REVIEW

Screening tools for common mental disorders in older adults in South Asia: a systematic scoping review

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ABSTRACT

Objectives: Common mental disorders (CMDs), particularly depression, are major contributors to the global mental health burden. South Asia, while diverse, has cultural, social, and economic challenges, which are common across the region, not least an aging population. This creates an imperative to better understand how CMD affects older people in this context, which relies on valid and culturally appropriate screening and research tools. This review aims to scope the availability of CMD screening tools for older people in South Asia. As a secondary aim, this review will summarize the use of these tools in epidemiology, and the extent to which they have been validated or adapted for this population.

Design: A scoping review was performed, following PRISMA guidelines. The search strategy was developed iteratively in Medline and translated to Embase, PsychInfo, Scopus, and Web of Science. Data were extracted from papers in which a tool was used to identify CMD in a South Asian older population (50 +), including validation, adaptation, and use in epidemiology. Validation studies meeting the criteria were critically appraised using the Quality Assessment of Diagnostic Accuracy Studies – version 2 (QUADAS-2) tool.

Results: Of the 4694 papers identified, 176 met the selection criteria at full-text screening as relevant examples of diagnostic or screening tool use. There were 15 tool validation studies, which were critically appraised. Of these, 10 were appropriate to evaluate as diagnostic tests. All of these tools assessed for depression. Geriatric Depression Scale (GDS)-based tools were predominant with variable diagnostic accuracy across different settings. Methodological issues were substantial based on the QUADAS-2 criteria. In the epidemiological studies identified ($n = 160$), depression alone was assessed for 82% of the studies. Tools lacking cultural validation were commonly used (43%).

Conclusions: This review identifies a number of current research gaps including a need for culturally relevant validation studies, and attention to other CMDs such as anxiety.

Key words: psychogeriatrics, depression, anxiety, epidemiology, screening

Introduction

The world population is aging rapidly, particularly in low- and middle-income countries (LMICs) compared with high-income countries (HICs) (UN 2015), and while South Asia has in the past lagged behind other parts of the world in this, its fertility rate is declining and life expectancy is climbing, bringing on a rapid demographic transition (Chand, 2018). In India, which accounts for most of the region's population, 8.6% of the population are aged 60 and over, a proportion projected to reach 19% by 2050 (Agarwal *et al.*, 2016). The Lancet Global Mental Health series (2007 and 2011) highlighted the wide gap between mental health needs and provision (Eaton *et al.*, 2011), but this gap is not well characterized in older people. Common mental disorders (CMDs), which

encompass depression, anxiety, and related disorders, are a large part of the global disease burden, contributing substantially to morbidity, mortality, and decreased quality of life for people of all ages (Hay *et al.*, 2017), but particularly in older people (Guerra *et al.*, 2016; Ogbo *et al.*, 2018).

There is a need to focus on older people across LMICs, but also on South Asia in particular. The majority of existing data in this area focus on HICs, with a relative lack in older people and LMICs. Initiatives such as the 10/66 International Dementia Research Collaboration (Prince *et al.*, 2007) and the Study on Global Ageing and Adult Health (SAGE) (Kowal *et al.*, 2012) have greatly added to the understanding of mental disorders in older people in LMICs, however, they still leave much to learn. The work of the 10/66 Collaboration is primarily focused on dementia, and SAGE aims to provide a broad representation from different geographic regions across LMICs (Lotfaliany *et al.*, 2019), rather than a sharply focused impression of any one region in particular. While it can be useful to examine an issue in relation to income status, for example, LMICs, this risks conflating a range of very distinct cultural contexts. South Asian countries are often considered together in large meta-analyses, citing challenges common across the region, such as lack of access to resources, stigma, and underdeveloped mental health legislation, policies, and plans (Hossain *et al.*, 2020; Ogbo *et al.*, 2018; Ranjan and Asthana, 2017). There may also be common psychosocial constructs across the region (Rama *et al.*, 2014), suggesting that it is useful to consider South Asia as a whole in a review such as this.

Appropriate screening tools play an important role in the identification and characterization of mental health needs. They aid assessment in routine clinical practice, facilitate epidemiological work, which in turn, informs policymakers in allocating scarce resources appropriately according to need. There are well-known effects of culture on presentations of mental disorders and idioms of distress (Kerr, 2001), and evidence that mental disorders can present differently in older people (Yesavage *et al.*, 1982). It is currently not known, however, to what extent appropriate screening tools or measures for CMDs have been validated in South Asia, and where exactly the gaps in availability and validation of these measures are.

This scoping review aims to identify the extent to which screening tools for CMDs have been validated in older adults in South Asia, and to identify key research gaps and priorities for future work through performing a systematic search of the literature including validation studies, epidemiological studies, and existing literature reviews. The quality of the current validation data were assessed through the quality assessment of included validation studies using the Quality Assessment of Diagnostic Accuracy Studies – version 2 (QUADAS-2) (Whiting *et al.*, 2011).

As a secondary aim, this scoping review will summarize the screening tools currently, and previously, being used in epidemiological studies of CMDs in older adults in South Asia and whether these have been previously validated and locally developed or culturally adapted.

The need for this review was identified by leading older people's mental health clinicians and researchers from South Asia at the inaugural meeting of North East England South Asia Mental health Alliance (NEESAMA) in November 2018. Mental health of older adults is a key theme of this initiative.

Methods

Search strategy

A systematic literature search was performed in July 2019 in the following databases:

Medline, Embase, PsycInfo, Scopus, and Web of Science. The search strategy was developed iteratively in Medline and translated across the remaining databases. To capture CMDs, we combined the keywords, "depression" OR "affective" OR "anxiety" OR "GAD" OR "panic" OR "phobia*" OR "obsessive" OR "compulsive" OR "OCD" OR "trauma" OR "PTSD" with the Medline subject headings, "ANXIETY DISORDERS"/ OR "MOOD DISORDERS"/ OR "NEUROTIC DISORDERS"/ OR "TRAUMA AND STRESSOR RELATED DISORDERS"/ OR "MENTAL HEALTH"/. These were combined with thesaurus and free-text terms to capture older adults, and countries in the South Asia region.

Complete search terms for Medline are included in Appendix A1, published as supplementary material online attached to the electronic version of this paper.

Selection criteria

Studies were included if they presented data on any CMD in a community or outpatient older population sample (aged >50), from South Asia. The age of 50 was used as a cutoff rather than the current Indian standard of 60 or the HIC standard of 65 as some well-known seminal studies conducted in the 1990s used this 50 + cutoff and were considered relevant when planning this review. The South Asian countries included were Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, India, Pakistan, and Sri Lanka. Only studies which used a tool,
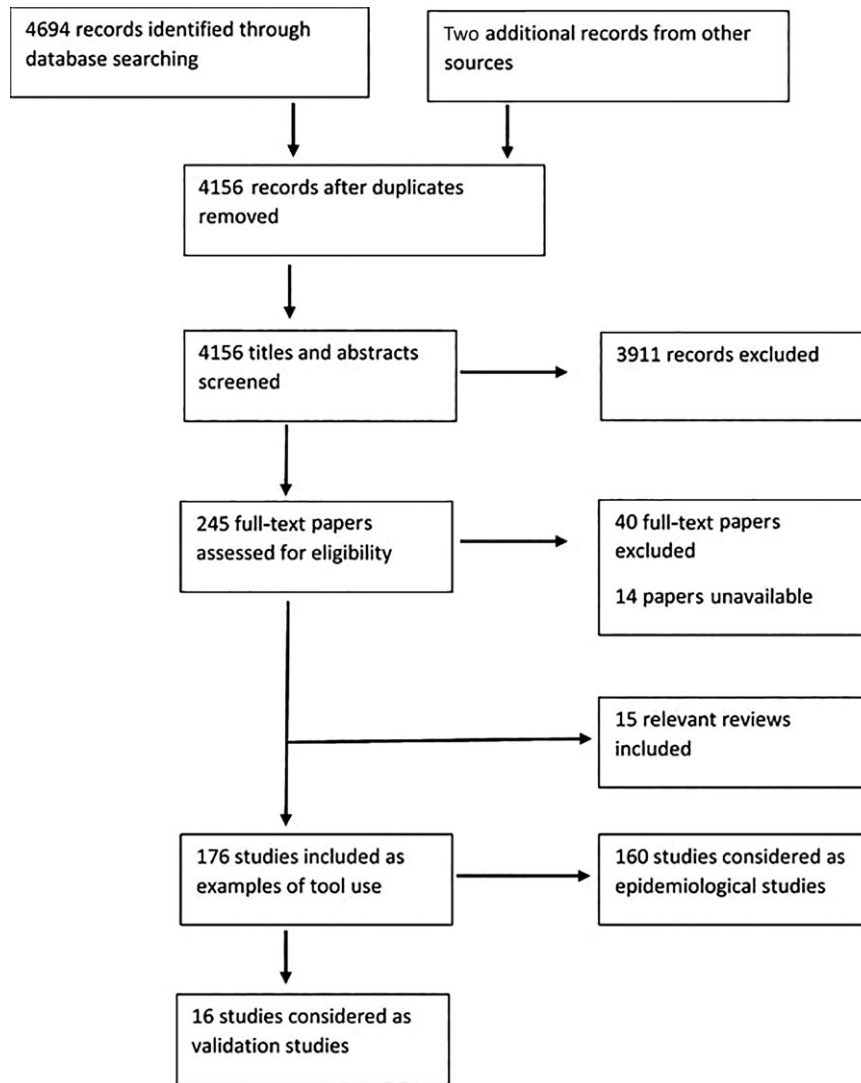
Figure 1. PRISMA flowchart.

questionnaire, or instrument to identify or screen for a clinically defined CMD were included. Studies that used self-reported diagnoses considered only well-being rather than a psychiatric diagnosis of CMD, or did not specify the age range of the sample were excluded. Systematic and other reviews and opinion pieces were examined for references and the scope and major findings of reviews included for discussion and context of the current knowledge base, however, no data were extracted. There was no specifier for study design to restrict to validation studies as a pilot search indicated that this would exclude papers known to be of interest from the search results. This allowed the collection of all instances of tool use rather than just those in which the purpose was validation. The search was limited to peer-reviewed journal papers published between 1990 and August 2019 in the English language.

Search results were independently screened for eligibility by two authors (LF and CN) in a two-step process; title and abstract followed by full-text screening, as documented in the PRISMA diagram (Figure 1) (Moher *et al.*, 2009). Any disagreements were resolved via discussion and the input of a third reviewer (EBM). The reference lists of the 176 studies included after full-text screening were hand-searched to identify any other potentially relevant studies.

Data extraction and synthesis

VALIDATION STUDIES
Studies presenting a new tool, or validating an existing tool were of primary interest and are presented in Table 1. Data extracted included: the country and region the study sample was drawn from; sample size (limited to participants in South Asia where several countries were included); setting (community dwelling, outpatient, or care home); urban or rural; CMD(s) assessed; name of tool,

whether it was novel or previously developed and/or validated elsewhere and if so, where it was developed originally; language of the validated version.

Where the tool was compared to a reference standard, further information was extracted according to its performance as a diagnostic test (sensitivity, specificity, and cutoff value used) and gold standard assessment used for validation if relevant.

These studies were quality assessed using the QUADAS-2 (Whiting *et al.*, 2011) by two authors (LF and EBM). In addition to the recommended signaling questions, one was added asking whether the approach to cultural adaptation or translation increased the risk of bias.

EPIDEMIOLOGICAL DATA

Data were also extracted from all epidemiological studies that used an instrument to diagnose a CMD, whether or not there was any validation described – see Table S1 published as supplementary material online attached to the electronic version of this paper. Data extracted included: demographic data on the population, participants, and study setting as above; study design; primary outcome of the study; CMD(s) assessed; tool used to identify CMD(s); type of tool (screening/diagnostic); where the tool was developed (HIC or LMIC); if the tool was validated for that context, and if not, where it was validated; any other significant features. These studies were not quality assessed other than to judge the cultural appropriateness of the tool used and no quantitative data were extracted . Their inclusion was intended to add to an understanding of how CMD screening tools are used in this context.

A proportion of the records, selected by systematic sampling, were independently reviewed to ensure the reliability of data extraction (S-MP). Due to temporary restrictions on access to library resources, 14 papers were not available. These were all epidemiological studies.

Results

Validation studies

Identification of novel tools or contextually adapted and validated tools was a central purpose of this review. A total of 15 tools aiming to meet this need were identified from the literature. One was a novel instrument developed in South Asia, and 14 were adaptations of existing instruments developed originally in HICs. Ten of these compared the adapted tool with an established gold standard. All tools which underwent a comparison with a gold standard in this way were for depression. These 10 tools were

quality assessed using the QUADAS-2 (Whiting *et al.*, 2011).

NOVEL TOOLS

Only one entirely novel culturally specific tool was identified (Madnawat and Kachhawa, 2007) – aiming to specifically address death anxiety in urban community residents of Jaipur district, India. This scale was constructed de novo by local experts and so should be optimally relevant to this population. The study was not designed to assess any measures of validity, however, and so it is difficult to comment objectively on its merits compared to other, less culturally specific tools.

ADAPTATIONS OF HIC TOOLS AS INDEX TESTS WITH A REFERENCE STANDARD

Ten studies made use of an existing screening tool developed in a HIC, translated, and/or adapted this to a particular cultural context and validated through comparison to a gold standard. In seven of these, the gold standard was an expert clinical interview, and in the others, this was a structured diagnostic tool (Geriatric Mental state [GMS], Clinical Interview Schedule – Revised [CIS-R] or Structured Clinical Interview for DSM-IV [SCID]). Eight out of these 10 studies were from India, 1 from Nepal, and 1 from Sri-Lanka. All screened for depression. They are detailed in Table 1. It can be seen here that the diagnostic accuracy of specific tools as a diagnostic test varies substantially across different settings. Studies of GDS-15 adaptions report sensitivities of 73–100%, and specificities of 48–94%, although a range of cutoffs was used. Area under the receiver-operator characteristic (AUROC) value was not commonly reported. An analysis of the specific adaptions, which mostly affected performance was beyond the scope of this study.

The QUADAS-2 tool, a quality assessment tool for diagnostic accuracy studies (Whiting et al., 2011) highlights quality concerns or unclear reporting in all but 2 out of the 10 studies assessed (Table 2). The most common source of bias identified was lack of blinding, that is, the index test was administered with knowledge of the results of the reference standard, or vice versa. The approach to patient selection was often incompletely reported, explaining the frequently unclear risk of bias in this category.

OTHER MEASURES OF VALIDITY

A further four studies aimed to explore various measures of validity, but not examine performance as a diagnostic test. These were not included in the quality assessment. Two of these studies examined

Table 1. Adaptations of HIC older age depression screening tools as index tests with a reference standard

AUTHOR	LOCATION	N	SETTING	CMD	TOOL ADAPTED	TOOL FROM	GOLD STANDARD	LANGUAGE	CUTOFF (≥)	SENSITIVITY	SPECIFICITY
Prakash et al. (2009)	Bikaner, India	104	OPD – gen med, urban	Depression	GDS-15	HIC	Clinical interview (ICD DCR)	Hindi	5/15	100%	94%
Biswas et al. (2009)	Vellore, India	204	Community, urban	Depression	PHQ-2	HIC	CIS-R	Tamil	2/2	94%	48%
Guerra et al. (2015)	Chennai + Vellore, India	2002	Community, urban + rural	Depression	EURO-D	HIC	GMS	Tamil + Hindi	5/12	Urban: 97% Rural: 91%	Urban: 74% Rural: 70%
Kumar et al. (2016)	Thrissur, India	275	Community, rural	Depression	CES-D	HIC	Clinical interview (ICD-10)	Malayalam	4/10	98%	79%
Barua and Kar (2010)	Udupi district, India	627	Community, rural	Depression	WHO-5	HIC	Clinical interview (ICD-10)	Kannada + Hindi	Not stated	97%	86%
Khattri and Nepal (2006)	Kathmandu, Nepal	100	OPD – gen med + psych, urban	Depression	GDS-30	HIC	Clinical interview	Nepali	Not stated	85%	82%
Kulathunga et al. (2010)	Colombo, Sri Lanka	30	OPD – psych, urban	Depression	GDS-15	HIC	Clinical interview (ICD-10)	Sinhalese	8/15	73.3	73.3
Sarkar et al. (2015)	Puducherry, India	242	Community, rural	Depression	GDS-15	HIC	Clinical interview (ICD-10)	Tamil	8/15	80%	48%
Banerjee et al. (2008)	Chandigarh, India	53	OPD – ophthal., urban	Depression	GDS-15	HIC	SCID	Not stated	5/15	97%	54%
Prince et al. (2004)	Chennai x2, Goa, Thrissur, Hyderabad, All India	414	Community, urban + rural	Depression	GMS + organicity items	HIC	Clinical interview + MADRS	Not stated	n/a	n/a	83%, 100%, 91%, 100%, 74%

Prince et al. (2004) could not report sensitivity for the GMS for methodological reasons.

Abbreviations: OPD, outpatient department; GDS, Geriatric Depression Scale; HIC, high-income country; ICD, International Classification of Diseases; DCR, diagnostic criteria for research; PHQ, patient health questionnaire; CIS-R, Clinical Interview Schedule – Revised; EURO-D, EURO – Depression; CES-D, Centre for Epidemiological Studies – Depression; WHO, World Health Organization; opthal, ophthalmology; SCID, Structure Clinical Interview for DSM-IV; GMS, Geriatric Mental State + AGECAT algorithm; MADRS, Montgomery–Asberg depression rating scale.

Table 2. QUADAS-2: quality assessment and risk of bias in diagnostic accuracy studies

STUDY	RISK OF BIAS				APPLICABILITY CONCERNS		
	PATIENT SELECTION	INDEX TEST	REFERENCE STANDARD	FLOW AND TIMING	PATIENT SELECTION	INDEX TEST	REFERENCE STANDARD
Prakash et al. (2009)	✓	✓	✓	✓	✓	✓	✓
Biswas et al. (2009)	✓	✓	?	✓	✓	✓	✓
Guerra et al. (2015)	✓	✗	✗	✓	✓	✓	✓
Kumar et al. (2016)	?	✗	✗	✓	✓	✓	✓
Barua et al. (2010)	✓	✗	✓	✗	✓	✓	✓
Khattri and Nepal (2006)	?	✗	✗	✓	?	✓	✓
Kulathunga *et al.* (2010)	✗	✓	✓	✓	✗	✓	✓
Sarkar et al. (2015)	✓	✓	✓	✓	✓	✓	✓
Prince *et al.* (2004)	?	✓	✓	✓	✓	✓	✓
Banerjee et al. (2008)	✓	✓	✓	✗	✓	✓	✓

✓, Low Risk; ✗, High Risk; ?, Unclear Risk.

scales, which were subsequently or previously compared to an appropriate gold standard in an equivalent setting (Chokkanathan and Mohanty, 2013; Ganguli *et al.*, 1999) and another for the same culture but in a different context (clinic vs. community) (Gautam and Houde, 2011). Their related validations are included above. Thus, the most significant exclusion from quality assessment is the GAD-7 Urdu translation for an urban community in Pakistan (Ahmad *et al.*, 2017).

Screening tools utilized in epidemiological studies

As part of a wider aim to scope research conduct in this area, we have reviewed the use of CMD diagnostic and screening tools used in existing relevant epidemiological research. This existing work covers a broad range of settings (Table 3), and a broadly representative geographical area (Figure 2). The majority of studies ($n = 144$, 82%) measured only depression, and used the GDS ($n = 95$, 54%) (Table 3), predominantly the 15-item version. Only 57% used a tool that was culturally validated in line with WHO guidance (World Health Organisation, 2016), or with well-established cross-cultural applicability (e.g. GMS [Prince *et al.*, 2004], CIDI [Haro *et al.*, 2006]). Where a culturally validated

screening tool was not used, most studies ($n = 123$, 70%) did not report a cultural adaptation or review of the tool used in the study methods, for example, using local translators and clinicians (see Table S1, published as supplementary material online attached to the electronic version of this paper).

Reviews

A total of 15 relevant reviews were identified in the search, including 7 meta-analyses, (Barua, 2013; Barua *et al.*, 2010; Barua *et al.*, 2011a; 2011b; Brandão *et al.*, 2019; Grover and Malhotra, 2015; Parkar, 2015; Patel and Shaji, 2010; Pilania *et al.*, 2019; Prakash *et al.*, 2014; Qidwai and Ashfaq, 2011; Rao, 1993; Sami *et al.*, 2015; Shaji *et al.*, 2004; Thapa, 2019). Of the reviews identified, six were systematic reviews examining depression prevalence in India (Barua, 2013; Barua *et al.*, 2010; Barua *et al.*, 2011a; 2011b; Grover and Malhotra, 2015; Pilania *et al.*, 2019). A further three systematic reviews assessed excess mortality in depression (Brandão *et al.*, 2019), prevalence of all mental disorders in Nepal (Thapa, 2019), and the natural course of anxiety disorders (Sami *et al.*, 2015). The remaining six reviews were narrative reviews describing elderly mental health in India (Prakash *et al.*, 2014; Parkar, 2015; Shaji *et al.*, 2004;

Table 3. Summary characteristics of epidemiological data studies using screening and diagnostic tools

(a) STUDY LOCATION

COUNTRY	NUMBER OF STUDIES	% OF TOTAL	POPULATION ($\times 10^6$)	% OF SOUTH ASIAN POPULATION
India	132	75.0	1210	72.7
Pakistan	23	13.1	212	12.7
Nepal	10	5.7	26	1.6
Sri Lanka	9	5.1	20	1.2
Bangladesh	2	1.1	163	9.8
Afghanistan	0	0	32	1.9
Bhutan	0	0	0.7	0.04
Maldives	0	0	0.4	0.02

(b) STUDY SETTING

STUDY SETTING	NUMBER OF STUDIES	% OF TOTAL
Urban	84	47.7
Rural	43	24.4
Both separately	21	11.9
Combined	12	6.8
Not stated	16	9

(c) FREQUENCY OF MOST FREQUENTLY UTILIZED TOOLS

NAME OF TOOL	PURPOSE OF TOOL	NUMBER OF STUDIES	% OF TOTAL
GDS	Screening	95	54.0
CES-D	Screening	12	6.8
EURO-D	Screening	7	4.0
PHQ	Screening	6	3.4
GMS	Diagnostic	15	8.5
CIDI	Diagnostic	13	7.4

Abbreviations: GDS, Geriatric Depression Scale; CES-D, Centre for Epidemiological Studies – Depression; EURO-D, EURO – Depression; PHQ, patient health questionnaire; GMS, Geriatric Mental State, CIDI, Composite International Diagnostic Interview.

Rao, 1993), Pakistan (Qidwai and Ashfaq, 2011), and South Asia as a whole (Patel and Shaji, 2010). There were no studies specifically on tool use. Data were not extracted systematically, however, findings relevant to this review are discussed below.

Funding

Seventy-three percent of the studies gave a statement regarding funding or conflict of interest. Funding was predominated by either local research grants or the funders of major epidemiological exercises such as the 10/66 Collaboration and the World Mental Health Survey.

Unavailable papers

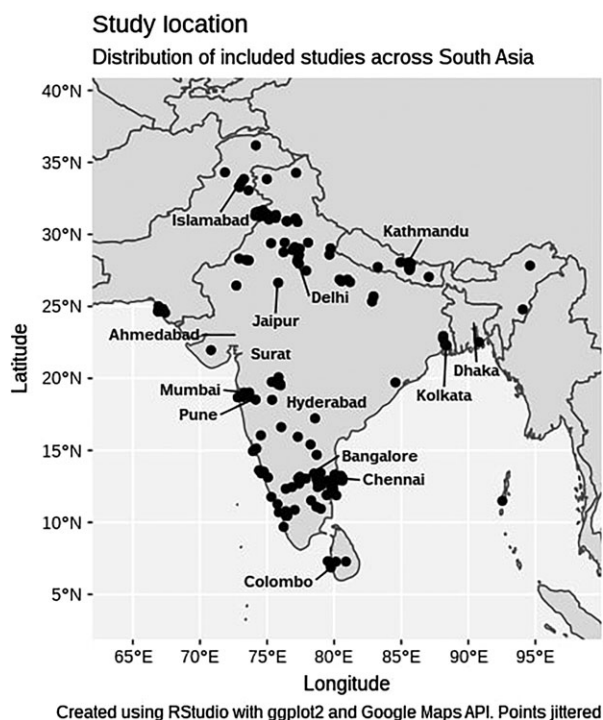Fourteen papers were not available in U.K. libraries and were unavailable for review. These were all small epidemiological studies, not anticipated to significantly impact findings.

Discussion

Validation and adaptation of tools

REFERENCE STANDARDS
In validating a screening tool, an expert diagnostic interview remains the preferred gold standard (Ali *et al.*, 2016), but this is a scarce resource in many settings and a more practical compromise must often be found. The CIS-R, for example, is a structured, standardized interview, for use by lay interviewers to detect minor psychiatric disorders such as anxiety and depression. It has been shown to be highly reliable in other LMICs, for example, Chile (Lewis *et al.*, 1992) which was then an LMIC, and

Study location
Distribution of included studies across South Asia

Created using RStudio with ggplot2 and Google Maps API. Points jittered

Figure 2. Map showing the distribution of all studies included in the review across South Asia.

Malaysia (Subramaniam *et al.*, 2006), although the Indian context remains unassessed. Similarly, the GMS/AGECAT algorithm, as used by the 10/66 group (Prince *et al.*, 2007) can produce a range of diagnoses. It is specifically designed for use by lay interviewers with older participants, accounts for cognitive impairment, and has performed well in LMICs including those where literacy rates may be low (Prince et al., 2004). More widespread validation of these promising tools would provide an important resource for researchers struggling with the lack of available expert interviewers.

Adapting HIC tools for LMICs
This review has identified a tendency to use unvalidated screening tools without an adaptation process in epidemiological studies, undermining their conclusions. The WHO (2016) provides a straightforward summary of how the process of translation and cultural adaptation might be done. This and similar adaptation processes are known to improve the performance of tools as screening instruments for CMD across LMICs (Ali *et al.*, 2016). The GDS, in particular, required alteration to meet the needs of different cultures in a cross-cultural assessment of geriatric depression (Mui *et al.*, 2001), though it has been identified as a screening tool well suited to the Indian context (Prakash *et al.*, 2014) and performs well in the validation studies included in Table 1.

Advocating for resource allocation, and the design of effective public policy to meet the mental health needs of older persons in South Asia requires good quality data available locally (Arokiasamy *et al.*, 2017; Ebrahim *et al.*, 2013), especially in LMICs where mental health needs are often overlooked in favor of the many other pressing concerns (Brandão *et al.*, 2019). In omitting any cultural adaptation, the resulting data will not take account of the important influence of culture, language, and education on the presentation of mental disorders (Kerr, 2001; Prince *et al.*, 2007), and therefore the population's needs may be inadequately measured and provided for.

A meta-analysis of the performance of screening tools for CMD across LMICs found that tools specifically designed for a particular setting tend to perform better than equivalent tools adapted from a HIC, however, more limited data evaluating these restricted the conclusions they were able to draw in comparing them with HIC versions in wider use (Ali *et al.*, 2016). This may be because cultural factors fundamentally affect how the disorder is experienced. Simple translations of HIC tools may miss out on the emic factors, which can provide an important dimension to understanding disorders as they manifest locally. No validated examples of this were identified in this review, however, examples from elsewhere include the Shona Symptom Questionnaire for Zimbabwe (Patel *et al.*, 1997), the case description method for CMD in China (Sheng, 2010), the Chinese Military Mental Health Scale for CMD (Wang *et al.*, 2012), and the Pakistan anxiety and depression questionnaire (Mumford *et al.*, 2005). These are not designed specifically for the older population however.

Reviews

Limitations of the current research base
Reviews identified through searching highlight the shortage of high-quality research available in this area. The lack of appropriate diagnostic and screening tools available to researchers contributes to this shortcoming.

Meta-analyses have demonstrated a wide range of prevalence estimates for CMD in older people, particularly in India. This may be in excess of that found worldwide (Barua, 2013; Barua *et al.*, 2011b; Pilania *et al.*, 2019; World Health Organisation, 2001), however, these estimates are limited by methodological imprecision in the studies available for review (Barua *et al.*, 2010; 2011b; Grover and Malhotra, 2015; Pilania *et al.*, 2019). This limits the extent to which these reviews can usefully inform the provision of measures to reduce the mental health gap for older people in South Asia.

A meta-analysis of the prevalence of depression in India (Pilania *et al.*, 2019) found an overreliance on screening tools such as the Geriatric Depression Scale (GDS) and Centre for Epidemiological Studies – Depression Scale (CES-D) to make a diagnosis in epidemiological surveys, and noted an increased prevalence in studies relying on such instruments. Similarly, a meta-analysis in Nepal (Thapa, 2019) found the prevalence of mental disorders was significantly reduced when studies relying on screening tools were excluded, noting a particular reliance on the GDS.

There are therefore limited and imprecise data available to policymakers. In the data that do exist, there is an overreliance on screening tools used for diagnosis. Contributing to this imprecision is the lack of cultural validation in the screening tools that are used.

OUTSIDE OF INDIA

There was a particular lack of reviews concentrating on research outside of India. One meta-analysis found the prevalence of mental disorder in Nepal to be similar to that found in India if the analysis was limited to diagnostic interviews (Thapa, 2019). The one review focused on Pakistan covered older persons' mental health broadly and did not attempt a meta-analysis (Qidwai and Ashfaq, 2011).

Lack of anxiety studies

This review shows that there is a clear focus on depression over other disorders such as anxiety. This is evident in the validation studies and epidemiological surveys found. A review of older persons' mental health needs in India reported a common overlap of depression and anxiety with almost half of depressed older patients reporting significant anxiety symptoms (Parkar, 2015). Furthermore, a worldwide meta-analysis of longitudinal studies of anxiety disorders in older persons found a poorer prognosis of mixed anxiety and depression compared to pure anxiety or depression (Sami *et al.*, 2015). The finding that 82% of the studies included in this review considered only depression and not anxiety therefore highlights a significant research gap. There was only one example of an anxiety-specific screening tool identified in this review (Ahmad *et al.*, 2017), and this was not compared to a gold standard. This lack presents a significant challenge to researchers aiming to fill this gap.

Limitations

This review was intended to provide an overview of the literature on screening tools for CMD in older persons in South Asia, and with such a broad scope, the treatment of each area lacked the depth of analysis that would be required to make stronger conclusions. Some of these areas (e.g. prevalence data or the cultural adaptation of tools) would have benefited from a review or meta-analysis in their own right. Similarly, limiting the quality assessment only to validation studies assessed against a gold standard precludes comments on data quality in other areas. Only English language papers were included due to language restrictions of the authors. Grey literature was not reviewed.

Conclusions and recommendations

A number of recommendations follow from the research gaps identified in this review; that is in the lack of culturally validated diagnostic and screening tools for use throughout South Asia, and particularly for anxiety disorders which have been relatively neglected.

- The understanding of the mental health needs of older persons in South Asia still suffers from a scarcity of data, but also a lack of quality tools with which to tackle this. Validating appropriate tools should be a research priority.
- There is a severe lack of attention to anxiety disorders both as a contributor to disease burden, and in terms of tools available to researchers.
- The GDS appears to be the most suitable tool to adapt for screening older people for depression in this region, however, it has only been validated in a handful of settings, limiting its use.
- As well as screening tools, research in resource-constrained settings would benefit from local validations of diagnostic tools to substitute for expert clinical diagnosis where this is not available.
- There is a prominent lack of epidemiological studies in Bangladesh and of validation studies of any kind outside of India.
- There is likely to be value in developing novel tools for specific cultural contexts as these may outperform tools adapted from HICs.

Conflicts of interest

None.

Source of funding

Description of authors' roles

LF – Database search, record screening (title and abstract), data extraction from full text, results analysis, critical appraisal, and primary author of the manuscript.

S-MP – Primary supervisor of the project, contributed to manuscript draft, review of data extraction, and project conception.

EBM – Methodology advice and supervision, final say where disagreement over inclusion, critical appraisal, and draft for methodology section of the manuscript.

CN – Record screening (title and abstract).

AL – Region-specific expertise, project conception, and input to manuscript drafts.

RW – Coordination of sharing of ideas between sites, project conception.

MV – Coordination of sharing of ideas between sites, project conception.

All authors approved the final version submitted.

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Supplementary material

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