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Mental health literacy of school-going adolescents in sub-Saharan Africa: a regional systematic review protocol

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ABSTRACT

Introduction: Mental health literacy has implications for the identification and treatment of mental health problems in adolescents and other young people. Adolescents have been identified as a particularly important target group for initiating and improving mental health literacy. However, much of what we know about adolescent mental health literacy comes from high-income countries. This proposed review seeks to synthesise the available published primary evidence from sub-Saharan Africa on the status, conceptualisation, and measurement of mental health literacy among school-going adolescents.

Methods and analysis: We will perform a systematic review guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement (PRISMA-2009) recommendations. We will systematically search selected global databases (EMBASE, PsycINFO, PubMed, and MEDLINE) and regional electronic databases (African Index Medicus, and African Journals OnLine) up to December 2021 for observational and qualitative studies published in English and French. The standard quality assessment criteria for evaluating primary research papers from a variety of fields (QualSyst criteria) will be used to appraise the methodological quality of the included studies. The Petticrew-Roberts 3-step approach to narrative synthesis will be applied to the included studies.

Ethics and dissemination: We will not seek ethical approval from an institutional review board, as this is a systematic review of available and accessible literature. When completed, the full report of this review will be submitted to a journal for peer-reviewed publication; the key findings will be presented at local and international conferences with – partial or full – focus on (adolescent) mental health (literacy).

Review registration number: International prospective register of systematic reviews (PROSPERO): CRD42021229011.

Keywords: Adolescents, mental health literacy, mental disorders, school-going adolescents, stigma, sub-Saharan Africa.

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Strengths and limitations of this study

- This is the first regional-level systematic review of published evidence on the status, conceptualisation, and measurement of school-going adolescents’ mental health literacy in sub-Saharan Africa.
- We have developed this protocol in keeping with the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) guidelines.
- The general limited amount of published primary studies on school-going adolescents’ mental health literacy across low and-middle-income countries may result in less than enough eligible papers. However, potentially, this limitation can also underscore a need for the initiation and expansion of research in the area, particularly, in countries within the sub-region that have yet to contribute any evidence to the topic.

INTRODUCTION

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Enseignement Supérieur (ABES) .

Mental health literacy – defined as “knowledge and beliefs about mental disorders which aid their recognition, management or prevention”¹ – is a critical determinant of overall mental wellbeing in individuals across various age groups within the general population.²⁻⁵ The concept has several components, including knowledge of how to prevent mental disorders; recognition of when a disorder is developing; knowledge of help-seeking options and treatments available; knowledge of effective self-help strategies for milder problems; and first aid skills to support others who are developing a mental disorder or are in a mental health crisis.^{1 6 7} Leading scholars have maintained that each component of mental health literacy contributes to (functional) mental health through recognising the need to seek professional mental health care or treatment for self or others – who may be experiencing mental health problems; thereby facilitating decision-making regarding types of mental help to seek, and correcting negative attitudes and stigma held towards mental illness and treatment.^{1 5 7-10} Also, evidence on a population’s mental health literacy has the potential to inform how mental healthcare systems and professionals could design and shape their practice to meet the care needs of persons experiencing mental problems.^{5 7-9} Mental health literacy is provided through community, institutional and social outlets, such as schools (where young people and school staff are usually targeted), mass media, and workplaces. The concept is applied contextually, often involving several related stakeholders, and thus, by necessity, mental health literacy is understood to be developmentally appropriate.^{2 3 11}

Increasing evidence indicates that mental health (“a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community”¹²) is the most active research area in recent times, particularly, due to the global COVID-19 pandemic.¹³ However, notably, while the COVID-19 pandemic has underscored the need to pay research attention to mental health needs of populations (including children and adolescents),¹⁴⁻¹⁷ the pandemic has also shown that low (mental) health literacy continues to remain an underestimated global public health challenge.^{18 19} Even so, much of what we know about mental health literacy comes from studies conducted in high-income countries, while less than enough attention has been paid to mental health literacy within public health research and action in low and- middle-income countries (LAMICs), including those in sub-Saharan Africa.^{5 13 20-23} This is concerning, as the burden of mental health disorders and the rarity of mental healthcare infrastructure and acute shortfall in resources are high in LAMICs, compared to high-income countries.²⁴⁻²⁶ Relative to high-income countries, the quality and availability of professional mental healthcare services are poor in most LAMICs, while many LAMICs (including those in sub-Saharan Africa) have non-existent, inappropriate or deficient

mental healthcare policies and lack of national strategies for the prevention of specific public mental health challenges.²⁶⁻³⁰

Generally, mental health literacy of young populations and other vulnerable groups, including adolescents, refugees, and the aged – who are known to experience unique difficulties and barriers to professional mental health care – has received less research attention.³¹ Adolescents are the world’s largest cohort,³² but they also represent the greatest proportion (23%) of the regional population of sub-Saharan Africa.³³ Notably though, evidence of recent systematic reviews shows that adolescents in sub-Saharan Africa are particularly at elevated risk of mental disorders, but mental healthcare systems are poorly resourced, and policies are unavailable to help deal with them.³⁴⁻³⁸ Adolescence is a critical stage across the mental health continuum, as about 50% of mental health challenges experienced during adulthood have their first onset during teenagehood.^{39 40} Although most adolescents do not seek professional help for their mental health issues,^{41 42} there is evidence to suggest that mental health literacy has implications for the identification and treatment of mental health problems in adolescents and other young people.⁴³ Hence, adolescents have been identified as a particularly important target group for initiating and improving mental health literacy.⁴⁴

Although a recent review has identified a few published studies reporting evidence on level of community mental literacy – generally, among adults – in sub-Saharan Africa,⁴⁵ in particular, the mental health and mental health literacy of school-going adolescents in sub-Saharan African countries are poorly understood.^{20 45 46} Thus, a synthesis of the available published primary evidence from sub-Saharan Africa on the status, conceptualisation and measurement of school-going adolescents’ mental health literacy is needed.

Objectives

The objective of this review is to synthesise the available and accessible published literature (from the inception of the selected databases up to December 31, 2021) on mental health literacy of school-going adolescents in sub-Saharan Africa. Specifically, guided by key conceptual literature in the area of mental health literacy,^{1 6 47 48} this review will synthesise the evidence on:

- i]. The three main thematic domains of mental health literacy of school-going adolescents within sub-Saharan Africa: recognition of mental disorders, knowledge about factors related to mental health, and attitudes and beliefs about mental disorders.
- ii]. The conceptualisations and measures of mental health literacy of school-going adolescents in sub-Saharan African countries.

METHODS

Before designing this review, we searched relevant systematic review registers, repositories, review electronic libraries, and key peer-reviewed journals, including the Cochrane Library, the International Prospective Register of Systematic Reviews (PROSPERO), the Campbell Collaboration, the Joanna Briggs Institute Database of Systematic Reviews and Implementation Reports, BMC Systematic Reviews, and BMJ Open, to identify identical or similarly designed previously published protocols or completed systematic reviews. To the best of our knowledge this prospective review represents the first to be designed and conducted from sub-Saharan Africa, as our initial search found no prospective or completed reviews on the topic.

We have developed this review protocol consistent with the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) guidelines.⁴⁹ However, the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA-2009)⁵⁰ will guide the reporting of the completed review. This prospective review has been registered on the International Prospective Register of Systematic Reviews (PROSPERO) database (registration number: CRD42021229011).

Eligibility criteria

Table 1 presents the exclusion and inclusion criteria to guide the selection of potentially eligible articles.

[kindly insert Table 1, approximately, here]

Table 1. Summary of inclusion and exclusion criteria

Criterion	Include	Exclude
Participants	<ul style="list-style-type: none">School-going adolescents (aged 10–24 years) sampled from any of the 46 countries within sub-Saharan Africa, regardless of gender, religious groupings, sexual or gender orientation, or health status.Studies involving participants within broad age range but majority (90% or more) are within the age range 10–24 years.	<ul style="list-style-type: none">Studies involving participants aged younger than 10 years or older than 24 years.Studies involving a wide age range but with study results not disaggregated by age groups.
Setting	<ul style="list-style-type: none">The 46 countries within sub-Saharan Africa.Primary studies conducted within clinical or non-clinical contexts (i.e., general population, community, school-based, households or neighbourhoods) involving school-going adolescents.	<ul style="list-style-type: none">Studies focused on mental health literacy among school-going adolescents, but participants are sampled outside sub-Saharan Africa.Cross-national studies involving countries in sub-Saharan Africa but with study results not disaggregated by country or sub-region.
Study designs	<ul style="list-style-type: none">Primary studies that address at least one of the specified objectives of this review using observational study designs⁵¹ or qualitative approaches.Studies involving self-report or direct reporting of mental health literacy by participants.	<ul style="list-style-type: none">Systematic reviews and umbrella reviews.Protocols or prospective reviews or primary studiesFull text of identified records unavailable or inaccessible, even after contacting authors.Studies based on the same dataset reported in an earlier publication included in this review.Articles not based on data, non-peer-reviewed publications, including grey literature such as theses, correspondence, editorials, opinion pieces, and commentaries.
Language	<ul style="list-style-type: none">Peer reviewed publications in English or French.	<ul style="list-style-type: none">Peer reviewed publications in languages other than English or French

Outcomes: Broadly, this prospective review focuses on mental health literacy of school-going adolescents in sub-Saharan Africa. Specifically, potentially eligible studies must have assessed or measured and reported evidence on at least one of the three main thematic components of mental health literacy as outlined in the objectives of this review: recognition of mental disorders, knowledge about factors relating to mental health, and attitudes and beliefs about mental disorders. Table 2 shows the breakdown of the three thematic domains of the major attributes constituting mental health literacy identified in the key literature.

For peer review only

[kindly insert Table 2, approximately, here]

Table 2. Mental health literacy thematic framework

Thematic domain	Attribute	Mental health literacy content
1]. Recognition	i]. Ability to recognise specific disorders	<ul style="list-style-type: none">▪ The ability to correctly identify features of a disorder, a specific disorder or category of disorders.▪ The ability to recognise disorders in hindsight.▪ The ability to recognise disorders as they are developing.▪ Awareness of a wide range of symptoms.
	ii]. How to seek mental health information	<ul style="list-style-type: none">▪ Knowledge of when, where, and how to access mental health information and capacity to do so.
	iii]. Causes and risk factors	<ul style="list-style-type: none">▪ Knowledge of environmental, social, familial, cultural, biological factors that increase the risk of developing a mental illness.
2]. Knowledge and prevention	i]. Self-treatments (or ‘self-help’/ ‘coping’ strategies)	<ul style="list-style-type: none">▪ Knowledge of typical treatments recommended by mental health professionals.▪ Knowledge of activities that an individual can conduct.▪ Understanding how to obtain good mental health and developing competencies for self-care.
	ii]. Professional help available	<ul style="list-style-type: none">▪ Knowledge of mental health professionals and the services they provide.
3]. Attitudes and beliefs	i]. Attitudes that promote recognition and appropriate help-seeking	<ul style="list-style-type: none">▪ Decreasing negative attitudes and stigma related to mental disorders and treatments.▪ Improving help-seeking beliefs and intentions.

Note: Table and content adopted from Bale et al. (2018),⁴⁸ O’Connor et al. (2014)⁴⁷, Jorm (2000, 2012)^{6 7}, and Jorm et al. (1997)¹

Definition and measurement of outcomes:

We will consider for inclusion studies on mental health literacy; studies on health literacy focused on physical/medical health issues will be excluded. Potentially eligible studies must have clearly defined mental health literacy identical to or similarly as the definition guiding this review.^{1 6} Also, specific measurement or assessment of mental health literacy must have been reported by potentially eligible primary studies (i.e., general survey scales and programme specific measures).⁴⁸

Types of study: We will consider for inclusion in this review primary studies that have used observational study designs (i.e., cross-sectional studies, case control studies, and cohort studies), qualitative studies, and mixed methods designs.^{51 52} A study will be excluded if the data had been reported by an earlier or recent study based on the same dataset but in a comparatively sufficient detail. Peer-reviewed publications that draw on student dissertations will be considered for inclusion, but the dissertations (where available and accessible) will be referred for detailed methodological information.

Participants and study setting: Potentially eligible studies must involve school-going adolescents sampled from any of the 46 countries within sub-Saharan Africa. The 46 countries considered for this review are based on the regional classification and list of 46 countries within the sub-Saharan African region provided by the World Health Organization.²⁸ There will be no restrictions by type of specific setting. Potentially eligible studies must have been conducted within clinical or non-clinical contexts, including schools, households/neighbourhoods, community contexts, rural, or urban settings. Participants in potentially eligible studies must be aged 10–24 years, regardless of gender, religious groupings, sexual or gender orientation, or health status. Studies involving participants within broad age range but where the majority (90% or more) are within the age range 10–24 years will be considered for inclusion. Participants in eligible studies must have self-reported or directly reported mental health literacy.

Information sources

We will search two regional electronic databases (African Journals OnLine, and African Index Medicus) and four global databases (EMBASE, PsycINFO, PubMed, and MEDLINE). We would search the references of key papers to identify potentially eligible papers and use Google Scholar to look for relevant forward citations of key papers. Also, we will search the references of eligible papers to chase the citations of potentially eligible papers. We will use the “Cited by” and “Related articles” functions in Google Scholar to search relevant citations of similar eligible papers. We will contact authors of potentially eligible papers that are

inaccessible, requesting for the full text of their articles for eligibility consideration. We will consider only studies published in French or English, as these are the two main languages for publication of scientific works within the subregion.^{53 54} The searches will be limited to the year of inception of the selected academic databases up to December 2021, but the review is expected to be completed in June 2022.

Search strategy and process

The search strategy would include keywords, Boolean logic operatives, truncation, and MeSH terms as appropriate for and relevant to each selected database. Our geographic search filter would include names of the 46 countries and four subregions within sub-Saharan Africa – in both English and languages relevant to the countries. For example, “mental health literacy” OR “depression literacy” OR “anxiety literacy” OR health educat* OR health behav*) AND (adolescen* OR students OR teen* OR “in-school adolescents” OR “school-going adolescents”) AND (Angola OR Benin OR Dahomey OR Botswana OR Bechuanaland OR Burkina Faso OR Upper Volta OR Burundi OR Urundi OR Cameroon OR Cape Verde OR Cabo Verde OR Central Africa OR West Africa OR East Africa OR Southern Africa OR sub-Saharan Africa OR Congo OR Cote d'Ivoire OR Ivory Coast).

A prototype MEDLINE search strategy (see Supplementary Material 1) developed by the authors and reviewed by an Information Specialist will be adapted to the syntax and subject headings of the other selected databases (African Journals OnLine, African Index Medicus, EMBASE, PsycINFO, and PubMed). Two authors (MM & KOA) will conduct the searches and two authors (ENBQ & MRM) will integrate the search results and remove duplicates of records. The selected databases would be searched separately, but the search results will be combined before duplicates are removed. The reporting of the search process will be informed by the Statement for Reporting Literature Searches in Systematic Reviews (PRISMA-S) guidelines.⁵⁵

Study Records

Data management: Following the PRISMA-2009 guidelines,⁵⁰ a reference manager, EndNote (version X9.3.3), would be used to collate the results of the database searches, remove duplicates of the records, screen the titles and abstracts of the identified records, and to access the full text of potentially eligible studies.

Selection process: Three reviewers (TS, MM, & SN) will independently screen the titles and abstracts of the identified records within the lens of the prespecified inclusion and exclusion criteria. The full text of potentially eligible studies (after title and abstract screening) would be

screened for inclusion. The entire review team will resolve discrepancies through consensus for accuracy check of included studies. The reviewers will consult published protocols and associated supplementary materials (where available) of eligible studies or contact authors of eligible studies – that are inaccessible online – through email correspondence for missing or extra relevant information.

Data collection process and data items: Relevant data will be extracted onto a predesigned extraction form. The form will include information about author and year of publication, country, sampling and sample size, study design, outcome measurement, key findings, study quality rating. Authors of eligible studies would be contacted for missing or additional relevant information. Three reviewers (SN, JM, & MRM) will extract data independently from the eligible papers; the extractions will be referred to two other reviewers (ENBQ & TS) for accuracy check and completeness. At planned research meetings, the review team will resolve discrepancies through consensus. Also, we may (if the need be) contact authors of eligible studies for accuracy check and additional information to resolve discrepancies and uncertainties.

Risk of bias in individual studies

Three reviewers (ENBQ, JM, & TS) will use the standard quality assessment criteria for evaluating primary research papers from a variety of fields (QualSyst criteria)⁵⁶ to appraise independently the methodological quality of the included studies. The QualSyst criteria is a standardised generic quality checklist designed for quantitative and qualitative studies; it includes 14 criteria for quantitative studies and 10 criteria for qualitative studies. Each included study will be assessed for the extent to which it meets each criterion (No = 0, Yes = 2, Partially = 1, Not applicable = N/A). A sum of all the scores will be calculated and divided by the total possible highest score on the criteria – but items considered non-applicable will be excluded. For ease of understanding, the total score will be converted into a percentage of score available. Discrepancies related to the quality appraisal will be resolved through consensus. No study will be excluded based on quality appraisal rating.

Data synthesis

The 3-step approach to narrative synthesis (by Petticrew and Roberts ⁵⁷) would be followed to synthesise the evidence drawn from the included studies: “(i) organizing the description of the studies into logical categories; (ii) analyzing the findings within each of the categories; and (iii) synthesizing the findings across all included studies”.

Patient and public involvement

No patient involved.

DISCUSSION

The aim of this review is to collate, synthesise, and report findings of previously published primary studies on the status, conceptualisation, and measurement of mental health literacy of school-going adolescents within and across countries in sub-Saharan Africa. Thus, upon successful completion, this will be the first regional-level systematic review to report synthesised evidence on school-going adolescents' mental health literacy in sub-Saharan Africa.

The interpretation of the synthesised strands of evidence in this review is likely to draw on how adolescents in sub-Saharan Africa view mental illness. There is evidence to suggest that young people in the subregion are less aware of the multi-causal nature of mental health issues, and their primary views equate mental illnesses to brain disorders, with strong supernatural and cultural undertones.⁵⁸ In other words, the explication of our findings will reference the African worldview and cosmological ideas related to the aetiology of mental illness, and spiritual and religious interventions.^{23 59}

We anticipate that evidence reported by this review will provide a useful point of departure for both initial and continuous primary research efforts on adolescent mental health literacy across the subregion. This anticipated usefulness can be seen in four ways: i] synthesised evidence on the status of school-going adolescents' mental health literacy will inform a need for initial and further studies, including intervention and evaluative studies aimed at promoting and improving the mental literacy of school-going adolescents within and across the subregion; ii] evidence on the conceptualisation and measurements of mental health literacy of school-going adolescents within sub-Saharan Africa will potentially inform a need for age-appropriate and context-specific meaning-making or definitions of mental health literacy as a concept, and a need for the development and application of culturally-sensitive measures for the assessment of adolescent mental health literacy in the subregion; iii] the methodological quality appraisal of the included studies could have implications for designing future primary research in the area; and iv] the application of the 3-thematic-domain mental health literacy framework^{47 48} in this review can, potentially, facilitate the identification and mapping out of specific components of mental health literacy of school-going adolescents that require initial or further research attention across the subregion.

Broadly, it is expected that this review's findings will be of interest and relevant to the work of researchers, school and family mental health professionals, adolescent mental health professionals, and (mental) health policymakers across the subregion. However, we anticipate that the general limited amount of published primary studies on school-going adolescents' mental health literacy across low and-middle-income countries may result in less than enough papers for eligibility consideration in this review. This limitation can also underscore a critical need for the initiation and expansion of research in the area, particularly, in countries within the subregion that have yet to contribute any evidence to the topic.

Amendments

We do not anticipate amendments to the review methods described in this protocol, but if this becomes necessary, we will describe in the 'Amendments' section of this protocol the needed changes and their justification, and include the date of each change made. All corresponding amendments will also be made in the PROSPERO registration. All the authors will agree on and approve the amendments.

DECLARATIONS

Author contributors

TS – Conceptualised the systematic review, supervised development of systematic review protocol, performed preliminary literature search, led the project administration, wrote the original draft, conducted edits for the drafts, reviewed and approved final draft. Serves as guarantor for the contents of this paper.

ENBQ – Conceptualised the systematic review, developed search strategy for systematic review, supervised development of systematic review protocol, contributed to writing original draft, reviewed all drafts, reviewed and approved final draft.

KOA – Conceptualised the systematic review, supervised development of systematic review protocol, contributed to writing original draft, reviewed all drafts, reviewed and approved final draft.

MRM – Developed search strategy for systematic review, performed preliminary literature search, reviewed and approved final draft.

MM – Contributed to writing drafts, commented on methodology, reviewed and approved final draft.

SN – Contributed to writing drafts, commented on methodology, reviewed and approved final draft.

JM – Contributed to writing drafts, commented on methodology, reviewed and approved final draft.

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Competing interests

None declared

Patient consent for publication

Not required

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Supplementary Material 1

Ovid Meline(R) (Date initial search performed: _____)

#	Searches	Results
1	exp Health Knowledge, Attitudes, Practice/ or exp Mental Health/ or exp Adult/ or exp Adolescent/ or exp Health Literacy/ or exp Depression/ or exp Female/ or exp Mental Disorders/ or exp Humans/ or mental health literacy.mp. or exp Male/	
2	exp Mental Health/ or exp Mental Disorders/ or exp Health Literacy/ or exp Schizophrenia/ or exp Health Knowledge, Attitudes, Practice/ or schizophrenia literacy.mp. or exp Attitude to Health/	
3	exp Health Knowledge, Attitudes, Practice/ or exp Depression/ or exp Depressive Disorder/ or exp "Patient Acceptance of Health Care"/ or depression literacy.mp. or exp Mental Health/ or exp Health Literacy/	
4	psychopathology.mp. or exp Psychopathology/	
5	exp Mental Disorders/ or exp Social Stigma/ or exp Stereotyping/ or Stigma*.mp.	
6	shame.mp. or exp Shame/	
7	exp Anxiety Disorders/ or exp Anxiety/ or anxiety literacy.mp.	
8	exp Health Promotion/ or exp Health Education/ or exp Adolescent/ or health educat*.mp. or exp Internet/	
9	exp Health Behavior/ or health behav*.mp.	
10	health literacy.mp. or exp Health Literacy/ or exp Developing Countries/ or exp Health Education/ or exp Patient Education as Topic/	
11	exp Adolescent/ or exp Mental Disorders/ or exp First Aid/ or first aid skills.mp. or exp Mental Health/	
12	exp Help-Seeking Behavior/ or help-seeking behav*.mp. or exp Adolescent/ or exp "Patient Acceptance of Health Care"/	
13	exp Adolescent/ or exp Mental Health/ or exp Mental Disorders/ or exp Health Knowledge, Attitudes, Practice/ or adolescent mental health literacy.mp. or exp Social Stigma/	
14	health belief.mp.	
15	dementia literacy.mp.	
16	exp Mental Health Services/ or exp Internet/ or mental health information.mp.	
17	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16	
18	exp Young Adult/ or exp Adolescent/ or exp Male/ or adolescen*.mp. or exp Female/ or exp Child/	
19	young people.mp.	
20	exp Students/ or student*.mp.	
21	Schools/ or in-school adolescents.mp.	
22	school-going adolescents.mp.	
23	18 or 19 or 20 or 21 or 22	
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25	17 and 23 and 24	
26	limit 25 to (english language and humans and yr="1860 - 2021" and french)	

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PRISMA-P 2015 Checklist

PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended form to address in a systematic review protocol*

Section/topic	#	Checklist item	Information reported		Line number(s)
			Yes	No	
ADMINISTRATIVE INFORMATION					
Title					
Identification	1a	Identify the report as a protocol of a systematic review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
Registration	2	If registered, provide the name of the registry (e.g., PROSPERO) and registration number	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2
Abstract					
Authors					
Contact	3a	Provide name, institutional affiliation, and e-mail address of all protocol authors; provide physical mailing address of corresponding author	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
Support					
Sources	5a	Indicate sources of financial or other support for the review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13
Sponsor	5b	Provide name for the review funder and/or sponsor	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
Role of sponsor/funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
INTRODUCTION					
Rationale	6	Describe the rationale for the review in the context of what is already known	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4-5
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5-6
METHODS					
Eligibility criteria	8	Specify the study characteristics (e.g., PICO, study design, setting, time frame) and report characteristics (e.g., years considered, language, publication status) to be used as criteria for eligibility for the review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6-8 Table 1
Information sources	9	Describe all intended information sources (e.g., electronic databases, contact with study authors, trial registers, or other grey literature sources) with planned dates of coverage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8-9

Section/topic	#	Checklist item	Information reported		Line number(s)
			Yes	No	
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9 Appendix 1
STUDY RECORDS					
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9-10
Selection process	11b	State the process that will be used for selecting studies (e.g., two independent reviewers) through each phase of the review (i.e., screening, eligibility, and inclusion in meta-analysis)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10
Data collection process	11c	Describe planned method of extracting data from reports (e.g., piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10
Data items	12	List and define all variables for which data will be sought (e.g., PICO items, funding sources) and any pre-planned data assumptions and simplifications	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10
Risk of bias in individual studies	14	Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10
DATA					
Synthesis	15a	Describe criteria under which study data will be quantitatively synthesized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data, and methods of combining data from studies, including any planned exploration of consistency (e.g., I^2 , Kendall's tau)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11
	15c	Describe any proposed additional analyses (e.g., sensitivity or subgroup analyses, meta-regression)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11
Meta-bias(es)	16	Specify any planned assessment of meta-bias(es) (e.g., publication bias across studies, selective reporting within studies)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11
Confidence in cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (e.g., GRADE)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10

* It is strongly recommended that this checklist be read in conjunction with the PRISMA-P Explanation and Elaboration (cite when available) for important clarification on the items. Amendments to a review protocol should be tracked and dated. The copyright for PRISMA-P (including checklist) is held by the PRISMA-P Group and is distributed under a Creative Commons Attribution Licence 4.0.

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BMJ Open

Mental health literacy of school-going adolescents in sub-Saharan Africa: a regional systematic review protocol

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2022-063687.R1
Article Type:	Protocol
Date Submitted by the Author:	06-Aug-2022
Complete List of Authors:	Sodi, Tholene; University of Limpopo, Psychology Quarshie, Emmanuel; University of Ghana College of Humanities, Psychology; University of Leeds, School of Psychology Oppong Asante, Kwaku ; University of Ghana, Department of Psychology Radzilani-Makatu, Makondelele; University of Venda, Psychology Makgahlela, Mpsanyana; University of Limpopo, Psychology Nkoana, Shai; University of Limpopo, Psychology Mutumbara, Julia; Midlands State University,
Primary Subject Heading:	Mental health
Secondary Subject Heading:	Mental health, Public health
Keywords:	Child & adolescent psychiatry < PSYCHIATRY, Depression & mood disorders < PSYCHIATRY, Anxiety disorders < PSYCHIATRY, Suicide & self-harm < PSYCHIATRY, PUBLIC HEALTH

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ABSTRACT

Introduction: Assessing mental health literacy has implications for the identification and treatment of mental health problems. Adolescents have been identified as a particularly important target group for initiating and improving mental health literacy. However, much of what we know about adolescent mental health literacy comes from high-income countries. This proposed review seeks to synthesise the available published primary evidence from sub-Saharan Africa on the status and measurement of mental health literacy among school-going adolescents.

Methods and analysis: We will perform a systematic review reported in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement (PRISMA-2020). We will systematically search selected global databases (EMBASE, PsycINFO, PubMed, and MEDLINE) and regional electronic databases (African Index Medicus, and African Journals OnLine) up to December 2021 for observational and qualitative studies published in English and French. The standard quality assessment criteria for evaluating primary research papers from a variety of fields (QualSyst criteria) will be used to appraise the methodological quality of the included studies. The Petticrew-Roberts 3-step approach to narrative synthesis will be applied to the included studies.

Ethics and dissemination: We will not seek ethical approval from an institutional review board, as this is a systematic review of available and accessible literature. When completed, the full report of this review will be submitted to a journal for peer-reviewed publication; the key findings will be presented at local and international conferences with – partial or full – focus on (adolescent) mental health (literacy).

Review registration number: International prospective register of systematic reviews (PROSPERO): CRD42021229011.

Keywords: Adolescents, mental health literacy, mental disorders, school-going adolescents, stigma, sub-Saharan Africa.

Word count: 3440

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Strengths and limitations of this study

- The cross-national nature of this review allows for comparisons of findings across and within countries and subregions in sub-Saharan Africa.
- We have reported this protocol in keeping with the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) guidelines.
- Significant heterogeneity is expected within and across different domains (e.g. understanding of mental health literacy, sampling approaches) and across periods of time.
- Expected significant heterogeneity will obviate the conduct of a meta-analysis
- An expected general limited amount of published primary studies on school-going adolescents’ mental health literacy across low and-middle-income countries (relative to high-income countries) may result in less than enough eligible papers.

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INTRODUCTION

Mental health literacy – defined as “knowledge and beliefs about mental disorders which aid their recognition, management or prevention”[1] – is a critical determinant of overall mental well-being in individuals across various age groups within the general population [2-5]. The concept has several components, including knowledge of how to prevent mental disorders; recognition of when a disorder is developing; knowledge of help-seeking options and treatments available; knowledge of effective self-help strategies for milder problems; and first aid skills to support others showing symptoms of mental health disorders or are in a mental health crisis [1, 6, 7]. Leading scholars have maintained that each component of mental health literacy contributes to (functional) mental health through recognising the need to seek professional mental health care or treatment for self or others who may be experiencing mental health problem, thereby facilitating decision-making regarding types of help to seek, and correcting negative attitudes and stigma held towards mental illness and treatment [1, 5, 7-10]. Additionally, evidence on a population’s mental health literacy has the potential to inform how mental healthcare systems and professionals could design and shape their practice to meet the care needs of persons struggling with mental health [5, 7-9]. Information aiming to enhance mental health literacy is provided through community, institutional and social outlets, such as schools (where young people and school staff are usually targeted), mass media, and workplaces. Mental health literacy is applied contextually, often involving several related stakeholders, and thus, by necessity, mental health literacy is understood to be developmentally appropriate [2, 3, 11].

Increasing evidence indicates that mental health, “a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community” [12], is the most active research area in recent times, particularly due to the global COVID-19 pandemic [13]. However, notably, while the COVID-19 pandemic has underscored the need to pay research attention to mental health needs of populations (including children and adolescents) [14-17], the pandemic has also shown that low (mental) health literacy continues to remain an underestimated global public health challenge[18, 19]. Even so, much of what we know about mental health literacy comes from studies conducted in high-income countries, while less than enough attention has been paid to mental health literacy within public health research and action in low and- middle-income countries (LAMICs), including those in sub-Saharan Africa [5, 13, 20-23]. This is concerning, as the burden of mental health disorders is high in LAMICs, while mental health infrastructure and resource access are scarce, in comparison with high-income countries [24-26]. Relative to high-income countries, the

quality and availability of professional mental healthcare services are poor in most LAMICs, and many LAMICs (including those in sub-Saharan Africa) have non-existent, inappropriate or deficient mental healthcare policies and lack of national strategies for the prevention of specific public mental health challenges [26-30].

Generally, mental health literacy of young populations and other vulnerable groups, who are known to experience unique difficulties and barriers to professional mental health care – has received less research attention.[31] Among these vulnerable populations are adolescents, refugees and the aged. Adolescents are the world’s largest cohort [32], but they also represent the greatest proportion (23%) of the regional population of sub-Saharan Africa [33]. Notably though, evidence of recent systematic reviews shows that adolescents in sub-Saharan Africa are particularly at elevated risk of mental disorders, but mental healthcare systems are poorly resourced, and policies are unavailable to help deal with them [34-38]. Adolescence is a critical stage across the mental health continuum, as about 50% of mental health challenges experienced during adulthood have their first onset during teenagehood [39, 40]. Although most adolescents do not seek professional help for their mental health issues (e.g., due to stigma, lack of mental health knowledge) [41, 42], there is evidence to suggest that mental health literacy has implications for the identification and treatment of mental health problems in adolescents and other young people [43]. Hence, adolescents have been identified as a particularly important target group for initiating and improving mental health literacy [44].

Recent review has identified a few published studies reporting evidence on level of community mental literacy, generally among adults in sub-Saharan Africa [45]. However, the mental health and mental health literacy of school-going adolescents in sub-Saharan African countries are poorly understood [20, 45, 46]. Thus, a synthesis of the available published primary evidence from sub-Saharan Africa on the status, conceptualisation and measurement of school-going adolescents’ mental health literacy is needed.

Objectives

The objective of this review is to synthesise the available and accessible published literature (from the inception of the selected databases up to December 31, 2021) on mental health literacy of school-going adolescents in sub-Saharan Africa. Specifically, guided by key conceptual literature in the area of mental health literacy [1, 6, 47, 48], this review will synthesise the evidence on:

- i). The three main thematic domains of mental health literacy of school-going adolescents within sub-Saharan Africa: recognition of mental disorders, knowledge

about factors related to mental health, and attitudes and beliefs about mental disorders. Notably, these three main domains of mental health literacy guiding this review have been drawn from key literature in the area: Jorm et al. (1997) [1], Jorm (2000, 2012) [6, 7], O'Connor et al. (2014) [47], and Bale et al. (2018) [48].

- ii]. The conceptualisations and measures of mental health literacy of school-going adolescents in sub-Saharan African countries.

METHODS

Before designing this review, we searched relevant systematic review registers, repositories, review electronic libraries, and key peer-reviewed journals, including the Cochrane Library, the International Prospective Register of Systematic Reviews (PROSPERO), the Campbell Collaboration, the Joanna Briggs Institute Database of Systematic Reviews and Implementation Reports, BMC Systematic Reviews, and BMJ Open, to identify identical or similarly designed previously published protocols or completed systematic reviews. To the best of our knowledge this prospective review represents the first to be designed and conducted from sub-Saharan Africa, as our initial search found no prospective or completed reviews on the topic.

We have developed this review protocol consistent with the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) guidelines [49]. The Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA-2020) [50] will guide the reporting of the completed review. This prospective review has been registered on the International Prospective Register of Systematic Reviews (PROSPERO) database (registration number: CRD42021229011).

Eligibility criteria

Table 1 presents the exclusion and inclusion criteria to guide the selection of potentially eligible articles.

Table 1. Summary of inclusion and exclusion criteria

Criterion	Include	Exclude
Participants	<ul style="list-style-type: none">School-going adolescents (aged 10–24 years and attend junior high or senior high school) sampled from any of the 46 countries within sub-Saharan Africa, regardless of gender, religious groupings, sexual or gender orientation, or health status.Studies involving participants within broad age range, but the computed mean age falls within the age range 10–24 years.	<ul style="list-style-type: none">Studies involving participants aged younger than 10 years or older than 24 years.Studies involving a wide age range but with study results not disaggregated by age groups.
Setting	<ul style="list-style-type: none">The 46 countries within sub-Saharan Africa.Primary studies conducted within clinical or non-clinical contexts (i.e., general population, community, school-based, households or neighbourhoods) involving school-going adolescents.	<ul style="list-style-type: none">Studies focused on mental health literacy among school-going adolescents, but participants are sampled outside sub-Saharan Africa.Cross-national studies involving countries in sub-Saharan Africa but with study results not disaggregated by country or sub-region.
Study designs	<ul style="list-style-type: none">Primary studies that address at least one of the specified objectives of this review using observational study designs[51] or qualitative approaches.Studies involving self-report or direct reporting of mental health literacy by participants.	<ul style="list-style-type: none">Systematic reviews and umbrella reviews.Protocols or prospective reviews or primary studiesFull text of identified records unavailable or inaccessible, even after contacting authors.Studies based on the same dataset reported in an earlier publication included in this review.Articles not based on data, non-peer-reviewed publications, including grey literature such as theses, correspondence, editorials, opinion pieces, and commentaries.
Language	<ul style="list-style-type: none">Peer reviewed publications in English or French.	<ul style="list-style-type: none">Peer reviewed publications in languages other than English or French

Outcomes: Broadly, this prospective review focuses on mental health literacy of school-going adolescents in sub-Saharan Africa. Specifically, potentially eligible studies must have assessed or measured and reported evidence on at least one of the three main thematic components of mental health literacy as outlined in the objectives of this review: recognition of mental disorders, knowledge about factors relating to mental health, and attitudes and beliefs about mental disorders. Table 2 shows the breakdown of the three thematic domains of the major attributes constituting mental health literacy identified in the key literature.

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Table 2. Mental health literacy thematic framework

Thematic domain	Attribute	Mental health literacy content
1]. Recognition	i]. Ability to recognise specific disorders	<ul style="list-style-type: none">▪ The ability to correctly identify features of a disorder, a specific disorder or category of disorders.▪ The ability to recognise disorders in hindsight.▪ The ability to recognise onset of symptoms of disorders.▪ Awareness of a wide range of symptoms.
	ii]. How to seek mental health information	<ul style="list-style-type: none">▪ Knowledge of when, where, and how to access mental health information and capacity to do so.
	iii]. Causes and risk factors	<ul style="list-style-type: none">▪ Knowledge of environmental, social, familial, biological factors that increase the risk of developing a mental illness.
2]. Knowledge and prevention	i]. Self-treatments (or ‘self-help’/ ‘coping’ strategies)	<ul style="list-style-type: none">▪ Knowledge of typical treatments recommended by mental health professionals.▪ Knowledge of activities that an individual can undertake to obtain professional help or self-care▪ Understanding how to obtain good mental health and developing competencies for self-care.
	ii]. Professional help available	<ul style="list-style-type: none">▪ Knowledge of mental health professionals and the services they provide.
3]. Attitudes and beliefs	i]. Attitudes that promote recognition and appropriate help-seeking	<ul style="list-style-type: none">▪ Decreasing negative attitudes and stigma related to mental disorders and treatments.▪ Improving help-seeking beliefs and intentions

Note: Table and content adopted from Bale et al. (2018) [48], O’Connor et al. (2014) [47], Jorm (2000, 2012) [6, 7], and Jorm et al. (1997) [1].

Definition and measurement of outcomes:

We will consider for inclusion studies on mental health literacy; studies on health literacy focused on physical/medical health issues will be excluded. Potentially eligible studies must have clearly defined mental health literacy identical to or similarly as the definition guiding this review [1, 6]. Also, specific measurement or assessment of mental health literacy must have been reported by potentially eligible primary studies (i.e., general survey scales and programme specific measures) [48].

Types of study: We will consider for inclusion in this review primary studies that have used observational study designs (i.e., cross-sectional studies, case control studies, and cohort studies), qualitative studies, and mixed methods designs [51, 52]. A study will be excluded if the data had been reported by an earlier or recent study based on the same dataset but in a comparatively sufficient detail. Peer-reviewed publications that draw on student dissertations will be considered for inclusion, but the dissertations (where available and accessible) will be referred for detailed methodological information.

Participants and study setting: Potentially eligible studies must involve school-going adolescents (in junior or senior high schools) sampled from any of the 46 countries within sub-Saharan Africa. The 46 countries considered for this review are based on the regional classification and list of 46 countries within the sub-Saharan African region provided by the World Health Organization [28]. There will be no restrictions by type of specific setting. Potentially eligible studies could have been conducted within clinical or non-clinical contexts, including schools, households/neighbourhoods, community contexts, rural, or urban settings. Participants in potentially eligible studies must be aged 10–24 years, and will be recruited regardless of gender, religious groupings, sexual or gender orientation, or health status. We have adopted the chronological definition of adolescence as 10–24 years, as this represents an expanded and more inclusive definition of adolescence and the age limit aligns more closely with popular understandings of the adolescence life phase and modern patterns of adolescent growth [53]. Studies involving participants within broad age range but where the majority (90% or more) are within the age range 10–24 years will be considered for inclusion. Participants in eligible studies must have self-reported or directly reported mental health literacy (scores).

Information sources

We will search two regional electronic databases (African Journals OnLine, and African Index Medicus) and four global databases (EMBASE, PsycINFO, PubMed, and MEDLINE). We will search the references of key papers to identify potentially eligible papers and use

Google Scholar to look for relevant forward citations of key papers. Also, we will search the references of eligible papers for the citations of potentially eligible papers. Our searches in Google Scholar will involve the use of tools and functionality recommended for enhanced recall.[54] We will use the “Cited by” and “Related articles” functions in Google Scholar to search relevant citations of similar eligible papers. We will contact authors of potentially eligible papers that are inaccessible, requesting for the full text of their articles for eligibility consideration. We will consider only studies published in French or English, as these are the two main languages for publication of scientific works within the subregion [55, 56]. The searches will be limited to the year of inception of the selected academic databases up to December 2021, but the review is expected to be completed in June 2022.

Search strategy and process

The search strategy would include keywords, Boolean logic operatives, truncation, and MeSH terms as appropriate for and relevant to each selected database. Our geographic search filter would include names of the 46 countries and four subregions within sub-Saharan Africa – in both English and languages relevant to the countries. For example, “mental health literacy” OR “depression literacy” OR “anxiety literacy” OR health educat* OR health behav*) AND (adolescen* OR students OR teen* OR “in-school adolescents” OR “school-going adolescents”) AND (Angola OR Benin OR Dahomey OR Botswana OR Bechuanaland OR Burkina Faso OR Upper Volta OR Burundi OR Urundi OR Cameroon OR Cape Verde OR Cabo Verde OR Central Africa OR West Africa OR East Africa OR Southern Africa OR sub-Saharan Africa OR Congo OR Cote d'Ivoire OR Ivory Coast).

A prototype MEDLINE search strategy (see Supplementary Material 1) developed by the authors and reviewed by an Information Specialist will be adapted to the syntax and subject headings of the other selected databases (African Journals OnLine, African Index Medicus, EMBASE, PsycINFO, and PubMed). Two authors (MM & KOA) will conduct the searches and two authors (ENBQ & MRM) will integrate the search results and remove duplicates of records. The selected databases would be searched separately, but the search results will be combined before duplicates are removed. The reporting of the search process will be informed by the Statement for Reporting Literature Searches in Systematic Reviews (PRISMA-S) guidelines [57].

Study Records

Data management: Consistent with the PRISMA-2020 guidelines[50], a reference manager, EndNote (version X9.3.3), would be used to collate the results of the database searches,

remove duplicates of the records, screen the titles and abstracts of the identified records, and to access the full text of potentially eligible studies.

Selection process: Three reviewers (TS, MM, & SN) will independently screen the titles and abstracts of the identified records within the lens of the prespecified inclusion and exclusion criteria. The full text of potentially eligible studies (after title and abstract screening) would be screened for inclusion. The entire review team will resolve discrepancies through consensus for accuracy check of included studies. The reviewers will consult published protocols and associated supplementary materials (where available) of eligible studies or contact authors of eligible studies – that are inaccessible online – through email correspondence for missing or extra relevant information.

Data collection process and data items: The identified relevant studies will be divided among three reviewers (SN, HM, and MRM) for data extraction. Records will be screened for eligibility and duplicates removed. Relevant data will be extracted onto a predesigned extraction form. The following data will be extracted: author, year of publication, country, study setting (school, clinic, community etc.), study design, sample characteristics (will be extracted more broadly depending on the study: sampling method, sample size, gender ratio, mean age, etc.), domain of mental health literacy reported (e.g., Knowledge and prevention, recognition, attitudes and beliefs), outcome measurement (e.g., general or specific measurement approaches using a questionnaire, vignette, clinician interview, or qualitative interview), key findings, study quality rating. Authors of eligible studies would be contacted for missing or additional relevant information. Three reviewers (SN, JM, & MRM) will extract data independently from the eligible papers; the extractions will be referred to two other reviewers (ENBQ & TS) for accuracy check and completeness. At planned research meetings, the review team will resolve discrepancies through consensus. Also, we may (if the need be) contact authors of eligible studies for accuracy check and additional information to resolve discrepancies and uncertainties.

Risk of bias in individual studies

Three reviewers (ENBQ, JM, & TS) will use the standard quality assessment criteria for evaluating primary research papers from a variety of fields (QualSyst criteria) [58] to appraise independently the methodological quality of the included studies. The QualSyst criteria is a standardised generic quality checklist designed for quantitative and qualitative studies; it includes 14 criteria for quantitative studies and 10 criteria for qualitative studies. Each included study will be assessed for the extent to which it meets each criterion (No = 0, Yes = 2, Partially = 1, Not applicable = N/A). A sum of all the scores will be calculated and

divided by the total possible highest score on the criteria – but items considered non-applicable will be excluded. For ease of understanding, the total score will be converted into a percentage of score available. Discrepancies related to the quality appraisal will be resolved through consensus. No study will be excluded based on quality appraisal rating. However, it is hoped that the quality appraisal ratings will inform recommendations to help improve the methodological quality of future primary studies in the area from sub-Saharan African countries.

Data synthesis

We will use qualitative content analysis – “a method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns” [59] – for preliminary synthesis of the extracted data. Although the expected significant heterogeneity across the included studies will obviate meta-analysis, we will use tables and figures (including forest plots, where necessary) to aid the synthesis [60]. For example, reported scores on mental health literacy will be described qualitatively, due to possible significant heterogeneity across included studies. The formal analysis will follow the 3-step approach to narrative synthesis (by Petticrew and Roberts [60]) would be followed to synthesise the evidence drawn from the included studies: “(i) organizing the description of the studies into logical categories; (ii) analyzing the findings within each of the categories; and (iii) synthesizing the findings across all included studies”. While we anticipate the synthesis to be informed by the aims of the review and the identified domains of mental health literacy, the categorisation within and across the included studies will depend mainly on the key emergent patterns of the findings. The authors will jointly synthesise the data.

Patient and public involvement

No patient involved.

DISCUSSION

The aim of this review is to collate, synthesise, and report findings of previously published primary studies on the status, conceptualisation, and measurement of mental health literacy of school-going adolescents within and across countries in sub-Saharan Africa. Thus, upon successful completion, this will be the first regional-level systematic review to report

synthesised evidence on school-going adolescents' mental health literacy in sub-Saharan Africa.

The interpretation of the synthesised evidence in this review is likely to draw on how adolescents in sub-Saharan Africa view mental illness. There is evidence to suggest that young people in the subregion are less aware of the multi-causal nature of mental health issues, and their primary views equate mental illnesses to brain disorders, with strong supernatural and cultural undertones [61]. In other words, the explication of our findings will reference the African worldview and cosmological ideas related to the aetiology of mental illness, and spiritual and religious interventions [23, 62].

We anticipate that evidence reported by this review will provide a useful point of departure for both initial and continuous primary research efforts on adolescent mental health literacy across the subregion. This anticipated usefulness can be seen in four ways: i] synthesised evidence on the status of school-going adolescents' mental health literacy will inform a need for initial and further studies, including intervention and evaluative studies aimed at promoting and improving the mental literacy of school-going adolescents within and across the subregion; ii] evidence on the conceptualisation and measurements of mental health literacy of school-going adolescents within sub-Saharan Africa will potentially inform a need for age-appropriate and context-specific meaning-making or definitions of mental health literacy as a concept, and a need for the development and application of culturally-sensitive measures for the assessment of adolescent mental health literacy in the subregion; iii] the methodological quality appraisal of the included studies could have implications for designing future primary research in the area; and iv] the application of the 3-thematic-domain mental health literacy framework [47, 48] in this review can, potentially, facilitate the identification and mapping out of specific components of mental health literacy of school-going adolescents that require initial or further research attention across the subregion.

Broadly, it is expected that this review's findings will be of interest and relevant to the work of researchers, school and family mental health professionals, adolescent mental health professionals, and (mental) health policymakers across the subregion. However, we anticipate that the general relatively limited amount of published primary studies on school-going adolescents' mental health literacy across low and-middle-income countries may result in less than enough papers for eligibility consideration in this review. This limitation can also underscore a critical need for the initiation and expansion of research in the area, particularly, in countries within the subregion that have yet to contribute any evidence to the topic. Also, significant heterogeneity is expected within and across different domains (e.g.

understanding of mental health literacy, sampling approaches) and across periods of time; this expected significant heterogeneity will obviate the conduct of a meta-analysis.

Amendments

We do not anticipate amendments to the review methods described in this protocol, but if this becomes necessary, we will describe in the ‘Amendments’ section of this protocol the needed changes and their justification, and include the date of each change made. All corresponding amendments will also be made in the PROSPERO registration. All the authors will agree on and approve the amendments.

DECLARATIONS

Author contributors

TS – Conceptualised the systematic review, supervised development of systematic review protocol, performed preliminary literature search, led the project administration, wrote the original draft, conducted edits for the drafts, reviewed and approved final draft. Serves as guarantor for the contents of this paper.

ENBQ – Conceptualised the systematic review, developed search strategy for systematic review, supervised development of systematic review protocol, contributed to writing original draft, reviewed all drafts, reviewed and approved final draft.

KOA – Conceptualised the systematic review, supervised development of systematic review protocol, contributed to writing original draft, reviewed all drafts, reviewed and approved final draft.

MRM – Developed search strategy for systematic review, performed preliminary literature search, reviewed and approved final draft.

MM – Contributed to writing drafts, commented on methodology, reviewed and approved final draft.

SN – Contributed to writing drafts, commented on methodology, reviewed and approved final draft.

JM – Contributed to writing drafts, commented on methodology, reviewed and approved final draft.

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Competing interests

None declared

Patient consent for publication

Not required

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Supplementary Material 1

Ovid Meline(R) (Date initial search performed: _____)

#	Searches	Results
1	exp Health Knowledge, Attitudes, Practice/ or exp Mental Health/ or exp Adult/ or exp Adolescent/ or exp Health Literacy/ or exp Depression/ or exp Female/ or exp Mental Disorders/ or exp Humans/ or mental health literacy.mp. or exp Male/	
2	exp Mental Health/ or exp Mental Disorders/ or exp Health Literacy/ or exp Schizophrenia/ or exp Health Knowledge, Attitudes, Practice/ or schizophrenia literacy.mp. or exp Attitude to Health/	
3	exp Health Knowledge, Attitudes, Practice/ or exp Depression/ or exp Depressive Disorder/ or exp "Patient Acceptance of Health Care"/ or depression literacy.mp. or exp Mental Health/ or exp Health Literacy/	
4	psychopathology.mp. or exp Psychopathology/	
5	exp Mental Disorders/ or exp Social Stigma/ or exp Stereotyping/ or Stigma*.mp.	
6	shame.mp. or exp Shame/	
7	exp Anxiety Disorders/ or exp Anxiety/ or anxiety literacy.mp.	
8	exp Health Promotion/ or exp Health Education/ or exp Adolescent/ or health educat*.mp. or exp Internet/	
9	exp Health Behavior/ or health behav*.mp.	
10	health literacy.mp. or exp Health Literacy/ or exp Developing Countries/ or exp Health Education/ or exp Patient Education as Topic/	
11	exp Adolescent/ or exp Mental Disorders/ or exp First Aid/ or first aid skills.mp. or exp Mental Health/	
12	exp Help-Seeking Behavior/ or help-seeking behav*.mp. or exp Adolescent/ or exp "Patient Acceptance of Health Care"/	
13	exp Adolescent/ or exp Mental Health/ or exp Mental Disorders/ or exp Health Knowledge, Attitudes, Practice/ or adolescent mental health literacy.mp. or exp Social Stigma/	
14	health belief.mp.	
15	dementia literacy.mp.	
16	exp Mental Health Services/ or exp Internet/ or mental health information.mp.	
17	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16	
18	exp Young Adult/ or exp Adolescent/ or exp Male/ or adolescen*.mp. or exp Female/ or exp Child/	
19	young people.mp.	
20	exp Students/ or student*.mp.	
21	Schools/ or in-school adolescents.mp.	
22	school-going adolescents.mp.	
23	18 or 19 or 20 or 21 or 22	
24	((Angola or Benin or Dahomey or Botswana or Bechuanaland or Burkina Faso or Upper Volta or Burundi or Urundi or Cameroon or Cape Verde or Cabo Verde or Central African Republic or Chad or Comoros or Congo or Cote d'Ivoire or Ivory Coast or Democratic Republic of the Congo or Zaire or Equatorial Guinea or Eritrea or Ethiopia or Abyssinia or Gabon or Gambia or Ghana or Gold Coast or Guinea or Guinea-Bissau or Kenya or Lesotho or Basutoland or Liberia or Madagascar or Malawi or Mali or Sudanese republic or Mauritius or Mozambique or Namibia or South-West Africa or Niger or Nigeria or Rwanda or Ruanda or Sao Tome) and Principe) or	

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	Senegal or Seychelles or Sierra Leone or Somalia or South Africa or South Sudan or eSwatini or Swaziland or United Republic of Tanzania or Tanganyika or Zanzibar or Togo or Uganda or Zambia or Northern Rhodesia or Zimbabwe or Southern Rhodesia or German East Africa or Western Sahara or Central Africa or Africa South of the Sahara or West Africa or Western Africa or East Africa or Eastern Africa or Southern Africa or sub-Saharan Africa or subSaharan Africa).tw.	
25	17 and 23 and 24	
26	limit 25 to (english language and humans and yr="1860 - 2021" and french)	

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PRISMA-P 2015 Checklist

PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended form to address in a systematic review protocol*

Section/topic	#	Checklist item	Information reported		Line number(s)			
			Yes	No				
ADMINISTRATIVE INFORMATION								
Title								
Identification	1a	Identify the report as a protocol of a systematic review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1			
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A			
Registration	2	If registered, provide the name of the registry (e.g., PROSPERO) and registration number	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2			
Abstract								
Authors								
Contact	3a	Provide name, institutional affiliation, and e-mail address of all protocol authors; provide physical mailing address of corresponding author	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1			
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13			
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A			
Support								
Sources	5a	Indicate sources of financial or other support for the review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13			
Sponsor	5b	Provide name for the review funder and/or sponsor	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A			
Role of sponsor/funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A			
INTRODUCTION								
Rationale	6	Describe the rationale for the review in the context of what is already known	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4-5			
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5-6			
METHODS								
Eligibility criteria	8	Specify the study characteristics (e.g., PICO, study design, setting, time frame) and report characteristics (e.g., years considered, language, publication status) to be used as criteria for eligibility for the review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6-8 Table 1			
Information sources	9	Describe all intended information sources (e.g., electronic databases, contact with study authors, trial registers, or other grey literature sources) with planned dates of coverage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8-9			

Section/topic	#	Checklist item	Information reported		Line number(s)
			Yes	No	
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including limits, such that it could be repeated	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9 Appendix 1
STUDY RECORDS					
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9-10
Selection process	11b	State the process that will be used for selecting studies (e.g., two independent reviewers) through each phase of the review (i.e., screening, eligibility, and inclusion in meta-analysis)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10
Data collection process	11c	Describe planned method of extracting data from reports (e.g., piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10
Data items	12	List and define all variables for which data will be sought (e.g., PICO items, funding sources) and any pre-planned data assumptions and simplifications	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10
Risk of bias in individual studies	14	Describe anticipated methods for assessing risk of bias of individual studies, including when this will be done at the outcome or study level, or both; state how this information will be used in data synthesis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10
DATA					
Synthesis	15a	Describe criteria under which study data will be quantitatively synthesized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data, and methods of combining data from studies, including any planned exploration of consistency (e.g., I^2 , Kendall's tau)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11
	15c	Describe any proposed additional analyses (e.g., sensitivity or subgroup analyses, meta-regression)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11
Meta-bias(es)	16	Specify any planned assessment of meta-bias(es) (e.g., publication bias across studies, selective reporting within studies)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11
Confidence in cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (e.g., GRADE)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10

* It is strongly recommended that this checklist be read in conjunction with the PRISMA-P Explanation and Elaboration (cite when available) for important clarification on the items. Amendments to a review protocol should be tracked and dated. The copyright for PRISMA-P (including checklist) is held by the PRISMA-P Group and is distributed under a Creative Commons Attribution Licence 4.0.

From: Shamseer L, Moher D, Clarke M, Ghersi D, Liberati A, Petticrew M, Shekelle P, Stewart L, PRISMA-P Group. Preferred reporting items for systematic review and metaanalysis protocols (PRISMA-P) 2015: elaboration and explanation. BMJ. 2015 Jan 2;349(jan02 1):g7647.