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Health Challenges Experienced by Widows in Low and Middle Income Countries: A Systematic Review

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Abstract. *This systematic review aims to critically examine empirical studies conducted in low- and middle-income countries (LMICs) to identify and analyze the diverse health challenges widows face. Specifically, the review aims to explore the psychological factors impacting their well-being and assess these challenges' implications for health outcomes. The research encompassed articles published between 2012 and 2024, sourced from PubMed, Web of Science, Scopus, and Taylor and Francis databases and the Google Scholar search engine. A total 101,889 papers were initially screened, ultimately culminating in the inclusion of sixteen papers following a meticulous evaluation and screening process. The findings revealed that widows commonly experience health challanges. In this review health challenges is presented into two major themes: mental health challenges such as depression, anxiety and stress, often stemming from emotional distress and social isoloation. The other theme is the physical health challenges that indicates a high prevalence of chronic diseases and malnutrition duet o financial instability. The study also identified several psychological factors, notably finansial insecurity, contributing to heightened stress and anxiety, further complicating their mental health. Many widows also face diminished social support leading to increased feelings of loneliness and stigma, while economic hardship significantly limits their access to healthcare and basic needs. Overall, these findings highlight the complex interplay of mental, physical and social factors, including critical psychological dimensions that affects the well-being of widows worldwide. This review was registered as PROSPERO 2022 CRD42022382703 with minor modifications.*

Keywords: *Chronic diseases; health problems; psychological adaptation; depression; loneliness.*

INTRODUCTION

The prevalence of health challenges among widows is increasing due to the emotional distress resulting from the loss of their life partners. This distress is primarily driven by psychological factors, which serve as the main contributors to the health challenges they face. A combination of these factors, along with stressful life events such as the loss of a loved one, divorce, financial loss, and violent assault, can significantly increase the risk of suicidality among widows in low- and middle-income countries (LMICs) (Polanco-Roman et al., 2016). The loss of a spouse is a significant and distressing life event (Adena et al., 2023). Research indicates that the death of a spouse can have a detrimental impact on the health and well-being of widows,

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especially older ones (Golden et al., 2009; Williams et al., 2012). Widowhood in old age is often associated with negative implications for health and well-being (Agrawal & Arokiasamy, 2010; Das, 2012; Perkins et al., 2016).

Widows often experience physical and emotional pain following the loss of their life partners, leading to the development of various health challenges (Das, 2012; Golden et al., 2009; Williams et al., 2012). In general, health challenges are defined as diseases, mental illnesses, or environmental conditions that pose risks to one's health. However, this review defines health challenges as a disease, medical ailment, or environmental condition that poses the risk of disease or medical problems. Chronic diseases such as heart disease, stroke, cancer, type 2 diabetes, obesity, and arthritis, as categorised by the Centres for Disease Control and Prevention (CDC), are common among widows (CDC, 2016). The Centres for Medicare and Medicaid Services (CMMSs) also include a broader list of 19 chronic diseases, including Alzheimer's disease, depression, and Human Immunodeficiency Virus (HIV)/ Acquired immunodeficiency syndrome (AIDS) infection (CDC, 2016). Additionally, mental health disorders, including depression, anxiety disorders, and addictive behaviours, significantly affect many widows (Jiang et al., 2023).

The leading cause of health challenges among widows is often psychological, as they face significant emotional distress following the loss of a spouse (Das, 2012; Golden et al., 2009; Williams et al., 2012). Psychological factors such as grief, depression, anxiety, and social isolation can severely impact their mental health as the primary health challenge faced by the majority of widows worldwide (Avison et al., 2007; Zheng & Yan, 2024). The stress of widowhood can lead to a range of mental issues, such as anxiety, anger, depression, irritability, and memory loss (Avison et al., 2007; Zheng & Yan, 2024). Research by Cheng et al. (2014) indicates that the absence of children is closely linked to depression among widows. It is also reported that health challenges experienced by widows can be attributed to various psychological factors, including exposure to neglect, sexual abuse, violence, and isolation (Agrawal & Arokiasamy, 2010; Kansra & Khadar, 2023). Additionally, role transition, financial stress, and cultural stigmas contribute to their psychological burden, leading to further health complications. In certain cultures, widows are often seen as belonging to their late husband's family, which can lead to them being perceived as a burden by family members (Das, 2012). Also, psychological factors such as physical and mental health (Nseir & Larkey, 2013), as well as poverty (Lloyd-Sherlock et al., 2015; Tshaka et al., 2023), are associated with the outcomes of health challenges facing widows worldwide.

As in other parts of the world, widows in LMICs encounter various challenges such as limited health care access, property rights issues, lack of social support, and harmful traditional practices, all of which can impact their well-being in multiple ways (Lloyd-Sherlock et al., 2015). According to the World Bank classification, these countries have a GNI per capita falling between $1,136 and $4,465, according to the data for 2022. The issues of healthcare, employment creation, and income inequality are prevalent in these countries (Hamadeh & Van Rompaey, 2023). Cultural beliefs, legal obstacles, resource limitations, lack of awareness, and the complex interaction of these factors make it challenging to provide effective interventions for widows (Das, 2012; Holm et al., 2019). The interplay of these psychological factors not only affects their emotional well-being but also has tangible effects on their physical health, underscoring the critical need for supportive interventions that address both mental and physical health in this vulnerable population. To address these challenges, providing coping mechanisms such as family and friend support can play a crucial role in reducing feelings of loneliness among widows (De Vries et al., 2014). In light of these challenges, it is essential to explore empirical studies conducted in LMICs to identify the various health challenges affecting widows, particularly those related to psychological factors

that contribute to these health issues. Understanding these factors can help develop targeted interventions and support systems to address the unique needs of widows in these contexts.

Therefore, the primary gap in the existing review on the health challenges widows in LMICs face lies in the insufficient exploration of the specific psychological factors contributing to these health challenges. While previous studies have acknowledged the importance of grief and loss, they often fail to comprehensively address how interconnected psychological factors such as depression, anxiety, social isolation, role transition, financial stress, and cultural stigmas collectively influence both mental and physical health outcomes among widows.

This review distinguishes itself from previous studies by taking a holistic approach to understanding the psychological landscape of widowhood. Therefore, instead of focusing solely on individual factors, it aims to examine the interplay between multiple psychological dimensions and their cumulative impact on health challenges. Additionally, this study emphasises the context of LMICs, where cultural, social, and economic factors uniquely shape the experiences of widows. By integrating retrieved research studies, this review provided a more nuanced perspective on how these psychological factors contribute to health challenges among widows, ultimately informing targeted interventions that address their specific needs. This comprehensive understanding is essential for improving this vulnerable population's support systems and health outcomes.

METHOD

The eligibility criteria for this review encompass research articles published in English-language peer-reviewed journals from 2012 to 2024, specifically including cross-sectional, cohort, and qualitative studies. The keywords employed include widow, widowhood, psychological factors, health challenges, and chronic diseases. Excluded from consideration are conference papers, proceedings, editorial reviews, letters of communication, commentaries, systematic reviews, and randomised trial studies. Additionally, research articles published prior to 2011 or after 2024 and those published in languages other than English were not included in the selection process. A systematic review was conducted to investigate the existing evidence regarding the health challenges faced by widows in LMICs (Moher et al., 2009).

The search strategy utilised the following search terms: widow OR "widowhood" AND health OR "health challenge*" AND LMICs*. Boolean operators enhanced the search, accounting for plurals, database variations, and spelling (AND/OR). The identified key terms were then entered into CADIMA (Collaboration for the Development of the Internet-based Methodology for Systematic Reviews) for screening purposes (Kohl et al., 2018). This platform assisted in systematically evaluating the relevant literature, ensuring a thorough and organised review process (Kohl et al., 2018).

Electronic searches were conducted across various databases, including Web of Science (WoS) (8,152), Scopus (8,286), PubMed (774), Taylor and Francis [LRTF] (84,477), and Google Scholar (200) for the period spanning January 2024 to June 2024. The last search was conducted on December 6, 2024. A total of 101,889 research articles were retrieved and assessed for eligibility, including 16 research articles. The selection procedures adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Figure 1) guidelines (Moher et al., 2009). The primary author (NFM) extracted the data and conducted multiple extract reviews to identify relevant descriptions of the health challenges facing widows in low- and middle-income countries (LMICs). Themes were identified through inductive coding. NFM synthesised the

extracted data, and the second author (PN) reviewed the initial synthesis, leading to a consensus on the themes reached by both authors.

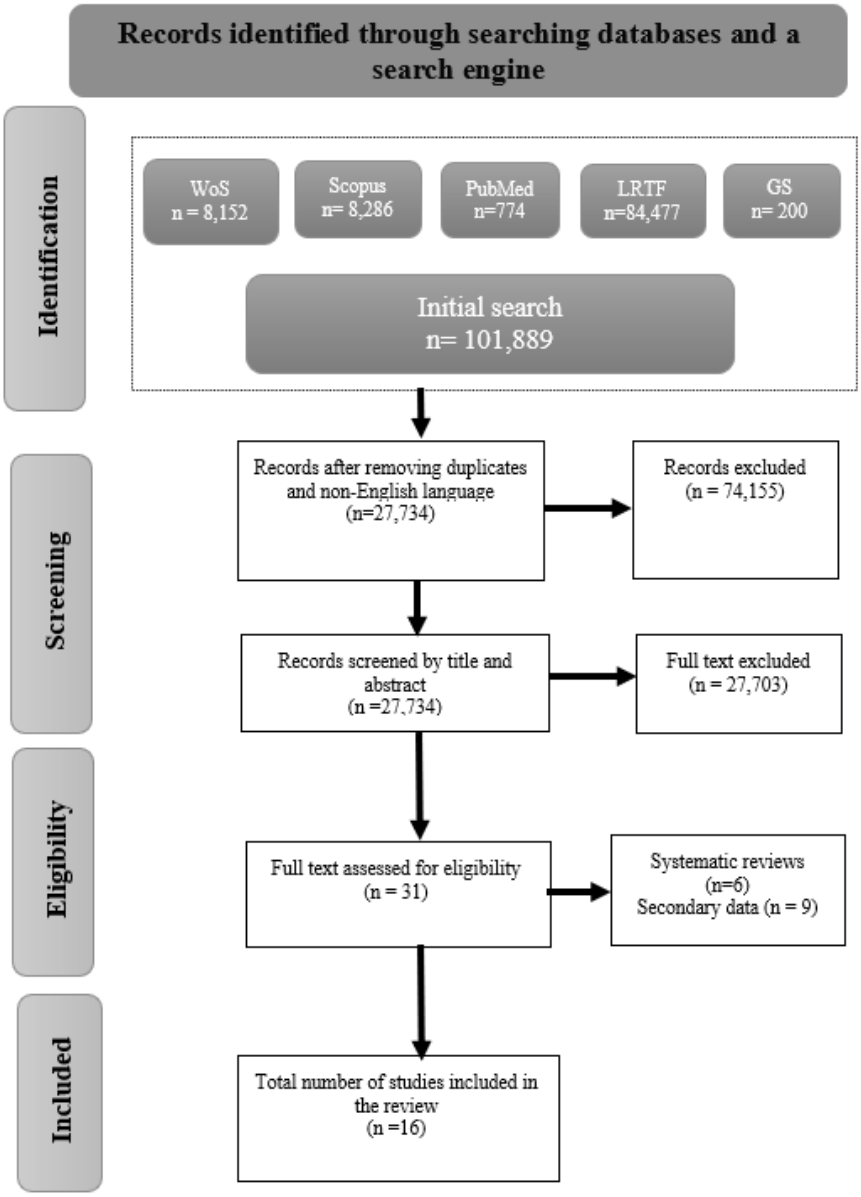

Figure 1.
PRISMA Diagram

The primary author (NFM) extracted the data and conducted multiple extract reviews to identify relevant descriptions of the health challenges facing widows in low- and middle-income countries (LMICs). Themes were identified through inductive coding. NFM synthesised the extracted data, and the second author (PN) reviewed the initial synthesis, leading to a consensus on the themes reached by both authors. Data addressing similar issues were categorised and grouped until the themes were clearly described. Crafting suitable formulations proved time-consuming due to the similarities within the data (Sandelowski, 2010). Table 1 provides the characteristics of selected studies.

Table 1.
Characteristics of selected studies

No	Author (Date)	Country	Study Design	Measurements	Sample Size and Sampling	Data Analysis
1	Agboeze et al. (2020)	Nigeria	A cross-sectional study based on data from January 15 to March 29, 2019	A structured questionnaire was employed to obtain data. No descriptions of the validity or reliability of the instruments used	The 1106 registered widows from the six selected communities: Nsukka town (215), Obimo (186), Okpuje (165), Lejja (158), Ede-Oballa (189), Opi (193); then 10 Respondents were randomly selected from each community, making up 60 registered widows used for the study.	Excel
2	Akpalaba et al. (2021)	Benin	Experimental measurements were conducted from September 14, 2017, to April 28, 2018, after obtaining due consent from participants.	A questionnaire was employed to obtain data. No descriptions of the validity or reliability of the instruments used.	During the health talks, 67 widows, aged between 36 and 85, participated in the study with a mean age of 59.61 ± 9.36 years. All participants who provided consent for medical and otorhinolaryngological examinations were included in the study.	SPSS V.20
3	Busari and Folaranmi, (2014)	Nigeria	The research instrument used for this study was the Widowhood Stress Scale (WSS) developed by the researcher, while the Widowhood Stress Inventory (WSI) was used as a screening device. It consists of a 25-item structured scale designed to measure widowhood stress. It was a 5-point Likert rating scale. The measurements were taken in 2013.	A questionnaire was employed to obtain data. Test-retest reliability yielded 0.69.	Multi-stage sampling was employed in this study, with 138 participants purposively selected from rural communities in the Oyo North region of Oyo State, Nigeria. Participants had previously been screened using the Well-Being Index (WSI). The sample consisted of individuals aged between 32 and 57 years.	ANOVA
4	Ezeh (2022)	Nigeria	The PTSD Checklist—Civilian Version was used to measure PTSD; The Intimacy Scale is a measure of intimacy between two individuals that reflects the quality of their relationship, and the Multidimensional Scale of Perceived Social Support was used to determine the level of support that participants receive from significant others, family, and friends.	A structured questionnaire was employed to obtain data. Convergent and discriminant Validity of the PCL-C has also been reported.	The sample size comprised 177 participants. Significant predictors of post-traumatic stress disorder included partner intimacy ($B = 0.300$, $p < 0.001$), the cause of husband's death (sudden vs. anticipated) ($B = 0.183$, $p < 0.01$), perceived social support ($B = –0.300$, $p < 0.001$), the number of surviving children at the time of husband's death ($B = 0.210$, $p < 0.01$), and the age of the last child at the time of husband's death ($B = 0.355$, $p < 0.01$). The domains of well-being most negatively affected by post-traumatic stress disorder included general life satisfaction (66.10%), family relationships (62.71%), and overall functioning (61.02%).	Multiple Regression Analysis.

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No	Author/Date	Country	Study Design	Measurements	Sample Size and Sampling	Data Analysis
5	Myroniuk (2016)	Malawi	A cross-sectional study based on data from 2008 to 2010.	A structured questionnaire was employed to obtain data. Only external validity reported.	The sample size comprised rural households (HHs) across three regions of Malawi: North, Central, and South. Approximately 1,300 individuals were interviewed in each region during the 2008 and 2010 study waves. Notably, about 75% of the respondents participated in both waves.	Excel
6	Olawa et al. (2021)	Nigeria	The three-item loneliness measure was employed and constructed using the R-UCLA Loneliness Scale test items in two empirical studies. The social support subscale of the Duke Social Support and Stress Scale (DUSOCS) consists of 12 items assessing support received from family and nonfamily members. The study also utilised only the extraversion and neuroticism subscales of the BFI-10 to test personality dimensions.	A questionnaire was employed to obtain data. The Three-Item Loneliness Scale has acceptable reliability and both concurrent and discriminant validity.	The sample consisted of 171 older men and 294 older women from the three senatorial districts of Ekiti State, Nigeria, with a mean age of 74.18 years (± 9.42) and an age range of 60 to 96 years. Participants were selected from 14 communities within the senatorial districts using a multi-stage sampling technique.	SPSS V. 21
7	Spahni et al. (2015)	Switzerland	Cross - sectional design based on data from 2012.	Self-report questionnaires; Centre of Epidemiologic Studies Depression (CES-D) Scale; Hopelessness Scale; De Jong Gierved Loneliness Scale. Satisfaction with Life Scale; Big Five Inventory (BFI-10); the Resilience Scale. No descriptions of the validity or reliability of the instruments used.	The study included community-dwelling adults, with a total sample size of 402 participants, comprising 174 widowers and 228 widows. Additionally, there were 618 controls, which included 306 widowers and 312 widows. The mean age of the participants was 73.82 years, while those aged 60 years and older had a mean age of 74.41 years. The relative risk (RR) observed was 32%.	Latent profile analysis (LPA)
8	Agrawal and Keshri (2014)	India	Longitudinal survey design based on data from 2004.	Self-report questionnaires: open-ended questions. No descriptions of the validity or reliability of the instruments used.	The study focused on community-dwelling adults, with a total sample size of 10,111 participants, including widows aged 60 or older. This group's relative risk (RR) was not mentioned (NM).	STATA 11.0 SPSS V.22
9	Li et al. (2022)	China	Longitudinal survey design based on data from 2014.	Short-Portable Mental Health Questionnaires; Centre for Epidemiologic Studies Depression Scale; China Longitudinal Aging	First, 134 counties and districts were randomly selected based on probability proportional to population size from a sampling frame that included all county-level units. Second, 462	SPSS V.22 AMOS 25

No	Author/Date	Country	Study Design	Measurements	Sample Size and Sampling	Data Analysis
9	Li et al. (2022)	China		Social Survey (CLASS) questionnaire for widowhood; Simplified Coping Style Questionnaire (SCSQ) for coping style. The measure of perceptions of aging was adapted from the Attitudes to Ageing Questionnaire (AAQ).	villages and communities were randomly drawn, with an urban-to-rural population size ratio set at 6:4. Third, a mapping-and-listing sampling method was employed to randomly sample households, from which one older adult per household was randomly chosen.	
10	Zhou and Hearst (2016)	China	Cross-sectional design based on data from 2006.	Self-report questionnaires; Health-related Quality of Life scale (QOL). QOL was described as good reliability and validity.	The study included community-dwelling adults, with a total sample size of 1,060 participants. This study included 1,925 controls, 310 widowers, and 750 widows, all aged 60 years and over. This group's relative risk (RR) was not mentioned (NM).	Epidata 3.2a
11	Tshaka et al. (2023)	South Africa	This study used the qualitative method. Data collection period dont identified.	To enhance the validity and trustworthiness of the data, this study utilised two qualitative data collection methods: semi-structured in-depth interviews and focus group discussions. The collected data were analysed manually and organised according to the themes and patterns from participants' responses. A qualitative approach, specifically thematic analysis, was used for the data analysis.	Non-probability sampling techniques were utilised in this study, employing purposive and snowball sampling strategies. A total of 20 widows and 15 social workers were selected for participation.	Thematic analysis, manually
12	Shafiq et al. (2024)	Pakistan	This study used the qualitative method. Data collecction period nott identified.	Data was collected from twenty respondents through in-depth interviews to address the socio-cultural challenges faced by widows in Lahore. However, no validity or reliability measures were reported.	The study employed a non-random purposive sampling technique, selecting 20 widows as study participants.	Thematic analysis
13	Kalantari et al. (2023)	Iran	The research employed a qualitative approach based on a descriptive phenomenological strategy. The data collection period was not defined.	Semi-structured interviews were conducted until data saturation was achieved. The collected data were coded using the Colaizi method. Validity and reliability were reported.	Fifteen participants were selected using the purposeful sampling method.	MAXQDA software

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No	Author/Date	Country	Study Design	Measurements	Sample Size and Sampling	Data Analysis
14	Ebulum et al. (2024)	Nigeria	Data collection for the study lasted for about 6 months in 2022.	Participants completed the Beck Scale for Suicidal Ideation (BSSI), the University of California, Los Angeles Loneliness Scale (UCLALS—version 3), the Perceived Stress Scale (PSS-10), and the Religiosity Scale. The PSS-10 is a 10-item questionnaire that measures the degree to which situations in one's life are appraised as stressful. The scale is presented in a 5-point response option, and positively worded items are reverse-scored. Of the 570, 500 were filled correctly, 50 were not filled properly, and 20 were not returned. The correctly filled questionnaires were analysed for the study. Validity and reliability were reported.	Participants in this study comprised 500 adults (272 men and 228 women) drawn through convenience sampling from the Enugu metropolis in southeast Nigeria. Participants ranged from 51 to 70 years, with a mean age of 58.97 (SD = 6.16 years). The inclusion criteria specified that participants must be 50 years or older, willing to participate in the study, and possess sufficient English language literacy.	Perceived Stress Scale (PSS-10)
15	Oumer et al. (2024)	Ethiopia	A community-based cross-sectional study was conducted involving 840 randomly selected elderly individuals, utilising a multi-stage sampling technique for participant recruitment in June 2022	Data collected through face-to-face interviews. Initially, descriptive statistics were computed, followed by logistic regression analysis to identify independent factors associated with the outcome variable. Multi-collinearity assumptions were assessed using the variance inflation factor (VIF). The goodness-of-fit test for the final model was checked using Hosmer and Lemeshow's goodness-of-fit model. Validity and reliability were established.	The sample size for the study was determined using OpenEpi Version 3.01, based on single population proportion assumptions with an expected prevalence of depression in the elderly population of 54.5%, derived from a study conducted in the North Shoa Area, Oromia Region, Ethiopia. A 95% confidence level, 80% power, and a 5% degree of precision were applied, resulting in a calculated sample size of 382. After accounting for a design effect of two (due to multi-stage sampling) and a 10% potential non-response rate, the final sample size was estimated to be 840. A multi-stage sampling technique was employed. Initially, six districts were randomly selected from the 24 districts in the Gamo zone using a lottery method. The selected districts included Bonke (10 kebeles), Kemba Zuria (27 kebeles), Boreda (29 kebeles), Gacho Baba (14 kebeles),	Geriatric Depression Scale (GDS) screening tool

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No	Author/Date	Country	Study Design	Measurements	Sample Size and Sampling	Data Analysis
15	Oumer et al. (2024)	Ethiopia			Bibrbir town administrative (4 kebeles), and Gerese town administrative (6 kebeles).	
16	Dube (2022)	Zimbabwe	The study employed a qualitative research approach, phenomenological research in December 2016 and January 2017	The collection process comprised two phases. In the study's first phase, data were collected in December 2016 through one-on-one interviews with the widows. The study's second phase included focus group interviews, with each group consisting of seven (7) widows, and data were obtained in January 2017.	The study employed a non-probability homogeneous purposive sampling technique to select participants from the population of widows in Binga District, focusing on those with experiences of widowhood residing in low-resourced areas. To enhance representation, widows were selected from Binga North (a peri-urban area) and Binga South (a predominantly rural area). A total of ten widows participated in individual in-depth interviews, while fourteen widows participated in two separate focus group interviews, ensuring that voices from both areas were included. Participants were randomly assigned to individual or focus group interviews, facilitating a comprehensive understanding of the experiences of widows in this context.	Thematically

Quality Assessment

The studies selected for this review were evaluated following the Critical Appraisal Skills Programme (CASP, 2014). CASP is a widely used framework that assists researchers and practitioners in critically assessing the quality of research studies, particularly in health and social care. It provides tailored checklists for various study types, including qualitative research, cross-sectional studies, cohort studies, randomised controlled trials, and systematic reviews (Kolaski et al., 2023). Table 2 presents the assessment conducted on the selected studies using CASP, outlining the quality evaluation for each study and highlighting key aspects such as methodological rigor, clarity of aims, appropriateness of study design, and data analysis. The CASP assessment ensures that the included studies meet high research quality standards, thereby enhancing the validity and reliability of the review findings.

Table 2.
Methodological quality assessment for prevalence studies (CASP checklist)

	Prevalence studies											
Studies	1	2	3	4	5	6	7	8	9	10	11	12
Agboeze et al. (2020)	N	Y	Y	Y	U	NI	N	Y	NI	-	-	-
Myroniuk (2016)	Y	U	N	NI	U	NI	N	-	Y	Y	U	Y
Spahni et al. (2015)	N	Y	U	U	Y	U	-	-	Y	Y	U	-
Zhou and Hearst (2016)	Y	Y	U	U	Y	Y	Y	Y	N	-	U	Y
Oumer et al. (2024)	Y	Y	Y	U	Y	Y	Y	Y	Y	Y	U	Y

Questions in the checklist

1. Was the aim/problem in the study clearly defined?
2. Was the cross-sectional design suitable to answer the aim and research question(s)?
3. Was the population from which the sample was drawn clearly defined?
4. Was the sampling method adequate?
5. Was it explained whether (and how) the participants who agreed to participate differ from those who refused?
6. Was the response rate adequate?
7. Were the measurements shown to be valid and reliable?
8. Were the procedures for data collection standardised?
9. Was the statistical analysis appropriate?
10. The conclusion of the studies (not included in this table)
11. Can the results be transferred to practice?
12. Do the results from this study support previous studies?
13. What are the implications of this study for practice? (not included in this table)

**note: Y = Yes, N = No, U = Urcertainly, & NI = Not Identified.*

Table 3.
Methodological quality assessment for cohort studies (CASP checklist)

	Cohort studies											
Studies	1	2	3	4	5	6	7	8	9	10	11	12
Akpalaba et al. (2021)	Y	Y	U	U	NI	NI	NI	NI	NI	-	U	U
Busari and Folaranmi (2014)	Y	Y	U	U	Y	NI	NI	NI	NI	Y	Y	Y
Agrawal and Keshri (2014)	Y	Y	U	U	Y	NI	NI	NI	NI	-	U	Y

Cohort studies												
Studies	1	2	3	4	5	6	7	8	9	10	11	12
Ezeh (2022)	NI	Y	N	NI	Y	N	NI	NI	NI	-	-	-
Olawa et al. (2021)	Y	Y	U	U	Y	NI	NI	NI	NI	-	-	U
Li et al. (2022	Y	Y	U	NI	Y	NI	NI	NI	NI	-	-	-
Ebulum et al. (2024)	Y	Y	U	U	N	NI	NI	NI	NI	Y	U	Y

Questions

1. Did the study address a focused issue?
2. Was the cohort recruited acceptably?
3. Was the exposure accurately measured to minimise bias?
4. Was the outcome accurately measured to minimise bias?
5. Have the authors identified all the important confounding factors? Have they considered the confounding factors in the design and /or analysis?
6. Was the follow-up of subjects complete enough? Was the follow-up of subjects long enough?
7. What are the results of this study?
8 How precise are the results?
9. Do you believe the results?
10. Can the results be applied to the local population?
11. Can the results of this study fit with other available evidence?
12. What are the implications of this study for practice?

**note: Y = Yes, N = No, U = Urcertainly, & NI = Not Identified.*

Table 4.
Methodological quality assessment for qualitative studies (CASP checklist)

Cohort studies												
Studies	1	2	3	4	5	6	7	8	9	10	11	12
Tshaka et al. (2023)	Y	Y	U	U	U	NI	Y	Y	NI	U	-	-
Dube (2022)	Y	Y	Y	Y	U	NI	Y	Y	U	Y	-	-
Shafiq et al. (2024)	U	Y	Y	Y	U	U	N	U	U	Y	-	-
Kalantari et al. (2023)	U	Y	Y	Y	U	U	Y	U	U	Y	-	-

Questions

1. Did the study address a focused issue?
2. Was the cohort recruited acceptably?
3. Have the authors identified all the important confounding factors? Have they considered the confounding factors in the design and /or analysis?
4. Was the follow-up of subjects complete enough? Was the follow-up of subjects long enough?
5. What are the results of this study?
6. How precise are the results?
7. Do you believe the results?
8. Can the results be applied to the local population?
9. Can the results of this study fit with other available evidence?

**note: Y = Yes, N = No, U = Urcertainly, & NI = Not Identified.*

RESULTS AND DISCUSSION

Studies characteristics

Five studies were identified as cross-sectional, three as qualitative, and seven as randomised controlled trials (Table 1). The cross-sectional studies included data collected from 2004 to 2024; however, two articles did not specify when the baseline interviews were conducted (Table 1). Most of these cross-sectional studies utilised self-report questionnaires (Table 1), yet they failed to address how self-reported data might have introduced response bias (Polit & Beck, 2012). Additionally, the design descriptions of many cross-sectional studies were unclear, with five studies lacking a clear focus, potentially leading to exposure and outcome bias.

The review also included cohort studies, which, as noted by Schneider et al. (2007), are generally prospective and use an epidemiological approach to examine the relationship between exposure and outcomes. Cohort studies collect data at two or more time points over an extended period (Polit & Beck, 2012). The long duration of data collection was highlighted in two articles, posing disadvantages related to the costs of time, effort, and resources. Internal validity concerns were raised, including issues of "testing," "mortality" (loss to follow-up), and the influence of confounding variables. Social desirability bias may occur when respondents provide answers they believe align with researchers' expectations. Four cohort studies reported small sample sizes (Table 3), which can increase bias, and two studies did not adequately address strategies to minimise bias (Agrawal & Arokiasamy, 2010; Burns et al., 2015). Conversely, four cohort studies identified critical confounding factors in their design or analysis (Table 1). Descriptions of validity and reliability were present in six cohort studies (Table 1), while one cohort study did not mention generalisation or external validity, constituting a limitation.

Three qualitative studies analysed their data thematically, while one utilised MAXQDA software. The studies were conducted in various countries within LMICs, including India (n=1), Switzerland (n=1), Nigeria (n=5), Benin (n=1), China (n=2), South Africa (n=1), Pakistan (n=1), Iran (n=1), Ethiopia (n=1), Zimbabwe (n=1), and Malawi (n=1). Most of the studies adhered to Braun and Clarke's (2021) six-phase framework. The initial step involves immersing oneself in the data through repeated readings to achieve familiarity. This is followed by the generation of initial codes based on identified meaningful segments. The third phase involves searching for themes by grouping related codes. In the fourth phase, themes are refined to ensure they accurately reflect the data. Each theme is then clearly defined and named, elucidating its scope and relevance. Finally, a coherent narrative is crafted, integrating the themes with the research questions and existing literature. This approach ensures a rigorous, transparent, and interpretive analysis of qualitative data.

The main health challenges and contributing psychological factors affecting widows in LMICs included mental health (i.e., depression, anxiety and post-traumatic stress disorder) and physical health problems such as poor eyesight, arthritis, rheumatism, high blood pressure, diabetes, malaria, typhoid, cough, ulcer, osteoarthritis, chronic headache, and chronic diseases. Prolonged grief and ambiguous loss are significant psychological factors that critically impact widows. Additionally, social isolation is a prominent psychological issue highlighted in this review. The multitude of health challenges faced by widows imposes a considerable burden on both the individuals themselves and their families. It is crucial that we address these issues effectively to alleviate this strain. Table 5 presents findings, including primary health challenges and factors contributing to these challenges.

Table 5.
Main results of the studies

No	Author (Date)	Aim	Confounding and control variables	Main results	Challenges	Factors
1	Agboeze et al. (2020)	To examine the health status of widows and investigate its effect on their participation Incommunity development projects.	Age, religion, occupation, family size, educational status of the respondents, and the extent to which the health status of widows affects their participation in community development projects.	The findings revealed that the health Challenges faced by widows in Nsukka local government of Enugu state, Nigeria, include high blood pressure, high blood sugar, typhoid, and malaria parasite. The majority of the widows (42%) rarely participate in the above-mentioned community development projects. The majority (72%) of the widows in the Nsukka local government area revealed that their health condition limits their participation in community development projects.	The health challenges affecting the participation of the widows in Nsukka local government area in community development projects include poor eyesight, arthritis, rheumatism, high blood pressure, diabetes, malaria, typhoid, cough, and ulcer.	Results of depression and increased anxiety after the loss of a spouse. The living conditions and environmental factors, such as living in swampy areas, also contribute to the poor health conditions of widows.
2	Akpalaba et al. (2021)	This study aimed to determine the burden of Ear, Nose, and Throat (ENT) and medical diseases in Geriatrics and Widows through the identification of common ENT and medical conditions in them.	Age, gender, history taking, and examination of the The ear, the Nose, the Throat, and the general body.	Six (6) ENT conditions and 12 medical conditions were identified in the widows. right cerumen auris (65.6%), left cerumen auris (50.0%) and otitis externa (28.1%). Osteoarthritis was the most common medical condition (90.6%) in the widows. Tests of association were not statistically significant.	Osteoarthritis, malaria, and chronic headache were the most common medical diseases among widows.	Humiliation by their husbands' family members and community, abandoned and neglected by family, friends, and relatives, as well as ear cleansing during or after mourning.
3	Busari and Folaranmi, (2014)	This study investigated empirically the psychological variables constituting stress among middle-aged widows in rural communities in Nigeria	Age, educational background, widows' stress, memory loss, frustration, anger, anxiety	The composite effect of psychological variables (anxiety, frustration, anger, and memory loss) on widows' stress was significant. Anxiety was the most potent of all the psychological variables constituting widows' stress. Young widows often have no peer groups compared to older ones. They are generally less prepared emotionally and practically to cope with the loss.	Stress, anxiety, and poverty	Financial stress is caused by a significant loss of income (husband). Through poor nutrition, inadequate shelter, lack of access to health care, and vulnerability to violence.
4	Ezeh (2022)	Not indicated	Age of husband at the time of death, number	The findings suggest that post-traumatic stress disorder among Igbo rural widows is a serious	Mental illness Stress, depression, and	Husband's death, perceived social support,

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4	Ezeh (2022)	Not indicated	of children, age of first and last child, duration of widowhood. Anxiety and depression.	health concern that requires mental health professionals to identify high-risk rural widows early for intervention and develop programs aimed at educating and training rural community members on post traumatic stress disorder and where to seek help.	post-traumatic stress disorder.	number of surviving children at the time of husband's death, and age of last child at the time of husband's death
5	Myroniuk (2016)	Assesses the relationship among older sub-Saharan Africans, on a now-aging continent. Such individuals are likely to be at risk of a dissolution, or have already experienced one, due to high divorce rates.	Demographic characteristics commonly associated with gender, age, marital histories, HH composition, sexual behaviours, health status, ethnicity, and social, economic, and demographic topics.	Worse relative, mental, and physical health are associated with being currently divorced/widowed compared with being married. However, worse retrospective health is linked to becoming divorced/widowed between 2008 and 2010. Those divorced/widowed prior to 2008, and who remained so through 2010, are in worse relative and physical health.	Stress and diminishment of financial, emotional, and social resources, health buffering mechanisms associated with losing a spouse.	Mental and physical health problems.
6	Olawa et al. (2021)	To demonstrate that the gender differences found in loneliness and social supports may not be maintained if we control for widowhood.	The personal details of participants, such as sex, age, marital status, level of education, family type, extraversion, neuroticism, and social engagements, were included in the final model while testing the effect of gender on the combined dependent variables.	Gender differences exist in loneliness and social support among older adults. Results of univariate analysis showed that gender and widowhood were predictors of loneliness and family support. The secondary covariates of social engagements, extraversion, and neuroticism predicted loneliness and family and nonfamily support.	Widows' loneliness and lack of social support.	Spousal loss in elderly persons' lives, and most especially women, may not be wholly compensated for; government and non-governmental organisations, family, religious organisations, and mental health professionals need to accord elderly widows and widowers more special status in terms of provision of social and psychological health services.
7	Spahni et al. (2015)	To identify patterns of psychological adaptation to spousal loss in old age and	Age, gender, and level of education.	The outcomes of depressive symptoms, hopelessness, loneliness, life satisfaction, and subjective health revealed three different	Interpersonal resources, the availability of social support and spousal,	Differences in psychological resilience between the three profiles were

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7	Spahni et al. (2015)	to shed light on the role of intra and interpersonal resources and contextual factors as discriminant variables in these patterns.		groups in the widowed sample: resilient (54%), copers (39%), and vulnerable (7%). The most important variables for group allocation were intrapersonal resources, psychological resilience, the Big Five personality traits, the quality of the former relationship, and how the loss was experienced.	as well as the positive effect of time since the event happened.	statistically significant. The resilient and coping groups showed more positive emotional valence concerning the loss experience than the vulnerable group.
8	Agrawal and Keshri (2014)	(a) Compare the patterns of disease prevalence among older widows in terms of communicable, non- communicable and other diseases, (b) treatment-seeking behaviour of older widows, and (c) study the variations concerning socio-economic and demographic factors.	Age, residence, social group, religion, education, living arrangements; economic independence; monthly per capital expenditure percentile class	Overall morbidity was 12% greater among older widows compared to older widowers. The likelihood of seeking healthcare services for reported morbidities was substantially lower among older widows	Multimorbidity or chronic diseases caused the participants to struggle with poor physical health and an increased risk of mortality	Older widows suffered from greater rates of self-reported morbidities.
9	Li et al. (2022)	This study examined the role of coping styles and perceptions of aging in the relationship between widowhood and depression through two alternative pathways: mediation and moderation, with a national probability sample of older adults in China.	Nil	The results of structural equation modelling showed a good fit for the total sample (NFI = .909, IFI = .916, GFI = .963, RMSEA = .038) and indicated the significant direct impact of widowhood on depression among Chinese older adults. Moreover, the findings of mediating effects found that compared with a married group, widowed older adults used less problem-focused coping and had more negative perceptions of aging, which in turn, predicted higher depression; they were also more likely to use emotion-focused coping, which in turn, predicted lower depression. The results of the moderation analysis demonstrated that a higher level of negative.	Widowhood had a direct and positive influence on depression, regardless of coping styles and perceptions of aging.	The effects of psychological factors were involved in the widowhood-depression relationship. Second, frontline practitioners should incorporate the evaluation of aging perceptions and coping styles into their assessment, which might prospectively identify widowed older adults at risk of depression.
10	Zhou and Hearst (2016)	How widowhood affects QOL of Chinese elders in rural areas.	Age, sex, and the highest level of education,	The physical and mental health of elderly widows and widowers declined with age. Widowed men had lower physical and mental component summary	Multimorbidity or chronic diseases caused them to	The enormous and rapidly growing population of widowed rural Chinese elders

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10	Zhou and Hearst (2016)	To explain subsequent morbidity and mortality and suggest ways to promote the health of these older people	whether suffering from chronic diseases and current marital status	scores than married men. Widowed women had lower physical. Component summary scores, but the differences in mental health summary scores were not statistically significant. Widowhood was associated with lower scores overall. Support from children was associated with better QOL and, based on interaction analysis, appeared to mitigate the negative effects of widowhood.	struggle with poor physical health.	has a lower physical and mental quality of life. These elders rely on their children for care, and if they have a supportive family who is unable or unwilling to care for their parents, these elders may have no descendants to care for them at all.
11	Tshaka et al. (2023)	This article reports on a study that aimed to investigate the impact of socio-economic support provided by social workers to widows in mitigating social and economic challenges.	Age, number of widows, years as a widow, employment status, and education level.	Most participants were between 28 and 68 years old, while a few were between 68 and 98. Although the age distribution does not represent all widows in the Raymond Mhlaba Local Municipality (RMLM), the findings indicated that many were widowed at a young age. The study included unemployed participants, all relying on their children's social support grants as their primary source of income. Only a small number were employed full-time. Regarding education levels, many participants had low educational attainment, with several having no formal education or only completing grades one to two (primary education). A very small group had completed Grade 12 and pursued further studies for diplomas at colleges.	The study identified five main subthemes as challenges faced by widows: unemployment and underemployment, poverty, loss of income, lack of socio-economic empowerment, and lack of psychosocial support. A significant challenge is financial instability, as many widows lack support and are often unemployed, leading to a precarious economic situation. The findings indicate a scarcity of job opportunities, exacerbating their financial difficulties. Poverty is a pervasive issue, driven by insufficient funds to meet basic needs, and widows in under-resourced communities face heightened economic threats. This lack of socio-economic empowerment further limits their ability to improve their circumstances, while the absence of psychosocial support compounds their struggles, leaving them vulnerable and isolated.	Unemployment significantly impacts widows, exposing them to various challenges that lead to financial instability and poverty. After the death of a spouse, many widows lose their primary source of income and become dependent on inadequate child support grants, making it difficult to meet basic household needs. They often face barriers to employment, such as a lack of skills, age discrimination, and caregiving responsibilities, while also dealing with the emotional and psychological toll of their loss. This situation leads to increased food scarcity and hunger, as many struggle to afford groceries, compounded by social isolation and inadequate support systems. Ultimately, the cumulative effects of these factors create a cycle of poverty that is difficult to escape.

No	Author (Date)	Aim	Confounding and control variables	Main results	Challenges	Factors
12	Shafiq et al. (2024)	To address the socio-cultural problems and opportunities for widows in District Lahore.	Age, marriage history, family, and socio-economic status.	A widow faces new challenges daily, yet opportunities are available, such as financial assistance and skill development programs offered by government institutions and the private sector. Unfortunately, they often become victims of stereotypes and encounter numerous social and cultural problems, including violence, family indifference, poverty, and depression. While widows strive for their independence, there is a lack of awareness surrounding their struggles. This study suggests potential strategies to address widows' social and cultural issues, including increasing media awareness through drama and establishing an economic support system specifically for them.	The importance of social assistance for widows cannot be overstated, as inadequate support is associated with increased isolation, heightened sorrow, decreased resilience, a lower quality of life, elevated stress levels, and poor mental health. Many widows experience dissatisfaction and vulnerability due to the lack of knowledge among their families, which further exacerbates their challenges.	Widows need social assistance and support from family members and the wider community. The study highlighted a significant lack of support, particularly from uneducated family members. Assistance from friends and peers can play a crucial role in helping widows navigate their challenges. Many widows actively seek friendships to combat social isolation, and they often express their feelings of depression and the struggle to survive. Social integration strengthens their interpersonal relationships, enhancing their sense of purpose in life. Male dominance in society contributes to gender discrimination, which discourages women from considering independent lives and undermines widows' aspirations for basic rights. In Pakistani society, there is insufficient support for widows to lead well-planned lives, and they often face societal pressure that discourages remarriage, further limiting their opportunities for a fulfilling future.
13	Shafiq et al. (2024)	To identify the meaning of mourning and the strategies used by bereaved spouses.	Age, satisfaction, and grieving women who lost their husbands.	After analysing the research findings, which consisted of 460 concepts, 27 subcategories, and nine main categories, the results were organised into an	Due to the risk of spreading COVID-19, there were no funerals or burials for those who passed away from the disease.	The sorrow that lingers in widows' hearts often feels profound and unending, contributing, to an incomplete grieving process.

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13	Kalantari et al. (2023)			educational package. The major themes identified included the obligation to mourn, social feedback from others, gradual healing, the experience of widowhood, existential emptiness, psychological collapse, the progressive repercussions of widowhood, and reflective self-talk regarding the complex psychological effects of death and mourning. Mourning symptoms are not always distinct; they can manifest simultaneously and intertwine in complex ways. This overlapping of emotional responses can make the grieving process more challenging, as individuals may experience a range of feelings such as sadness, anger, confusion, and anxiety all at once. The lack of sufficient time and external circumstances can significantly hinder the psychological support available	This absence of collective mourning and associated rituals has led to unspoken grief among individuals. Participants expressed a strong desire to honour their loss through rituals, highlighting the importance of communal practices in processing their sorrow during this catastrophic crisis. A coping mechanism needs to be established. Some acted compassionately and nodded along. They were also annoying. This loss led to a profound sense of existential emptiness and misery, manifesting as the absence of the deceased, the tragedy of solitude, and inner conflict. These feelings significantly impacted	This persistent grief can hinder their ability to find closure and move forward, leaving them with a lasting sense of loss and emotional turmoil.
14	Ebulum et al. (2024)	The study sought to find out whether loneliness, stress, and religiosity would be associated with suicide ideation.	Age, marital status, family, occupation, suicidal ideation, loneliness, stress, and religiosity	Regression results showed that, whereas suicidal ideation could be increased by loneliness and stress, religious older adults were less likely to report suicidal ideation. Interventions aimed at managing and protecting the mental health of older adults during their transition to late adulthood should guard them against loneliness and buffer their resilience and coping strategies with the connectedness that religiosity offers.	Regression results showed that, whereas suicidal ideation could be increased by loneliness and stress, religious older adults were less likely to report suicidal ideation. Interventions aimed at managing and protecting the mental health of older adults during their transition to late adulthood should guard them against loneliness and buffer their resilience and coping strategies with the connectedness that religiosity offers.	Loneliness was identified as a significant positive predictor of suicidal ideation, suggesting that an increase in loneliness correlates with a rise in suicidal thoughts among older adults. This finding aligns with the interpersonal-psychological theory of suicidal behavior, which posits that an individual will not die by suicide unless they possess both the desire and ability to do so. According

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14	Ebulum et al. (2024)					to this theory, if an individual feels a lack of belonging. and cannot contribute to societal growth, the desire to commit suicide may emerge
15	Oumer et al. (2024)	This study aims to determine the prevalence of depressive symptoms and the associated factors among the elderly population in the Gamo zone of southern Ethiopia.	Age, education level, marital status, economic status, social support, and stressful life events.	The study found that the prevalence of depressive symptoms among older individuals living in the Gamo zone was 424 (50.48%) (95% CI = 47.09-53.86). Several factors were significantly associated with depression, including age groups: 70–74 years [AOR = 2.81, 95% CI 1.64-4.81], 75 years and above [AOR = 5.09, 95% CI 3.00-8.64], and 65–69 years [AOR = 2.43, 95% CI 1.62-3.66]. Being widowed was associated with an increased risk [AOR = 2.73, 95% CI 1.69-4.42]. Other significant factors included ever chewing khat [AOR = 5.89, 95% CI 1.17-29.53], poor economic status [AOR = 9.35, 95% CI 3.58-24.45], average economic status [AOR = 5.36, 95% CI 2.15-13.37], experiencing 1–2 stressful life events [AOR = 5.13, 95% CI 3.35-7.86], and having three or more stressful life events [AOR = 11.02, 95% CI 6.59-18.41]. Additionally, living alone [AOR = 2.65, 95% CI 1.43-4.93] and living with children [AOR = 3.16, 95% CI 1.70-5.88] were also linked to higher rates of depression.	Participants exhibited depressive symptoms, highlighting the urgent need for interventions to enhance psychological well-being and address various modifiable risk factors associated with depression in elderly individuals. Key strategies include increasing social support, particularly for those who have experienced stressful life events, live alone, or have low economic status. Healthcare providers should implement routine screening for depressive symptoms and provide supportive counselling. Additionally, policymakers and stakeholders should prioritise improving access to mental health services to support this vulnerable population.	The findings of this study indicate that variables such as age, living arrangement, marital status, economic status, stressful life events, and substance use were significantly associated with depression in the multivariable analysis. However, depression showed no significant association with social support, educational status, or place of residence. In this study, marital status was significantly associated with depressive symptoms, with widowed older adults showing a notably higher likelihood of experiencing depression compared to their married counterparts. The research also identified a significant positive association between living arrangements and depressive symptoms; older adults living alone or with children were at greater risk of depression than those living with a spouse. Additionally, stressful life events emerged as significant risk factors for depression, with individuals who experienced such events being more likely to suffer from depressive

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15	Oumer et al. (2024)					symptoms than those who did not. Furthermore, the study found an association between substance use, particularly khat chewing, and depression symptoms, indicating that older adults who chewed khat were more likely to experience depression compared to those who did not engage in this behavior.
16	Dube (2022)	This paper discusses how widows in low resourced communities of Binga District in Zimbabwe experience social isolation and exclusion in critical socio economic spheres.	Age, number, and gender of children, household size, and education level.	Thematic data analysis findings revealed that, following the death of their husbands, widows are particularly vulnerable to exclusion from critical decisions regarding accrued wealth, socio-economic amenities, and activities essential for their well-being and the welfare of their children. These findings underscore the urgent need for organised, integrated, negotiated professional and community social interventions. Such interventions could empower widows, ensuring their involvement in decision-making processes and improving their access to resources supporting their livelihoods and families.	The study employed a qualitative research approach, phenomenological research in December 2016 and January 2017 experienced by widows. Those with multiple children often face overwhelming responsibilities, limiting their ability to engage socially and participate in community activities. Additionally, a lack of education restricts their access to employment opportunities, perpetuating financial instability and dependence. This economic hardship further exacerbates feelings of isolation, as widows may feel unable to seek help or connect with others in their community. Together, these factors create a cycle of vulnerability, underscoring the need for targeted support and resources to empower widows and enhance their social integration.	The widows recounted experiences of isolation from major decisions that significantly affect them and their children. They described how certain cultural practices marginalised them socially, preventing their participation in critical decisions. For instance, decisions regarding arranged levirate marriages, their husbands' burial arrangements, and even the slaughtering of livestock for feeding funeral attendees were often made without their input. This exclusion undermines their autonomy and perpetuates their vulnerability within the community, highlighting the urgent need for advocacy and reforms that empower widows in decision-making processes.

Health challenges affecting widows

The thematic analysis of the data revealed several key findings regarding the health challenges and contributing psychological factors affecting widows in LMICs. The main health challenges retrieved in this review were divided into two major themes: mental health challenges such as depression, anxiety, and PTSD (Agboeze et al., 2020; Agrawal & Keshri, 2014; Akpalaba et al., 2021; Myroniuk, 2016; Zhou & Hearst, 2016) The second theme is physical health problems, including chronic diseases and malnutrition (Agboeze et al., 2020; Agrawal & Keshri, 2014; Akpalaba et al., 2021; Myroniuk, 2016; Zhou & Hearst, 2016).

Reviewed studies revealed that widows commonly experienced mental health diseases, including stress, post-traumatic stress disorder (PTSD), and depression (Busari & Folaranmi, 2014; Ezeh, 2022; Li et al., 2022; Olawa et al., 2021; Spahni et al., 2015). Anxiety is the most potent of all the psychological variables constituting widows' stress (Busari & Folaranmi, 2014). Busari and Folaranmi (2014) found that frustration, anger, memory, and anxiety independently contributed to widows' stress. Ezeh (2022) added that widows are associated with psychological distress, with heightened anxiety and depression. Li et al. (2022)suggested that widowhood directly influenced depression, regardless of coping styles and perceptions of aging. Spahni et al. (2015) emphasised that older widows often experienced psychological adjustments, including depression, hopelessness, loneliness, changes in life satisfaction, and perceptions of subjective health following the loss of their spouses.

On the other hand, physical health problems, including poor eyesight, arthritis, rheumatism, high blood pressure, diabetes, malaria, typhoid, cough, ulcer, osteoarthritis, chronic headache, and chronic diseases were identified among widows in LMICs (Agboeze et al., 2020; Agrawal & Keshri, 2014; Akpalaba et al., 2021; Myroniuk, 2016; Zhou & Hearst, 2016). (2021) emphasised that widows in the Nsukka local government of Enugu state faced challenges such as high blood pressure levels at 160.2/100.4 and blood sugar levels at 129.8 Mg/dl. On top of that, many were diagnosed with typhoid and malaria parasites (Agboeze et al., 2020). Akpalaba et al. (2021) identified six ear, nose, and throat (ENT) diseases, namely cerumen auris, left cerumen auris, otitis externa, otitis media, otitis media with effusion, otomycosis, and pharyngeal trauma, and twelve medical conditions: allergy, chronic headache, chronic ulcer, diabetes mellitus, insomnia, malaria, osteoarthritis, uncontrolled hypertension, and upper respiratory tract infection. Akpalaba et al. (2021) also found high blood pressure levels of 180/110 mmHg and 250/100 mmHg in two widows. This result can lead to a cardiovascular accident (CVA), popularly called 'stroke', which can also cause sudden death through cardiac arrest (Akpalaba et al., 2021). Agrawal and Keshri (2014) highlighted types of chronic diseases such as diarrhoea, gastritis/gastric or peptic ulcer, whooping cough, skin diseases, kidney/ urinary system, tuberculosis, bronchial asthma, hypertension, mellitus diabetes, mental disorders, and eye diseases among older widows. Agrawal and Keshri (2014) revealed that the prevalence of communicable diseases was lower among young widows than older widows. Agrawal and Keshri (2014) also noted that non-communicable diseases increased significantly with age, as with other diseases. Zhou and Hearst (2016) noted that mental illness and chronic diseases were common among widows, with widowers experiencing a decline in physical health after the age of 70. Myroniuk (2016) highlighted that widows are at a higher risk of poor health and HIV/AIDS infection. Ezeh (2022) discovered a correlation between PTSD in widows and various factors, including partner intimacy, cause of death, and number of surviving children. Additionally, the age of the first child was positively associated with the duration of widowhood, while the age of the last child is positively related to the duration of widowhood (Ezeh, 2022).

Factors contributing to health challenges among widows

The psychological factors influencing the health and well-being of widows in LMICs are critical in understanding their overall experiences. The current review identified various themes as follows.

The thematic analysis revealed significant health challenges and contributing psychological factors affecting widows in LMICs. Prolonged grief and ambiguous loss were identified as key psychological factors among widows (Busari & Folaranmi, 2014; Ezeh, 2022; Kalantari et al., 2023; Olawa et al., 2021; Spahni et al., 2015; Tshaka et al., 2023). The transition to widowhood introduces numerous health challenges, primarily stemming from prolonged grief following the loss of a spouse (Busari & Folaranmi, 2014; Ezeh, 2022). It was also reported that widows who lost their spouses during the COVID-19 pandemic faced unique challenges due to the absence of traditional mourning ceremonies, compelling them to create their definitions and perceptions of grief (Kalantari et al., 2023). Tshaka et al. (2023) noted that widows in RMLM experience profound grief and spend considerable time grappling with the emotional and psychological toll of their loss. Spahni et al. (2015) identified patterns of psychological adaptation to spousal loss in old age. They shed light on the role of intra- and interpersonal resources and contextual factors as discriminant variables in these patterns. On the other hand, Olawa et al. (2021) highlighted that spousal loss is ambiguous among elderly widows, especially when they are not compensated and supported by the government and non-governmental organisations, and family and religious organisations.

The current review identified depression and anxiety as significant psychological factors affecting widows in LMICs. Many widows experience elevated levels of these conditions following the loss of their spouses, with social isolation and economic instability often exacerbating their emotional distress (Agboeze et al., 2020; Ezeh, 2022; Li et al., 2022; Oumer et al., 2024). Half of the study participants exhibited depressive symptoms, highlighting the urgent need for interventions to enhance psychological well-being and address various modifiable risk factors associated with depression in elderly individuals (Oumer et al., 2024). Also, Li et al. (2022) highlighted that widowhood had a direct and positive influence on depression, regardless of coping styles and perceptions of aging. The same study also indicated that psychological factors played a role in the relationship between widowhood and depression (Li et al., 2022). Agboeze et al. (2020) added that widowhood had a direct and positive influence on depression, regardless of coping styles and perceptions of aging. Moreover, being widowed was found to be connected to feelings of loneliness in both men and women, with a stronger association observed in men. Social engagement was positively associated with family and nonfamily support in men and women, but it was negatively linked to loneliness, specifically in women (Olawa et al., 2021).

Social isolation is another psychological factor highlighted in this review (Dube, 2022; Ebulum et al., 2024; Olawa et al., 2021; Shafiq et al., 2024). Shafiq et al. (2024) shared the importance of social assistance for widows, which cannot be overstated, as inadequate support is associated with increased isolation. Many widows actively seek friendships to combat social isolation, and they often express their feelings of depression and the struggle to survive (Shafiq et al., 2024). Moreover, being widowed was found to be connected to feelings of loneliness in both men and women, with a stronger association observed in men. Social engagement was positively associated with both family and nonfamily support in men and women, but it was negatively linked to loneliness, specifically in women (Olawa et al., 2021). Ebulum et al. (2024) highlighted that widows experienced a lack of social support, which most of the time reduced their sense of belongingness and increased social isolation, hence exposing them to a greater risk of suicide. Stress was also a significant positive

predictor of suicidal isolation (Olawa et al., 2021). Dube (2022) added that the chronological age of widows is significant as it influences their ability to cope with the stress associated with widowhood, isolation, and restricted mobility. Both young and older widows are susceptible to feelings of isolation, indicating that their challenges are not age-specific (Dube, 2022). Younger widows may struggle with societal expectations and the burden of raising children alone, while older widows may experience increased physical limitations and social withdrawal (Dube, 2022). Another psychological factor identified by this study is financial instability. Losing a partner often meant a significant reduction in household income, leading to economic challenges (Agboeze et al., 2020; Akpalaba et al., 2021; Dube, 2022; Li et al., 2022; Myroniuk, 2016; Shafiq et al., 2024; Tshaka et al., 2023). Many widows reported struggles with basic needs such as healthcare, housing, and food. Dube (2022) added that the number of children, lack of education, and financial instability following the death of their spouses contribute significantly to the isolation experienced by widows.

On the other hand, Shafiq et al. (2024) highlighted that a widow faces new challenges daily. However, opportunities are also available, such as financial assistance and skill development programs offered by government institutions and the private sector. Tshaka et al. (2023) added that financial instability is significant, as many widows lack support and are often unemployed, leading to a precarious economic situation. Dube (2022) also insisted that the death of spouses often spells room for the economic resources of widows in low-resourced communities, in which many widows find themselves unable to access these resources, as they are frequently sidelined by in-laws who seize control of the assets. This exclusion not only undermines their financial stability but also perpetuates their vulnerability within the community, making it increasingly difficult for them to rebuild their lives, therefore, addressing these injustices is crucial to ensuring that widows can reclaim their economic rights and secure a better future for themselves and their families (Dube, 2022). In addition, widows were more likely to receive family support, particularly among women, whereas there was no significant relationship between widowhood and nonfamily support for either gender (Li et al., 2022).

Managing the various health challenges affecting widows places a significant burden on both the individuals and their families (Akpalaba et al., 2021). Many young families were experiencing substantial stress in providing for their households, and the responsibility of caring for elderly widows only serves to intensify this strain (Akpalaba et al., 2021). Triadically, in line with this concerning trend, elderly widows often find themselves abandoned and neglected by their children, relatives, community, and society at large (Akpalaba et al., 2021). There is also a need for healthcare services that are identified as a psychological factor in this review (Busari & Folaranmi, 2014; Oumer et al., 2024). Oumer et al. (2024) added that policymakers and stakeholders should prioritise improving access to mental health services to support this vulnerable population, while widows Busari and Folaranmi (2014) highlighted several challenges that widows in LMICs are facing, including poor nutrition, inadequate shelter, lack of access to health care, and vulnerability to violence. Additionally, living conditions and environmental factors, such as residing in swampy areas, further contribute to the deteriorating health of widows (Busari & Folaranmi, 2014). Moreover, widows face an increased risk of becoming inactive, isolating themselves from various community development initiatives (Agboeze et al., 2020).

Morbidity prevalence was higher among older widows aged 70+ (49%) compared to those aged below 70 (31%). The prevalence of morbidity also increased with higher per capita expenditure percentile classes, with 43% of older widows in the highest expenditure class affected (Agrawal & Keshri, 2014). Spahni et al. (2015) highlighted that factors such as the duration of marriage, spousal support, emotional impact of loss, trait resilience, and other variables without a clear consensus

in the literature (e.g., education, marital happiness) are associated with health challenges experienced by widows. Furthermore, considering various dimensions of well-being simultaneously can provide insights into how spousal loss affects an individual's response to this significant life event (Spahni et al., 2015). On the other hand, Myroniuk (2016) reported that widows who were forced to remarry were more susceptible to diseases, including HIV and STDs. Lifestyle, behavioural, and environmental factors have been identified as significant contributors to health challenges among older widows (Agrawal & Keshri, 2014). The fear of contracting or transmitting HIV was a common concern expressed by widows in discussions about widow cleansing and inheritance practices (Myroniuk, 2016). Many widows interviewed in both semi-structured interviews and focus group discussions voiced worries about the potential spread of HIV within the community through unprotected sexual activity with inheritors (Agrawal & Keshri, 2014; Myroniuk, 2016). It is also added that engaging in sexual relations without using a condom with a new partner increases the risk of exposure to HIV, not only for the widows but also for their other long-term partners, such as spouses and fellow widows (Myroniuk, 2016). Rituals performed during mourning, such as cleansing, may lead to diseases among widows, attributed to the stimulation of the brain to produce more earwax, known as cerumen (Akpalaba et al., 2021). Zhou and Hearst (2016) noted that widows living with children were particularly vulnerable to mental illness and chronic diseases. Busari and Folaranmi (2014) highlighted widows' lack of legal rights as contributing to their challenges. Many widows were unaware of their rights and faced significant barriers to accessing justice systems, such as illiteracy, financial constraints, and the threat of violence. Busari and Folaranmi (2014) also mentioned that widows may be at risk of experiencing rape.

This systematic review includes findings from sixteen studies conducted in various LMICs. Two main themes were identified (Table 4): health challenges affecting widows and factors contributing to health challenges among widows. This review is constrained by limitations related to the quality of included studies (Table 1), as many of them have small sample sizes (Table 1) and lack detailed information on methodological characteristics (Table 1). It is crucial to acknowledge that different cultures can significantly influence well-being, which appears to be overlooked in countries like India and China, where factors contributing to health challenges among widows seem to be more emotional and psychological. These cultural variations can pose challenges when comparing studies from diverse regions. In these countries, poor socio-economic status is believed to increase health challenges among widows (Agrawal & Keshri, 2014; Halleröd & Gustafsson, 2011). Comparatively, in African countries such as Benin, Nigeria, and Malawi, factors like poverty, loneliness, and abandonment by late husbands' families were linked to health challenges among widows.

Numerous research studies have illuminated both mental and physical health challenges faced by widows, such as poor eyesight, arthritis, rheumatism, high blood pressure, diabetes, malaria, typhoid, cough, ulcers, osteoarthritis, chronic headaches, and chronic diseases (Agboeze et al., 2020; Agrawal & Keshri, 2014; Akpalaba et al., 2021; Zhou & Hearst, 2016). High blood pressure emerged as a prevalent health concern in the findings among the reviewed papers (Agboeze et al., 2020; Agrawal & Keshri, 2014; Akpalaba et al., 2021). Perkins et al. (2016) observed a high incidence of high blood pressure among widows, particularly those who had recently lost their spouses. Widowhood has been connected to the development and severity of coronary artery disease (Daoulah et al., 2017), as well as a spectrum of significant cardiovascular events (Carey et al., 2014). This increased risk could be linked to the stress associated with bereavement, funeral arrangements, and emotional challenges that often accompany widowhood (Perkins et al., 2016). Furthermore, widowhood has been shown to significantly elevate mortality rates across various population groups, even many years after the loss of a spouse (Carr & Bodnar-Deren, 2009).

Furthermore, mental health challenges are prevalent among widows, with stress, anxiety, mental illness, depression, PTSD, and complicated grief being commonly reported in studies (Busari & Folaranmi, 2014; Ezeh, 2022; Li et al., 2022; Myroniuk, 2016; Olawa et al., 2021). Li et al. (2022) highlighted the direct and significant impact of widowhood on depression, irrespective of coping mechanisms and perceptions of aging. Depression and anxiety are illustrated by the descriptions of the emotional pain and suffering that constitute the state of widowhood (Holm et al., 2019). Other results have shown that a considerable number of widows meet the criteria for depression and/or complicated grief disorder, emphasising the emotional toll of widowhood (Burns et al., 2015; DiGiacomo et al., 2013; Panagiotopoulos et al., 2013).

The current review identified eight key themes based on psychological factors affecting widows, which contribute to various health challenges. Widows often experience emotional pain associated with the loss of a partner, leading to prolonged grief responses that can impair daily functioning and mental health. Szuhany et al. (2021) supported the idea that losing a loved one is one of life's greatest stressors. While most bereaved individuals experience a period of intense acute grief that gradually diminishes over time, approximately 10% will go on to develop a prolonged grief condition. This prolonged grief can hinder emotional recovery and significantly affect daily functioning, mental health, and overall well-being (Szuhany et al., 2021). Again, emotional turmoil may also involve ambiguous loss, particularly in cases of sudden death or when the partner suffers from a prolonged illness, complicating the grieving process (Keyes et al., 2014). Early in the 20th century, Freud proposed that grief can resemble conditions such as depression, anxiety, and post-traumatic stress (Gillies & Neimeyer, 2006). Research has shown that bereavement and grief share characteristics, including distress and depressive symptoms, which significantly impact overall health (Jacobsen et al., 2010).

The current review highlights that depression and anxiety are among the psychological factors experienced by widows following the death of their spouse, with these conditions often exacerbated by social isolation and economic instability. The same results were observed in studies (Das, A., 2012; Perkins et al., 2016; Trivedi et al., 2009). Trivedi et al. (2009) highlighted that older widows appeared to be a significant risk factor for the development of depression symptoms. In addition, it turned out that higher education is a significant protective factor against the development of symptoms of depression (Trivedi et al., 2009). In the early 20th century, Freud suggested that grief might resemble depression, anxiety, and post-traumatic stress (Gillies & Neimeyer, 2006). Bereavement and grief share characteristics such as distress and depression that affect health (Jacobsen et al., 2010). Studies have also indicated that widows often experience physical symptoms like lack of energy, reduced appetite, weight loss, disrupted sleep patterns, and pain (Sekgobela et al., 2020). These psychological challenges can severely impact their overall well-being and quality of life, highlighting the need for targeted support and interventions (Keyes et al., 2014). Social isolation is a significant psychological factor affecting widows in LMICs identified in this review. The death of a partner frequently leads to a reduction in social support systems, which can result in profound feelings of loneliness and abandonment. As widows navigate their grief, they may withdraw from social interactions, either due to emotional pain or perceived stigma associated with widowhood. This isolation not only exacerbates their emotional distress but also hinders their ability to seek help and support from others. Consequently, the lack of social connections can lead to increased vulnerability to mental health issues, highlighting the need for interventions that foster community engagement and support networks for widows in these contexts. However, Freak-Poli et al. (2022) add that loneliness is a greater challenge of widowhood than social isolation or a lack of social support. They proposed alternative strategies, such as helping the bereaved form a new sense

of identity and screening for loneliness around widowhood by healthcare workers, which could be beneficial (Freak-Poli et al., 2022). There are strong beliefs that a widowed person should be isolated because she is thought to carry the spirit of the deceased. Such cultural beliefs reinforce the social isolation of widows, which can significantly detract from their psychological well-being (Remillard et al., 2022). This enforced separation not only exacerbates feelings of loneliness but also hinders their ability to seek support from their communities, ultimately leading to increased mental health challenges.

Addressing and challenging these beliefs is essential for improving widows' social integration and well-being. Another psychological factor identified by this review is financial instability (Ryu & Fan, 2023). Losing a partner often meant a significant reduction in household income, leading to economic challenges (Ross & Gale, 2021). Many widows reported struggles with basic needs such as healthcare, housing, and food. Many widows took on additional caregiving responsibilities for children or elderly relatives, which added stress and limited their ability to care for themselves (Kansra & Khadar, 2023). Access to health care services was also highlighted as one of the psychological factors in this review. Economic constraints, transportation issues, and cultural norms often hindered widows' access to necessary healthcare services. Many reported difficulty obtaining medical care and medications (Cochran et al., 2022). Syed et al. (2013) highlighted that transportation barriers create significant obstacles to accessing healthcare, often resulting in delayed and missed appointments and inconsistent medication use. These challenges can severely impact individuals' overall health and well-being, particularly for vulnerable populations facing numerous hurdles in seeking medical care. Addressing transportation issues is essential to improve access to healthcare services and ensure patients receive timely and effective treatment (Syed et al., 2013).

The current review also noted that certain rituals commonly performed by widows during mourning could potentially contribute to their health challenges (Akpalaba et al., 2021). Rituals associated with bereavement, like makgoma observed among the Northern Sotho people of South Africa, also pose health challenges for widows who do not undergo proper cleansing rituals after the death of a family member (Makgahlela & Sodi, 2016). Thus, cultural beliefs surrounding makgoma may lead to symptoms resembling meningitis, further complicating the health and well-being of widows within these communities (Makgahlela & Sodi, 2016).

CONCLUSION

This review highlights the significant health challenges faced by widows in LMICs, with a particular focus on the psychological factors that contribute to their well-being. The analysis revealed that widows often experience a range of mental health issues, including depression, anxiety, and prolonged grief, exacerbated by social isolation and financial instability. Financial instability emerged as a critical psychological factor, leading to heightened stress and anxiety, which further impacted their overall health. The interplay between economic challenges, social support networks, and psychological well-being underscores the complexity of the issues faced by widows. To address these challenges, it is essential to develop targeted interventions that provide financial support and enhance mental health resources and social integration. Community-based programs that foster resilience and empower widows can significantly improve their quality of life. Future research should continue to explore the diverse experiences of widows in different cultural contexts, focusing on effective strategies to mitigate the psychological and health challenges they face. By understanding and addressing these factors, we can better support support widows and promote their overall well-being in LMICs.

To effectively support widows in LMICs, it is crucial to implement comprehensive interventions that address their mental health, economic stability, and social integration. Mental health services should be made accessible and tailored to the unique needs of widows, providing counselling and support to address issues such as depression and anxiety. Financial assistance programs, job training, and income-generating activities can alleviate economic pressures and empower widows to regain control of their lives. Additionally, community engagement initiatives that foster social connections and combat isolation should be prioritised, creating supportive networks for widows. Policymakers must advocate for the rights and well-being of widows, addressing cultural stigmas and ensuring access to healthcare and social services. Future research should focus on evaluating the effectiveness of these interventions and exploring innovative approaches to improve the quality of life for widows across diverse cultural contexts.

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