had improved very much, followed by 45% reporting partial improvement. Patients in both settings reported similar levels of improvement and satisfaction. • Patients at traditional clinics had nearly three times as many visits than the patients at psychiatric.	

Kpobi and Swartz,2018, Ghana	Qualitative study	Pastors worked as faith healers for at least five years	10	• Pastor faith healers stated that they used prayer to identify the disorder and its causal factors and treat the problem. • The investigations included interviewing the patient and/or their family observations of their behavior. • The treatment method was predominantly prayer, such as the pastor laying his hands on them, using prayer aids like oils and holy water, fasting, 'spiritual counseling' or 'spiritual directions'.	Pastors reported that they had perceived a good effect in improving the patient's condition by providing both biomedical care and spiritual care that they provided.	
Mbwayo, Ndetei et al., 2013, Kenya	Cross-sectional	Traditional healers and their patients in the research sites were randomly selected.	364	• The traditional healers commonly to treat mental illness by combining herbal treatment with Counseling and they provide spiritual care. • Mental illness, Spirit/Demonic possession, Witch craft and physical illness were separately reported types of diagnosis by the traditional healers.		95% of patients responded that they were satisfied with the traditional healers' services
Ofori-Atta, Attafuah et al.,2018, Ghana	RCT	Participants with serious mental illness screened ICD-10 criteria and 18–65 years old. Randomization was conducted using a card sorting method and there were 71 randomized participants in the intervention group and 68 in the control group (total n = 139). Intervention group of participants receive collaborative service by a team of mental health professionals plus prayer camp care VS Control of Participants received usual prayer camp treatment (usual care including forced	139	Psychotic patients who receive both traditional and modern psychiatry care had good improvement.	On the 6-week 24-item Brief Psychotic Rating Scale (BPRS) total score, participants in the intervention group had significantly lower scores (lower symptom levels) than controls (intervention group, 1.95, (s.d. = 0.57) v. control group 2.39 (s.d. = 0.87); P = 0.003), a mean difference of 0.63 points (95% CI 0.59–0.87) representing an effect size (Cohen's d) of –0.48.	

		fasting, prayer, and the use of chain restraints).				
Shehu and Durga Rao, 2020, Nigeria	Mixed methods study	Mentally sick persons and Traditional healers were purposively selected	60	For mental disorders, clients are given herbs both in liquid and powdered form by the healer, applied on the body of the client and the clients are given this liquid form for internal use, and powder is given for inhalation and praying.		Majority of (95%) of clients were satisfied with the treatment and healing process rendered by the traditional healers.
Sorketti, Zainal et al., 2013, Sudan	Prospective follow-up cohort study	All adult inpatients with psychotic disorders receiving treatment in traditional healer centers	129	The traditional healers' intervention methods were praying, Restriction of food, chaining the patient, beating the patient, isolation in a dark room, and Restriction of visitors.	There was a significant reduction of psychotic symptoms in the Positive and Negative Syndrome Scale (PANSS) score (p = .0001) after around 4 months of treatment. The mean for the overall PANSS score was 118.36 on admission and 69.36 on discharge.	- Human rights abuse such as Restriction of food, chaining the patient, beating the patient, isolation in a dark room, Restriction of visitors
Yaro, Asampong et al, 2020, Ghana	Qualitative study	Traditional healers, spiritual healers, patients, and their carers and nurses using Purposive sampling	54	• After training, there was the abolition of chaining and the use of shackles by these healers, with increasing respect for the human rights of patients. • After the training on mental health conditions and enhancing referral systems, participants improved their knowledge about mental health and illness.	Collaboration service providing training on mental health conditions among healers of mental illness results in quick recovery of patients who seek care at traditional and spiritual healers centers.	- Human rights abuse, such as chaining and using of shackles by these healers before the training
Zingela, van Wyk et al.,	Cross-sectional	Adult psychiatry patients at psychiatric hospitals and community psychiatry	258	• Religious healing and combining ritual and herbal treatments through oral, via enema, and inhaled steam. • 31% of the psychiatry patients had consulted a healer in the past year	58% of the clients reported feeling better after the healer's treatment, compared to seven (9%) who reported feeling worse	Human rights abuse, such as clients reported physical

2019, South Africa		settings.			and 18 (23%) who said no effect.	abuse (22%)by the healers
Asher, Birhanu et al, 2021, Ethiopia	Qualitative study	Individuals attended the psychiatry service at holy water site	174	• Holy water treatments were ceremonies, prayer, baptism, and drinking of holy water and psychosocial support such as providing personal support to clients such as hygiene, wash clothes, preparing foods and support to access psychiatric care by the clients get improvement in the site • Stigma, physical and verbal abuse towards holy water users and physical restraint by the attendants was observed.		Stigma, physical and verbal abuse towards holy water users and physical restraint by the attendants was observed.
Esan, Appiah-Poku et al, 2019, Three sub-Saharan African countries (Ghana, Kenya and Nigeria)	Cross-sectional	Traditional healers who provide the treatment of mental disorders	693	• The types of traditional healers were Diviners, Christian faith healers, Islamic faith healers, herbalists and faith healers, and Witchcraft. Fetish practices, Rituals, Orthodox medications, Prayer, and fasting are the common interventions the healers provide. • Most of them (> 70%) treat both physically and mentally ill persons. • Non-humane treatments such as flogging, locking patients up in cages, keeping patients in over-crowded rooms, preventing patients from having their baths, forcing patients to go on fasts (or starving patients), and restricting patient movements through shackling, beating, and sleeping on bare floor were reported.		Non-humane treatments such as flogging, locking patients up in cages, keeping patients in over-crowded rooms, preventing patients from having their baths, forcing patients to go on fasts (or starving patients) and restricting patient movements through shackling, beating and sleeping on bare floor were reported.
Omer and Mufaddel, 2018, Sudan	Cross-sectional	Patients at outpatient clinic were asked about previous history of seeking treatment from traditional healers.	131	• There were two common traditional methods, including incantation and erasure (locally known as Al-mihaya) each representing 43.2% of all methods and treatment with oil (sesame or olive oil), phylacteries (locally known as hijab) and beating. • 84% of patients reported a previous history of seeking traditional treatment for psychiatric illness before the modern treatment. • Families mostly decided to seek traditional treatment and the patients took the decision in only 27% of cases.		Human right abuse such as beating.
Sorsdahl,	Qualitativ	Traditional healers who	50	• They give herbs (unknown names) to drink and bathe for all		Human rights abuse

Flisher et al., 2010, South Africa	e study	attended a workshop on mental health advocacy selected by Convenience sample		and to sniff for half of them, together with praying for the spiritual causes of mental illness. • Forceful methods, such as tying them up with ropes and chains, were described (34%), and they incorporate modern ingredients that are potentially toxic. • Most of the healers reported possessing the skills and knowledge required to "cure a mental illness" (86%).		such as Forceful methods such as tying them up with ropes and chains were described and they incorporate modern ingredients that are potentially toxic.
Abbo C. etal, 2009, Uganda	Cross-sectional	Patients attending traditional healers for psychological distress selected consecutively	387	The traditional healers use various methods that include appeasing the spirits, divination, and herbs to treat psychosis.		
Abiodun OA, 1995, Nigeria	Brief report	All psychiatry patients (ICD-10) age 16 and older who attended the psychiatric clinic of general hospital.	238	• The traditional healing practices include herbal remedies, ritual cures, fasting, prayer, and holy water from religious healers. • Family members played essential roles in 87 % of patients about the type of practitioner to consult. • 95% of patients reported that they had first contacted traditional or religious healers when they developed a mental illness.		
Adewuya A. etal , 2009, Nigeria	Cross-sectional	General population selected from communities through a multistage probability sampling technique	2,078	• The preferred treatment option was spiritual healers by 41% of respondents followed by 30 % of them endorsed traditional healers practice. • Female gender and lower education were correlated with visiting spiritual and traditional healers practice preference		
Ae-Ngibise K. etal , 2010, Ghana	Qualitative study	Participants of policy makers, health professionals, users of psychiatric services, teachers, police officers, academics, and religious and traditional healers were included	120	Traditional and faith healer mechanisms were reported, such as using prayers, fasting and anointing oils or holy water, Confessions of wrongdoing, and psychosocial support as an additional		

Akighir, A. , 1982, Nigeria	Opinions	The general population between the ages of 18 and 30 years old from rural or urban areas and selected randomly	80	Most subjects tend to believe strongly in mystical causes of madness and also felt that traditional healers have a vital role to play in the treatment of Psychiatric disorders.		
Akol, Moland et al, 2018, Uganda	Qualitative study	Traditional healers of people with mental illness selected Purposively	20	Most Traditional healers believed that traditional medicine is the only effective treatment for mental ill-health. For example, several traditional healers cited the inability of clinical providers to expel maggots from patients' brains.		
Ally and Laher, 2008, South Africa	Qualitative study	Muslim Healers from community using convenience sampling	6	Muslim healers treat by putting their hand on to the patient's head and reading verses and then blowing onto the client and/ or into natural products, e.g. water, honey, sugar, salt, olive oil, and the person is to use them when cooking, or they are to be ingested by the individual. Also, the verses of the Qur'aan are written on a piece of paper to be kept with the person at all times, and spiritual practices like daily prayer and constant remembrance of the Almighty (Zikr).		
Appiah-Poku, Laugharne et al, 2004, Ghana	Cross-sectional	New Patients presenting to Psychiatry services	322	Most patients with mental health problems seek help from religious (mostly Christian) pastors and traditional healers before approaching health services. The role of Christian pastors has been increased rather than traditional healers.		
Burns, Jhazbhay et al, 2011 Soth Africa	Cross-sectional	First-episode psychotic patients (16 years to 45 age) visited the Hospital	54	38.5% had seen a traditional healer before making contact with formal mental health services and 49% of the psychotic patients attributed their illness to spiritual/traditional reasons.		

Campbell-Hall, Petersen et al, 2010, South Africa	Qualitative study	Stakeholders of the formal health sector, NGO sector, traditional practitioners and mental health service users recruited from district clinics	90	• All participants generally felt that traditional practitioners have a role to play in the provision of mental health care, especially in terms of Counseling and psychological support for common mental health problems and could give them and their families strength in recovery. • Two-thirds of health service users reported having additionally used and first approached the services of traditional or faith practitioners		.
Filiatreau, Ebasone et al., 2021, Cameroon	Cross-sectional	>21 of age with symptoms of a mental disorder initiating care for HIV in Health Facilities	161	50% of HIV patients with mental illnesss beginning HIV care receive care from an informal source, 17% of individuals reported ever seeking help from a traditional healer, and 40.4% from a religious leader.		
Girma and Tesfaye, 2011, Ethiopia	Cross-sectional	Psychiatry patients attending the outpatient department of the psychiatry clinic at Specialized Hospital recruited Consecutively	384	• Traditional healers were the first place where help was sought for mental illness in this population. • 30.2% of the patients sought traditional treatment from either a religious healer or an herbalist (20.1%) before they came to the hospital.		
Irankunda and Heatherington, 2017, Burundi	Cross-sectional	Participants were drawn from general patients awaiting primary health care services.	198	• Participants receive spiritual treatment that provides social support from prayer, comfort, advice, and Hopes.. • The majority (88%) of respondents expected spiritual treatment to work.		
Jacobsson and Merdasa, 1991, Ethiopia	Qualitative study	Psychiatry patients, health workers in hospitals and from, Coptic priests, Muslim sheiks, and other traditional healers interviewed	Not reported	Christian and Muslim leaders Pray and the devil leave the patient and priests also order holy water to treat mental disorders. The diviner wizard (tanquais) prepare and provide amulets		

Jaiyeoba, 1988, Nigeria	Opinions	NA	NA	Goats or dogs are killed for sacrifices to appease "God" to forgive whoever has caused the illness, holy water bathing, and praying practices to treat mental illness.		
January and Sodi, 2006, Zimbabwe	Qualitative study	Faith healers from Apostolic churches using a procedure of snowball sampling	21	Faith healers use a variety of procedures like prayer, holy water to drink and bathe, Exorcism, Counseling, and holy stones string tied around wrists and ankles during their healing sessions.		
Kahana, 1985, Ethipia	Brief report	NA	NA	Zar is usually believed to be caused by the possession by Zar spirits and to be treated by Zar doctor. If believed to be caused by Evil Eye , they referred to "Tanqway" (the sorcerer treats by exorcism) and to the "dabtara" (amulet-writer or "ktab").		
Kahn and Kelly, 2001, South Africa	Mixed methods study	Nurses working in Psychiatric Hospital	93	• Most nurses perform traditional rituals and customs (89%) and visit traditional healers as patients (75%). • 58% of nurses agreed that traditional healers could play a positive role in mental health care, and they conclude that traditional healing as an adjunct to psychiatric medication or psychotherapy.		
Kpobi and Swartz, 2018, Ghana	Qualitative study	Indigenous healers selected through snowballing	8	• The most common means of treatment to get relief was through confession. So, such people need to confess and then get some relief. • The traditional healer said that the gods show us what the problem is, who is causing it and how to heal the person".		
Kpobi and Swartz, 2019, Ghana	Qualitative study	Muslim Traditional Healers vselected using snowballing	10	• All Muslim Traditional Healers reported that the primary mode of healing was through the words of the Qur'an using Verses, and all of these processes were done to banish or repel the evil spirit. • The predominant mode of diagnosis was through interviewing the patient and/or their relatives, and they asked for dreams as a vital clue to identifying the underlying illness.		

Mohamed-Kaloo and Laher, 2014, South Africa	Qualitative study	Muslim general practitioner(GP) doctors in private practice use a convenience sample	10	• The Muslim GP Doctors reported that patients regularly consulted traditional healers such as maulanas (Muslim clergy) and sangomas (African traditional healers). • The majority of the Muslim GP Doctors acknowledged that spiritual illness exists and acknowledged the existence of a belief in witchcraft, the 'evil eye' and spirit possession and noted that collaboration with and referral to traditional healers are important		
Musyimi, Mutiso et al, 2018, Kenya	Qualitative study	Traditional healers, faith healers and clinicians selected through simple random sampling	36	• Among faith healers, the commonly used methods varied from Counseling and prayer, casting out demons, and conducting home visits to offer additional help. • All these professionals' differences influenced the process of managing patients with mental illness.		
Musyimi, Mutiso et al, 2017, Kenya	Cross-sectional	Adult patients consulting the trained THPs were selected Using a systematic random sampling technique	100	All adult patients seek care from traditional healers such as diviners and herbalists or faith healers, who use treatments such as prayers, laying hands on patients, or providing holy water and ash to their patients.		
Musyimi, Mutiso et al., 2016, Kenya	Qualitative study	Faith healers and traditional healers are selected Randomly	30	Traditional and faith healers treat using praying commonly and refer patients to the clinic, especially in cases of severe mental illnesses and for medical problems.		
Musyimi, Mutiso et al., 2017, Kenya	Cross-sectional	Adult patients with mental health problems seeking care from traditional and faith healers	433	Among the visitors of traditional and faith healers, 71% of them were depressed, and 65.5% of them were under the treatment of faith healers.		

Ngoma, Prince et al., 2003, Tanzania	Cross-sectional	Adult Patients from PHCs and from THCs were selected using consecutive sampling	354	• In traditional healer centers, diviners, herbalist-ritualists, Herbalists (steam baths, and mineral and animal extracts) and faith healers manage patients. • The prevalence of common mental disorders among THC patients (48%) was doubles that of PHC patients (24%).		
Shange and Ros, 2022, South Africa	Qualitative study	Traditional healers treat people with mental health problems	14	Healers are used to treat mental illness, including removing evil spirits through washing, steaming, induced vomiting, and administering herbal remedies.		
Sorketti, Zainal et al., 2012, Sudan	Cross-sectional	All inpatients who were diagnosed by the traditional healer to have mental illness and admitted to the healing center	405	More than half (52%) of participants said they had **not** previously visited any mental health facilities because they did not know about the psychiatry service and mental health services were not helpful or useful for them.		
Sorsdahl, Stein et al., 2010, South Africa	Qualitative study	Traditional healers practicing who attended workshops on educating traditional healers on the nature of the mental illness, signs and symptoms of depression treatments and referral mechanisms selected using a Convenience sample	24	The traditional healers' characteristics were diviners with diagnostic powers, both a diviner and herbalist.		
Sorsdahl, Stein et al., 2013,	Cross-sectional	Traditional healers selected using convenience sample	100	Most of this study's healers (75%) can be classified as diviners (who have diagnostic powers). A minority can be classified as herbalists (14%) who dispense herbal medicines and faith healers (5%).		

South Africa						
Sorsdahl, Stein et al., 2009, South Africa	Community based survey	Participants with mental disorder diagnoses for mood, anxiety, and substance use disorders.	3651	• Traditional, religious and spiritual were the healers. • The use of traditional healers in the full sample was predicted by older age, black race, unemployment, lower education, and having an anxiety or a substance use disorder.		
Teshager, Kerebih et al, 2020, Ethiopia	Cross-sectional	Outpatients from the psychiatry clinic treatment selected consecutively	423	Around 71% of the patients sought help from religious healers for the first time before they visit psychiatry care at the hospital, and 2.6% of them from traditional healers.		
Teuton, Dowrick et al., 2007, Uganda	Qualitative study	Indigenous healers, religious healers and psychiatrists using snowball technique	25	The indigenous, religious, and allopathic healers' attitudes towards other parts of the healing context varied.		
van der Watt, Menze et al, 2021, South Africa	Mixed methods study	Traditional healers recruited using the snowball method.	118	• The traditional healers identify themselves as "sangoma" (holy man or women), Healer, spiritualists and Herbalist. Most of all the types of healers' said "Just know" as the diagnosis mode. • Spiritualists, male THs, and THs who had previously been hospitalized for a mental disorder were more likely to report a willingness to refer patients to biomedical hospitals.		
van der Zeijst, Veling et al.,	Mixed methods study	Traditional health practitioners, formal health practitioners, patients and relatives	27	• According to participants, when ancestors are calling someone to become a THP, this person is possessed by ancestral spirits. • The result shows that the ancestral calling to become a traditional health Practitioner might announce itself with		

2021, South Africa		were recruited		symptoms of mental illness, including unusual perceptual experiences, for which some participants consider mouthwash (training to become a traditional health Practitioner) as the only effective cure.		
Yeshanew, Belete et al., 2020, Ethiopia	Mixed methods study	Adult people in the town at household using multistage sampling technique	964	• Habitual healers and herbal treatments, including holy water, are reported as common healing practices. • Of respondents who agreed that mental illness needs treatment, about 44.1% had the intent to seek help from traditional medical practice.		

Supplementary Table 6: Enablers and barriers of traditional healing practices for people with mental health problems in sub-Sahara African countries, Dec 1, 2022

Study characteristics	**Study design /type**	**Population and selection**	**Sample size**	**Enablers** to traditional healing practice	**Barriers** to traditional healing practice
Ae-Ngibise K. etal , 2010, Ghana	Qualitative study	Policy makers, health professionals, users of psychiatric services, teachers, police officers, academics, and religious and traditional healers were recruited	120	THs related – ✓ The availability, accessibility, and affordability nature of traditional healing ✓ Faith healers' understandings of mental illness cause consistency with cultural explanation. ✓ Few faith and traditional healers advise patients to use conventional treatments alongside spiritual care. Health system related- ✓ Inadequate number of conventional mental health service providers ✓ Biomedical services were frequently described as expensive	THs related – ✓ Human rights abuses committed by traditional healers were reported, such as 'maltreatment', 'neglect',, and exploitations, including forced fasting, exorcisms which include physical beatings (sometimes resulting in death), chaining to contain agitated patients, and forced confinement. ✓ Traditional healers doubt the value of 'conventional' psychiatric treatments effectiveness. For example, traditional healers remarked that 'conventional' medical practitioners treat the symptoms, not the causes. HPs related- ✓ Few biomedical practitioners emphasized that collaboration would only be possible if traditional practitioners were 'educated', 'trained', and 'regulated from a clinical perspective. ✓ Some biomedical professionals believe not to refer patients with

					severe mental health conditions. ✓ Nurses revealed that positive interactions with different traditional healing systems result in strong follow-up of modern medicine.
Akol, Moland et al, 2018, Uganda	Qualitative study	Traditional healers with mental illness Purposively selected	20	Health system- ✓ The government is taking the lead in integrating them with formal health systems ✓ laws and policies, increased recognition or advocacy to community	THs- ✓ Traditional healer peers' poor competency ✓ Traditional healers did not trust biomedical practitioners' skill HPs- ✓ All traditional healers believed that clinical providers are not willing to collaborate with traditional healers because they consider them as dirty and have a lower education status.
Asher, Birhanu et al, 2021, Ethiopia	Qualitative study	Individuals attended the psychiatry service at holy water site	174	Health system- ✓ To Improve collaboration between spiritual and psychiatric care, mental health services provided at the holy water site clinic ✓ Social support such as hygiene, washing clothes, preparing foods, and support to access psychiatric care provided by the trained and improved clients at the holy water site. ✓ A training manual was developed for holy water priests and attendants adapted from a manual for support workers of homeless people with mental illness in Addis Ababa (Fekadu et al., 2014). The training changed their attitudes towards psychiatric treatment	
Campbell-Hall, Petersen et al, 2010, South Africa	Qualitative study	Formal health sector stakeholders, NGO sector, traditional practitioners and mental health service users recruited	90	HPs- ✓ Health workers believe in the importance of educating traditional practitioners about signs and symptoms of mental illness and referral. ✓ All Health workers believed that traditional practitioners could support patients.	THs- ✓ Some THs opinions about the use of traditional and biomedical treatment said the two medicines should not be taken at the same time. HPs- ✓ Health workers reportedly did not prevent mental health patients from consulting traditional practitioners but mainly were not in favor of referring to traditional healers Health system- ✓ lack of a working relationship between the two methods of healing in the ground

Ensink and Robertson, 1999, South Africa	Qualitative study	Random sample of 62 patients was selected from first admissions to a large psychiatric institution.	62		Social- ✓ transport costs as many families traveled far to consult diviners with good reputations THs- ✓ Diviners charged the highest fees for treatment as compared to modern psychiatry care.
January and Sodi, 2006, Zimbabwe	Qualitative study	Faith healers using snowball sampling	21	THs- ✓ More than half (66.6%) of the faith healers favored collaboration with Western-trained healthcare providers.	
Kahn and Kelly, 2001, South Africa	Mixed methods study	Nurses working in Psychiatric Hospital	93	HPs- ✓ The study concludes that the nurses would not endorse traditional healing as a replacement for psychiatric medication or psychotherapy but as an **adjunct** to these.	
Kpobi and Swartz, 2018, Ghana	Qualitative study	Pastors worked as faith healers	10	THs - ✓ Pastor faith healers recommend patients receive biomedical care for the physiological effects of their illness as spiritual forces may manifest in psychological and physiological ways.	
Mbwayo, Ndetei et al., 2013, Kenya	Cross-sectional	Traditional healers and their patients randomly selected	364	Individual- ✓ Patients visit traditional healing than hospitals because Patients report Poor outcomes from hospital care. THs – ✓ Traditional healers give more time to patients, ✓ Traditional healers could let patients pay later ✓ Traditional healing was more affordable compared to	

				hospitals Health system- ✓ Patients report inadequate drug supply	
Mohamed-Kaloo and Laher, 2014 South Africa	Qualitative study	Muslim general practitioners (GPs) by convenience sample	10	HPs- ✓ GPs noted that collaboration and referral to traditional healers are essential for faith healing.	
Musyimi, Mutiso et al, 2018, Kenya	Qualitative study	Traditional healers, faith healers and clinicians, through simple random sampling	36	Health system - ✓ Existence of rules and regulation ✓ Provide training to prevent patient mistreatment, enhance awareness of mental health practice, and collaborate by gov't.	Individual - ✓ Patients were reluctant to visit the hospital even after being referred by the healers. Social- ✓ Patients' relatives/ family decide the preference of the treatment without the patients' consent THs- ✓ The existence of 'fake' healers ✓ Malpractice traditional practitioners ✓ lack of knowledge and skills of healers to treat mental illness Health system- ✓ lack of financial resources, such as lack of transport costs for faith healers to conduct home visits
Musyimi, Mutiso et al., 2016, Kenya	Qualitative study	clinicians, faith healers and traditional healers randomly selected	30		Individual - ✓ Faith healers felt that some patients failed to visit the health centers even on referral. Health system- ✓ No referrals inherent from traditional healers, faith healers to clinicians, and vice versa
Sorsdahl, Stein et al.,	Qualitative study	Traditional healers who attended workshops on educating traditional healers on the nature of mental illness, signs	24	THs- ✓ Almost all the healers reported a desire to collaborate with allopathic physicians (88%) after they attended the workshop on educating traditional healers on the	THs- ✓ Herbalist-only healers don't need to collaborate because they believe in the efficacy of their practices.

2010, South Africa		and symptoms of depression, treatments, referral by Convenience sample		nature of mental illness, signs and symptoms of depression, treatments, and referral issues.	HPs- ✓ Allopathic physicians do not want to work with traditional healers because they do not view them as effective and valuable.
Sorsdahl, Stein et al., 2013, South Africa	Cross-sectional	Traditional healers selected using convenience sample	100		Health system- ✓ Herbalists were less likely than other types of healers to refer patients with a mental illness to Western health professionals.
Teuton, Dowrick et al., 2007, Uganda	Qualitative study	Indigenous healers, religious healers, and psychiatry professionals using snowball technique	25	THs- ✓ Indigenous healer beliefs suggested that allopathic medicine can be used for symptoms whilst indigenous healing deals with the underlying spiritual causes.	THs- ✓ Religious healers portrayed the indigenous healers as exploitative HPs- ✓ Allopathic healers made little reference to religious healers and were ambivalent towards indigenous healers, portraying them as misleading because of lacking the skills and, abusing clients, restraining clients, and preventing patients from receiving allopathic treatment.

Supplementary table 4 : PRISMA Checklist of items to include when reporting a systematic review or meta-analysis [Adapted from *Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement* ***by*** **Moher D et al, 2015**]

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
ADMINISTRATIVE RMATION					
Title					
Identification	1a	Identify the report as a protocol of a systematic review	☒	☐	Page 2
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	☐	☒	
Registration	2	If registered, provide the name of the try (e.g., PROSPERO) and registration number e Abstract	☒	☐	Page 2 PROSPERO Registration number: CRD42023392905
Authors					
Contact	3a	Provide name, institutional affiliation, and il address of all protocol authors; provide cal mailing address of corresponding author	☒	☐	Cover letter
Contributions	3b	Describe contributions of protocol authors dentify the guarantor of the review	☒	☐	Page 23
Amendments	4	If the protocol represents an amendment of viously completed or published protocol, ify as such and list changes; otherwise, state for documenting important protocol ndments	☐	☒	
Support					
Sources	5a	Indicate sources of financial or other ort for the review	☒	☐	Page 24
Sponsor	5b	Provide name for the review funder and/or sor	☐	☐	
Role of sor/funder	5c	Describe roles of funder(s), sponsor(s), or institution(s), if any, in developing the ocol	☐	☐	

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
ABSTRACT Structured mary	6	Provide a structured summary: ground, objectives, methods, results, lusions and implications of key findings	☒	☐	Page 2
INTRODUCTION					
Rationale	8	Describe the rationale for the review in the ext of what is already known	☒	☐	Page 4 to 6
Objectives	8	Provide an explicit statement of the tion(s) the review will address with reference rticipants, interventions, comparators, and omes (PICO)	☒	☐	Page 6
METHODS					
Eligibility criteria	9	Specify the study characteristics (e.g., PICO, design, setting, time frame) and report acteristics (e.g., years considered, language, cation status) to be used as criteria for ility for the review	☒	☐	Page 7
Information sources	10	Describe all intended information sources electronic databases, contact with study ors, trial registers, or other grey literature ces) with planned dates of coverage	☒	☐	Page 8 and 9
Search strategy	11	Present draft of search strategy to be used least one electronic database, including ed limits, such that it could be repeated	☒	☐	Page 8 and 9
STUDY RECORDS					
Data management	12a	Describe the mechanism(s) that will be used anage records and data throughout the w	☒	☐	Page 8
Selection process	12b	State the process that will be used for ting studies (e.g., two independent wers) through each phase of the review (i.e., ning, eligibility, and inclusion in meta-sis)	☒	☐	Page 8
Data collection ess	12c	Describe planned method of extracting data reports (e.g., piloting forms, done endently, in duplicate), any processes for ning and confirming data from investigators	☒	☐	Page 9
Data items	13	List and define all variables for which data e sought (e.g., PICO items, funding sources), re-planned data assumptions and	☒	☐	Page 8

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
		lifications			
Outcomes and itization	14	List and define all outcomes for which data e sought, including prioritization of main and ional outcomes, with rationale	☒	☐	Page 8
Risk of bias in idual studies	15	Describe anticipated methods for assessing f bias of individual studies, including whether vill be done at the outcome or study level, or state how this information will be used in synthesis	☒	☐	Page 9
DATA					
Synthesis	16a	Describe criteria under which study data will uantitatively synthesized	☒	☐	Page 9
	16b	If data are appropriate for quantitative esis, describe planned summary measures, ods of handling data, and methods of ining data from studies, including any ed exploration of consistency (e.g., I^2, all's tau)	☒	☐	Page 9
	16c	Describe any proposed additional analyses sensitivity or subgroup analyses, meta-ssion)	☒	☐	Page 9
	16d	If quantitative synthesis is not appropriate, ibe the type of summary planned	☒	☐	Page 9
Meta-bias(es)	17	Specify any planned assessment of meta-es) (e.g., publication bias across studies, tive reporting within studies)	☒	☐	Page 9
Confidence in ulative evidence	18	Describe how the strength of the body of nce will be assessed (e.g., GRADE)	☒	☐	Page 9
RESULTS					
Study selection	19	Give numbers of studies screened, assessed igibility, and included in the review, with ns for exclusions at each stage, ideally with a diagram.	☒	☐	Page 10
Study characteristics	20	For each study, present characteristics for n data were extracted (e.g., study size, PICOS, w-up period) and provide the citations.	☒	☐	Page 10
Risk of bias within es	21	Present data on risk of bias of each study if available, any outcome level assessment tem 12).	☒	☐	Page 10
Results of individual	22	For all outcomes considered (benefits or	☒	☐	Page 10 to 18

Section/topic	#	Checklist item	Information reported		
			Yes	No	Page number(s)
es		s), present, for each study: (a) simple nary data for each intervention group (b) t estimates and confidence intervals, ideally a forest plot.			
Synthesis of results	23	Present results of each meta-analysis done, ding confidence intervals and measures of stency.	☐	☒	
Risk of bias across es	24	Present results of any assessment of risk of across studies (see Item 15).	☒	☐	Separately attached
Additional analysis	25	Give results of additional analyses, if done sensitivity or subgroup analyses, meta- ssion [see Item 16]).	☐	☒	
DISCUSSION					
Summary of evidence	26	Summarize the main findings including the gth of evidence for each main outcome; der their relevance to key groups (e.g., hcare providers, users, and policy makers).	☒	☐	Page 18 to 22
Limitations	27	Discuss limitations at study and outcome (e.g., risk of bias), and at review-level (e.g., nplete retrieval of identified research, rting bias).	☒	☐	Page 23
Conclusions	28	Provide a general interpretation of the ts in the context of other evidence, and cations for future research.	☒	☐	Page 23
FUNDING					
Funding	29	Describe sources of funding for the matic review and other support (e.g., supply ta); role of funders for the systematic review.	☒	☐	Page 24