

Health needs of older people and age-inclusive health care in humanitarian emergencies in low-income and middle-income countries: a systematic review

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Health needs of older people in humanitarian settings are poorly documented, negatively affecting the appropriateness of health services they receive. This Review identified the major health needs of older people across humanitarian contexts, including non-communicable diseases and mental health conditions (eg, psychological distress and depression). Barriers to health care of older people included inaccessibility of health-care services; shortage of appropriate health care; insufficient availability of medications and medical equipment; poor geriatric expertise of health-care staff, health policy makers, and health authorities; and age discrimination by health-care personnel. Individual factors included low mobility, poor health literacy, dependence on others for access to care, and self-directed ageism. The participation of older people in shaping health-care services was highlighted as a facilitator of age-inclusive care. Several understudied areas related to the health needs of older people in humanitarian emergencies in low-income and middle-income countries were exposed. We urge governments, academic institutions, humanitarian organisations, and other health-care providers to focus their response and research efforts on the health needs of older people in conflict settings; the health needs of older people in humanitarian emergencies in understudied regions; and on neglected issues such as communicable diseases, cancer, neurocognitive disorders, sexual and reproductive health, genitourinary conditions, and nutrition. The participation of older people in the design, implementation, and evaluation of health-care services is essential to ensure accessibility, appropriateness, and acceptability of care.

Introduction

The increasing frequency, severity, and duration of global conflicts are compounded by the effects of climate-related events and other environmental disasters.¹ These, and other drivers of humanitarian emergencies, such as population displacement, political unrest, armed conflicts, and famine, will continue to influence the number of people affected by conflict, environmental disasters, food insecurity or famine, and disease outbreaks. In 2024 alone, nearly 300 million people will need assistance due to humanitarian emergencies.¹ The UN High Commissioner for Refugees (UNHCR) reports that 114 million people were forcibly displaced in 2023, the highest number in a decade, with this trend expected to continue to rise in the future.² Humanitarian emergencies are projected to become more complex and protracted, testing the capacity of governmental authorities and humanitarian actors to respond to dire, and often competing, humanitarian needs.^{3,4}

By 2050, a fifth of the world's population will be older than 60 years, of which 80% will live in low-income and middle-income countries (LMICs), where humanitarian emergencies are most likely to occur.⁵ UNHCR also warns that many challenges associated with ageing will present earlier (ie, before age 60 years) in populations that have experienced trauma, extended poor nutritional status, and were exposed to disease or ageism, leading to a protracted and compounded burden of physical and mental health over an individual's life course.⁶ In humanitarian settings, health-care utilisation tends to be negatively affected by barriers to health-care

services, related to their accessibility, availability, appropriateness, and acceptability.^{7,8} Older people are disproportionately affected by barriers to health-care services such as poor mobility, or hearing or vision impairment; dependence on a caregiver or family member; or stigma.^{9,10}

Although guidance documents acknowledge the issues related to older people in humanitarian emergencies,^{11–17} in practice, they are often not considered a priority in the design and delivery of humanitarian assistance.¹⁸ A cause of exclusion of older people from the design and delivery of humanitarian assistance is ageism, which could operate consciously and unconsciously at institutional, interpersonal, and individual levels.¹⁹ The non-inclusion of older people as a distinct group during data collection exercises reduces their visibility, and negatively affects the accessibility, appropriateness, and acceptability of health-care services available to them in a humanitarian emergency.^{20,21}

A systematic review published in 2017 assessed the health needs of older people in humanitarian emergencies in LMICs.²² Since then, and further advanced by the COVID-19 pandemic and the escalation of the war between Russia and Ukraine in 2022 and other conflicts, awareness about older people in humanitarian emergencies has been growing. This Review assessed the health-related needs of older people, ascertained whether their needs differ depending on the type of humanitarian emergency, and discussed the barriers and facilitators to age-inclusive health care in humanitarian emergencies in LMICs.

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Methods

This systematic review was conducted in accordance with a registered protocol (PROSPERO, 469049) and reported in conformity with PRISMA guidelines (appendix pp 1–3).

For more on PRISMA guidelines, see <https://www.prisma-statement.org/>

See Online for appendix

Search strategy and selection criteria

We searched seven scientific databases (MEDLINE, Embase, Global Health, Global Index Medicus, SciELO, Science Citation Index Expanded, and Social Sciences Citation Index). The search terms consisted of four strings, related to older people; humanitarian emergencies; LMICs; and health needs, barriers, and facilitators (appendix pp 4–69).

Older people were defined as those aged 50 years or older, in line with the guidelines of WHO and UNHCR.^{6,23} Studies that defined older people by a different age cutoff or non-numerical definition were also included. Humanitarian emergencies were defined as situations affecting the lives and wellbeing of many people and requiring substantial multisectoral assistance.²⁴ LMICs were classified by income according to the latest World Bank categorisation.²⁵ Health care included both facility-based services and community-based services.^{26,27} Age-inclusive health care was defined as health-care services that take the needs and preferences of people of all ages into consideration.²⁸ We restricted the scope of the Review to physical and mental health needs.

The search strategy was drafted for MEDLINE using a combination of medical subject headings and keyword searches, and subsequently tailored to each database (appendix pp 4–69). We included literature published since the earliest data indexed in each database, up to Oct 1, 2023. For six scientific databases, no language restrictions were imposed. For one database (Global Index Medicus), we included only English and French articles to reduce the number of irrelevant hits. Only primary research was included. All study designs were included. A backward citation search was conducted for each selected article, to identify other relevant literature.

Grey literature was retrieved from Google (first five pages), OpenGrey, Overton, ReliefWeb, Médecins Sans Frontières Science Portal, and the WHO publication database. Additional grey literature was retrieved by contacting experts in non-governmental organisations known to be involved in extending health care for older people in humanitarian emergencies.

Data extraction, synthesis, and quality assessment

Studies were screened separately by two independent researchers (LR and EvB) in three phases: first all titles were screened by both the independent researchers, followed by the abstracts, and finally the full texts.²⁹ A third independent reviewer (JLB) was consulted in case of disagreement. Data extraction and data quality assessment were conducted by one researcher (EvB). Six (10%) of 60 articles included were extracted by an independent researcher (PK) to validate the accuracy of the initial data extraction. Data from each of the eligible studies were extracted in categories that were iteratively identified during the data extraction process.

The risk-of-bias for quantitative studies was assessed using Joanna Briggs Institute critical appraisal checklists appropriate to the study design.^{30,31} The quality of qualitative studies was assessed using the Critical Appraisal Skills Programme checklist.³²

The findings of the studies were summarised through narrative synthesis.³³ Due to insufficient standardisation among the studies in terms of the definition of older people, quantitative results were summarised without pooling the data. Wherever both bivariate and multivariate analyses were performed, only the results of the multivariate analysis were extracted.

Results

Study selection and characteristics

We identified 56 studies that met our inclusion criteria (figure 1).^{9,34–88} Studies that were not focused on older people (n=41), not focused on humanitarian settings or LMICs (n=10) or not substantially focused on health needs or barriers or facilitators to health services (n=13) were excluded. In addition, studies that were not primary research (n=16), were conference abstract (n=1), were studies for which full text could not be retrieved (n=3), or that were rapid needs assessments (n=31) were excluded. The shortlisted studies included 42 cross-sectional studies,^{9,35,37–40,42–47,49,53–55,57,60–67,69–72,76–88} two cohort studies,^{73,74} eight qualitative studies,^{34,36,41,50,51,56,59,75} and four mixed-methods studies.^{48,52,58,68} All studies were published between 1989 and 2023.

The studies covered 27 countries (figure 2), including countries from different regions such as Asia (Armenia,⁵⁵ Bangladesh,^{37,66} China,^{44,49,50,53,61,63,64,83,85–88} India,^{42,58,79,81} Indonesia,⁴³ Malaysia,⁸⁰ Nepal,^{35,36,58,82} Pakistan,^{46,47} Sri Lanka,^{51,67} and Thailand);⁷¹ the Middle East (Iran,^{39–41,72} Iraq,⁷⁶ Jordan,⁵⁷ Lebanon,^{34,45,48,52,56,57,73,74,77} and Palestine);⁵⁸ Africa (Cameroon,⁵⁸ the Democratic Republic of the Congo,^{38,65} Ethiopia,⁵⁹ South Sudan,⁵⁹ Sudan,⁵⁴ Tanzania,^{58,68–70} and Uganda);⁵⁹ Europe (Georgia⁷⁵ and Ukraine);^{58,60,78,84} and Latin America (Haiti,⁵⁸ Honduras,⁶² and Guatemala).⁵⁸ Four were multicountry studies.^{9,57–59}

31 studies were conducted following environmental disasters: earthquakes,^{35,36,39–41,43,44,46,47,50,53,55,61,63,64,72,82,83,86–88} tsunamis,^{51,67,71,81} floods,^{79,80,85} droughts,⁴² and hurricanes.⁶² 14 studies presented findings from forced displacement settings, focusing on refugees^{34,37,45,48,52,56,57,66,68–70,77} and internally displaced people.^{59,75} Nine studies were conducted in conflict settings.^{38,54,60,65,73,74,76,78,84} Due to the mixed contexts of two multicountry studies, singular categorisation of the humanitarian context was not possible.^{9,58}

All studies used numerical age cutoffs ranging from 45 to 90 years. 33 studies defined an older person as age 60 years or older. The definition of an older person was unclear in three studies.

Each study was categorised by the type of humanitarian emergency and the domain of health-related needs (table 1; appendix pp 70–87), as well as the type of emergency and domain of barriers or facilitators (table 2).

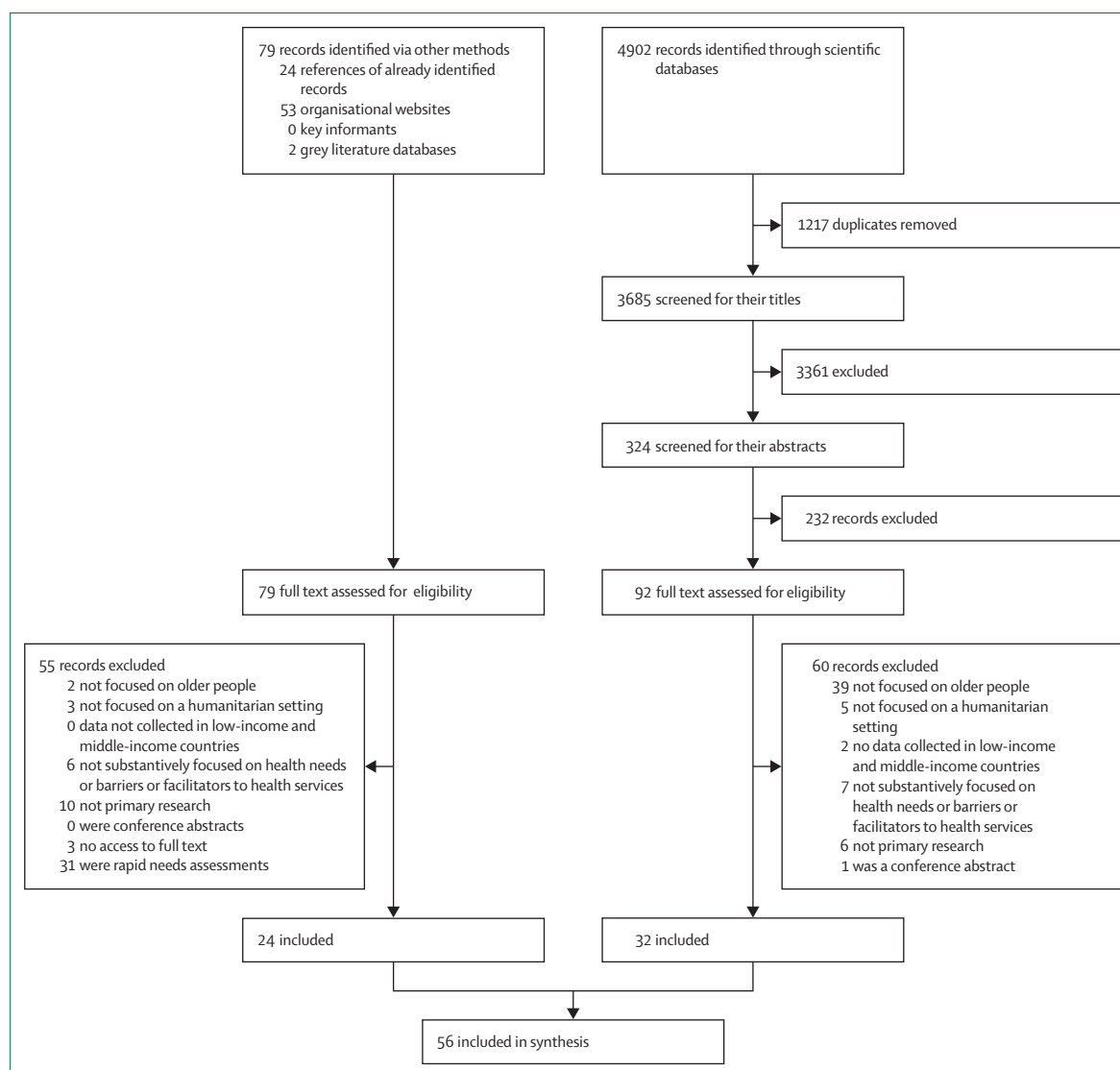


Figure 1: PRISMA flowchart

Health needs of older people in conflict settings

Two studies described mortality due to cardiovascular disease and all-cause mortality among older people in the decade after the start of the civil war in Lebanon.^{73,74} The risk factors for mortality due to cardiovascular disease included being female, being single, exposure to trauma (either to self or family), and displacement during war.⁷³ Among men, being widowed was associated with a higher risk of all-cause mortality.⁷⁴

Two studies assessed the physical health needs of older people in conflict settings. In Ukraine, the main health needs were related to chronic diseases.⁷⁸ During the war in Iraq, injuries from falls occurred more frequently across all age categories due to a deterioration in infrastructure, such as collapsed sidewalks.⁷⁶

Two studies described the high prevalence of psychological distress among older people.^{60,78} Both studies found

that women were significantly more likely to suffer from psychological distress than men. Functional capacity and the presence of a chronic disease has significant association with psychological distress.⁷⁸

One study that assessed the experiences of older people living with disabilities in conflict settings found that older people with low mobility faced barriers in accessing food and medical care.⁶⁰ Functional capacity was assessed in the Democratic Republic of the Congo³⁸ and Ukraine,⁷⁸ and the main dependencies included incontinence and the need for help with bathing.⁷⁸

Malnutrition among older people in conflict settings was investigated by two studies.^{38,60} In Democratic Republic of the Congo, significantly more women were malnourished than men.³⁸ All study participants with malnutrition had at least one chronic disease. In Ukraine, people aged 70 years or older reported that they faced obstacles accessing food

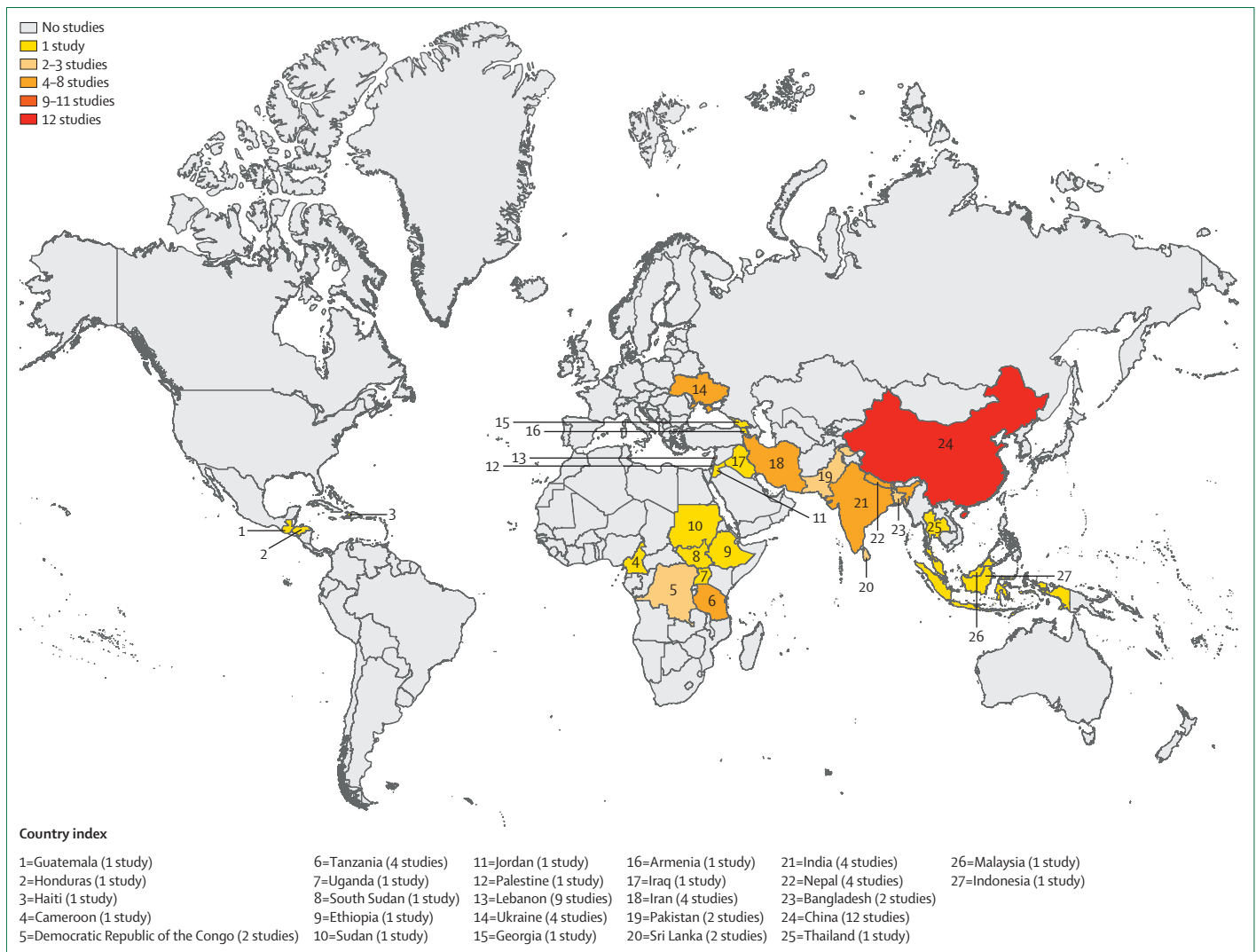


Figure 2: Geographical representation of included studies

more frequently than those aged between 60 years and 69 years.⁶⁰

Health needs of older people in forced displacement settings

One study assessed mortality among older people in forced displacement settings, showing that the mortality rates during displacement from Ethiopia to Sudan were the highest in adults aged 50 years and older and in young children (<5 years).⁵⁴ Mortality since arrival in the displaced persons camp was the highest in people aged 60 years and older.

Non-communicable diseases, such as hypertension, diabetes, cardiovascular disease, and chronic obstructive pulmonary disease, were identified as major health hazards in seven studies.^{34,37,52,56,57,68,77} In two studies, most older people had multiple chronic illnesses.^{52,77} Conditions such as pulmonary diseases, scabies, and lice were identified

among older people who were internally displaced and those in refugee camps, due to the living conditions.^{34,37} Dental diseases were widespread among older refugees, which contributed to malnutrition.^{34,68}

Seven studies described depression.^{34,37,45,48,56,66,77} Other mental health issues studied included general psychological distress,^{57,59} anxiety,^{34,56,77} and post-traumatic stress disorder (PTSD).³⁴

Risk factors for depression included advanced age,^{37,77} living alone,⁶⁶ having memory and concentration problems,⁶⁶ higher education,⁷⁷ having feelings of being left out,⁶⁶ facing difficulty getting food and medicine,⁶⁶ having a chronic disease,^{37,66} malnutrition,³⁷ and having fewer than five family members in the household.³⁷ Qualitative studies identified social isolation, feelings of helplessness, feeling of being unable to contribute to society, increased dependency on others,⁵⁷ displacement-related experiences,⁷⁵ and loss of power, authority, and role in the

	Subcategory	Conflict	Forced displacement	Environmental disaster
Disability	General	60	52,54,56,57,77	..
Cognitive functioning	General	..	48	..
	Dementia	..	77	..
Functional capacity	General	38,78	69,77	39,82
	Poor mobility	..	69	..
Mental health and psychosocial wellbeing	General or not specified	..	59	36,41,50,61,72,85
	Post-traumatic stress disorder	..	34	43,49,55,61-63,67,79,80,82,86,88
	Anxiety	60,75	34,56,77	81,86,88
	Depression	..	34,37,45,48,56,66,75,77	62,64,71,80-82,86,88
	Psychological distress	60,75,78	57	40,44,47,62,64
	Adjustment disorder	..	..	81
Mortality	General	73,74	54	35,53,83
Nutritional status	Undernutrition	38,60	34,37,68,70,77	42,71
Physical health	General or not specified	..	..	41,85
	Non-communicable diseases	78	34,37,52,56,57,68,77	39,47,71,82,85
	Trauma or injury	76	57	39,83,87
	Oral or dental	..	34,68	47
	Visual or auditory	..	68	47,71
	Incontinence	78	..	..
	Dermatological conditions	..	34,37	..
	Other	..	54,68	47,71,85
Quality of life	Health-related quality of life	..	..	82,85

Table 1: Health-related needs of older people by type of humanitarian emergency

Main category	Subcategory	Conflict	Forced displacement	Environmental disaster	
Barriers	Accessibility of health care	General or not specified	65	..	39,40,47,82
		Long distance to health-care facility	..	..	47
		Security situation	84	..	..
	Appropriateness of health care	Shortage of or costly transportation to health-care facility	..	56	51
		Physical characteristics of health facility	60	..	..
		Prohibitive costs of health care and medications	..	34,52,56,77	51
		Low level of appropriateness of health care	..	34,56	40,47,51
	Individual factors	Shortage of medications or medical equipment	..	48,56	..
		Poor geriatric expertise among health staff	..	..	46
		Ageism or age discrimination by health staff	..	34	47
Low mobility		60	56,77	51	
Poor health literacy		..	56,77	..	
Facilitators	Participation	Dependence on caregiver to access health care	..	56	..
		Self-directed ageism (eg, not wanting to be a burden to caregivers or the community)	..	34,56,75,77	..
		Participation of older people in the design, implementation, and evaluation of health care	..	56	51

Table 2: Summary of findings by type of emergency

community⁵⁹ as risk factors for mental ill-health. Older Palestinian refugees who regularly attended religious activities had significantly lower odds of being depressed than those who did not.⁴⁵

Five studies described the experiences of older people with disabilities.^{52,54,56,57,77} Compared with people in other age groups, older people (>50 years) were disproportionately affected by impairments.⁵⁷ Older Ethiopian refugees and

Ethiopian female refugees displaced into Sudan experienced disability most frequently.⁵⁴ Due to their poor mobility and visual and hearing loss, older refugees needed assistive devices such as walking canes and glasses.^{52,56,77}

Poor functional status had significant association with advanced age, dementia, poor vision, difficulty in walking, poor reported health status, and larger household size.⁷⁷

Handgrip strength was significantly lower in each older age group in both sexes and among those with a lower BMI than among those with a higher BMI.⁶⁹ The only study that assessed cognitive deficits observed that older men had significantly higher mean cognitive scores than older women.⁴⁸

Five studies found that inadequate diet and malnutrition disproportionately affected older refugees and internally displaced people,^{34,37,68,69,77} particularly due to regularly reduced portion sizes, skipping meals, and restricted intake of fruits, vegetables, and meats to ensure that younger family members have access to more food.^{34,68,77}

Health needs of older people in environmental disaster settings

Three studies identified increased mortality among older people following an environmental disaster, as compared with that among the general population.^{36,53,83} Non-communicable diseases were identified as a major health issue.^{39,47,71,82,85} Three studies reported the effect of injuries and trauma on older people.^{39,83,87} In Pakistan, high prevalence of dental problems in older people was corroborated by reports of weight loss and eating problems.⁴⁷ Determinants of worse physical health included: advanced age,^{41,85} being female,³⁹ being single,⁸⁵ poor sleep patterns,⁸⁵ having a chronic disease,⁸⁵ being hospitalised over the past year,⁸⁵ being injured due to the earthquake,³⁹ dissatisfaction with the quality of the current living place,³³ and functional dependence.³⁹

23 studies focused on psychological distress,^{40,44,47,62,64} PTSD,^{43,49,55,61–63,67,79,80,82,86,88} anxiety,^{81,86,88} depression,^{62,64,71,80–82,86,88} adjustment disorder,⁸¹ and unspecified mental ill-health.^{36,39,50,61,72,85} Psychological distress had significant association with exposure to an earthquake,⁴⁴ advanced age,^{39,85} being female,⁸⁵ being single or living alone,⁸⁵ losing family members,⁴⁴ displacement,⁴⁴ having a chronic disease,^{44,85} being sick over the past 2 weeks,⁸⁵ and poor sleeping patterns.⁸⁵ These risk factors were also identified in two qualitative studies.^{36,40} Factors significantly associated with general psychiatric morbidity were advanced age, having family members or friends who were seriously injured, and feeling guilty over an individual's death or injury.⁶¹ PTSD was significantly associated with advanced age,^{49,61,63,67,79,86} being female,^{49,62,63,86} being single or widowed or divorced,^{49,63} belonging to an ethnic minority,⁶³ loss of family members or friends,^{61,63,67} suffering bodily injury,⁴⁹ having been in danger,⁶¹ witnessing someone die,⁸⁶ feeling of guilt concerning an individual's death or injury,⁶¹ damaged property,⁶³ having a chronic disease,⁴³ low household income before or after the disaster,^{43,49,63,88} low educational attainment,^{49,86} low level of social support,⁴⁹ and initial level of fear.⁸⁸ One study from Armenia found that a higher degree of exposure to trauma was associated with an increase in severity of stress reactions.⁵⁵ Depression was significantly associated with being female,^{71,80,86} advanced age,^{71,79,86} being single or widowed or divorced,^{71,86} low

educational attainment,⁸⁶ low household income before or after the disaster,⁷¹ chronic disease,⁷¹ family history of mental illness,⁸⁰ traumatic stress,⁸⁰ initial level of fear,⁸⁸ displacement,⁸¹ loss of family members or friends,⁷¹ and low social support.⁶⁴ Anxiety was significantly associated with advanced age,^{86,88} being female,^{86,88} low educational attainment,⁸⁶ living alone,⁸⁶ being injured or having family members who were injured,⁸⁸ and witnessing someone die in an earthquake.⁸⁶ However, older adults in Iran following an earthquake showed a significantly higher level of emotional, social, and psychological wellbeing than younger adults.⁷² Similarly, following a hurricane, older adults in Honduras had PTSD, depression, or psychological distress less frequently than younger adults.⁶²

Two studies focused on the functional capacity of older people.^{39,82} In Iran, the functional capacity of older people significantly decreased two months after the earthquake.³⁹ In Nepal, poor functional status was significantly associated with quality of life.⁸² Two studies assessed the nutritional status of older people.^{42,71} In India, those aged 70 years and more presented with higher chronic energy deficiency than those aged 60–69 years.⁴² In southern Thailand, only a small proportion (10 [12%] of 87) of older people were underweight following the tsunami.⁷¹ Health-related quality of life of older people was significantly affected by advanced age, injury, distance to health-care facility, access to safety information related to an earthquake, social support, having a chronic disease, functional status, and difficulty accessing health-care services.⁸²

Barriers and facilitators to age-inclusive health care in conflict settings

Three studies highlighted barriers to age-inclusive health care.^{60,65,84} These studies, all from Ukraine, mentioned inaccessibility of health-care services due to physical insecurity,⁸⁴ financial constraints,⁶⁵ and the physical characteristics of the health facility.⁶⁰ One study highlighted that poor mobility among older people reduced their access to health care and assistive devices.⁶⁰

Barriers and facilitators to age-inclusive health care in forced displacement settings

Six studies identified barriers to age-inclusive health care.^{34,48,52,56,68,77} Barriers related to the accessibility and appropriateness of health care included high costs of health care and medications,^{34,52,56,77} physical inaccessibility of health-care services,³⁴ cost and availability of transportation,⁵⁶ low appropriateness of health care for older people,^{34,56} poor availability of necessary medications and medical equipment,^{34,56} and age-related discrimination of older people by health-care staff.³⁴ Individual factors included low mobility, poor health literacy, and dependence on others for access to health care.^{56,77} Four studies mentioned self-directed ageism as a barrier to care, in which older refugees or internally displaced people neglected their own health due to fear of becoming a burden on their families.^{34,56,75,77} One study described ageism as a physical

barrier to health-care access due to insufficient funding for humanitarian actors to make clinics age friendly and their poor awareness of the needs of older people.³⁴ One study emphasised that health-care services designed for older refugees are determined by organisations and funders without the participation of older people and, therefore, fall short in terms of addressing the underlying health determinants.⁵⁶

Barriers and facilitators to age-inclusive health care in environmental disaster settings

Six studies identified barriers to age-inclusive health care in environmental disaster settings.^{39,41,46,51,82} Two studies mentioned poor access to health care for older people but did not specify the reason for such inaccessibility.^{41,82} Barriers related to accessibility and appropriateness of health care included long distance to health-care services,⁴⁶ cost and availability of transportation,⁵¹ low appropriateness of health care for older people,^{41,46,51} poor geriatric expertise,⁴⁰ and age-related discrimination by health staff.⁴⁶ An individual factor that negatively affected health service utilisation was low mobility.⁵¹ One study mentioned that humanitarian actors failed to consult with older people on age-specific issues, which undermined an effective response, in addition to highlighting the importance of participation of older people in the planning of humanitarian programmes.⁵¹

Quality of the evidence

The studies varied in quality (appendix pp 88–89). Most notably, adjustment for confounding factors varied, with many cross-sectional studies only reporting unadjusted associations.^{9,35,38,43,46,47,54,55,57,60,65,66,70,71,77,79,81,83,84} Only 23 studies included a comparison group.^{35,41,42,44,45,47,51,53,55,58,61–63,72–74,76,78,79,81,85–87} Although qualitative studies were of high quality, they did not include enough reflection on the positionality of the researcher.

Discussion

This Review aimed to synthesise the evidence base for age-inclusive health care in humanitarian emergencies in LMICs and assist in the identification of research and response priorities. We exposed the presence of only a small body of evidence (56 studies). We also identified eight studies that were published before 2017 but were not included in a previous systematic review.²² 16 studies published after 2017 were included. A large proportion (30 [54%] of 56) of studies were from Asia, whereas other regions were comparatively underrepresented. Most studies (31 [55%] of 56) were initiated following environmental disasters, whereas the health needs of older people in conflict settings remain poorly documented. Inaccessibility to populations in conflict settings could explain the discrepancy, although health needs of other demographic groups in similar settings have been studied.^{89–91}

Some health issues were more frequently described (eg, cardiovascular disease, diabetes and hypertension, and mental ill-health) than others. Although sexual and reproductive health and nutrition are well described for

other vulnerable groups,^{89,92–95} the specific needs of older people are comparatively neglected in research and response. None of the studies included in this Review described neurocognitive disorders—a gap that has previously been flagged in studies from Ukraine.^{96,97} Other neglected health issues include communicable diseases and cancer in older people in humanitarian emergencies. The shortage of data on these specific health issues of older people negatively affects the appropriateness of health-care services available to them in a humanitarian emergency.^{20,21}

Barriers to age-inclusive health care were similar across typology of humanitarian emergency and included a shortage of accessible and appropriate health care. These barriers were consistent with another systematic review that highlighted the shortage of accessible, appropriate services for older people in urban disaster response across high-income, middle-income, and low-income countries.⁹⁸ Ageism as the underlying driver of these barriers to health care was only explored in one study.³⁴ To mitigate barriers to age-inclusive health care, the underlying drivers such as ageism need to be further studied, documented, and addressed at all levels (institutional, interpersonal, and individual).

This Review notes that few studies recorded facilitators to age-inclusive health care. Only two studies highlighted the participation of older people. As set out in a previously published theoretical framework, the low participation of older people in the design, implementation, and evaluation of health care is epistemically unjust, wherein the knowledge of older people is not sought, heard, or used.¹⁹ Without their participation, the health needs of older people are most likely to remain insufficiently addressed or, worse, forgotten.

Applying an intersectional lens acknowledges that older people include people of different ages, genders, ethnicities, sexual orientation, socioeconomic status, and disability status, among other factors.^{99,100} These interacting dimensions shape a person's health needs in humanitarian emergencies and beyond. Only five studies considered the intersection between advanced age, gender, and disability in relation to health needs. Other interacting dimensions remained undocumented. Most studies only reported unadjusted associations, and did not sufficiently consider how the health needs of older people might be affected by multiple factors such as age, gender, displacement status, socioeconomic status, education, and others. Future studies should consider these different factors when assessing the health needs of older people through multivariate analyses, wherever possible.

Most studies defined older people as aged 60 years or older. Further disaggregation would have produced more nuanced insights into the heterogeneity of health needs related to more advanced age. In addition to sporadic data collection for research purposes, routine data collected by governments and humanitarian and other health actors should be age-disaggregated by decennial and should avoid broad catch-all categories.^{20,21}

As with any systematic review, this study has its limitations.¹⁰¹ Although we searched seven scientific

databases and several sources of grey literature including interaction with experts, we might have missed some studies, especially those conducted by smaller non-governmental organisations, Ministries of Health, and community-based organisations. This study looked specifically at research focused on older people and, as such, is most likely to have overlooked research in which older people were a subset of a larger study population, but not the primary focus of the study.

Conclusions

This Review exposed several understudied areas related to the health needs of older people in humanitarian emergencies in LMICs and discussed the various barriers and facilitators to their health care. We urge governments, academic institutions, humanitarian organisations, and other health providers to focus response and research efforts on the health needs of older people in conflict settings; the health needs of older people in humanitarian emergencies in regions beyond Asia; and on neglected issues such as communicable diseases, cancer, neurocognitive disorders, sexual and reproductive health, genitourinary conditions, and nutrition. The participation of older people in the design, implementation, and evaluation of health care is essential to ensure their accessibility, appropriateness, and acceptability.

Contributors

EvB was in charge of conceptualisation, methodology, the literature search, visualisation, and writing of the original draft. PK, UP, JN, JvdK, OHF, JS, FE, JLB, SS, and LR were in charge of methodology and reviewed and edited the manuscript draft. EvB and LR worked on the literature search. EvB, PK, and LR accessed and verified the data generated in our study. All authors had full access to all the data in the study and had final responsibility for the decision to submit for publication.

Declaration of interests

We declare no competing interests.

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Editorial note: The *Lancet* Group takes a neutral position with respect to territorial claims in published maps and institutional affiliations.

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