

## REVIEW ARTICLE

# An integrative review of the social determinants of mental health among older caregivers

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**Funding information**

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors

**Abstract****Aim:** The aim of this study was to examine the reported social determinants of mental health among older caregivers in the previous caregiving literature.**Design:** An integrative literature review method of Whittmore and Knafel.**Methods:** CINAHL, MEDLINE (Ovid), PubMed, and Science Direct were searched from January 1999 to December 2019. A systematic approach and data analysis were used. The evidence of a multilevel framework by the World Health Organization was used to examine the social determinants of mental health.**Results:** Twelve articles were included. "Levels of physical health" was mainly cited factor linked to mental health inequalities among older caregivers. However, the evidence regarding caregivers' gender-related, ethnic and socioeconomic differences in mental health was relatively limited.**Conclusion:** Future research and screening programs on social determinants of mental health among older caregivers are necessary to tackle mental health inequalities. Implications informed by this research could sustain mental health equity among older caregivers.**KEYWORDS**

caregivers, older adults, social determinants of health

## 1 | INTRODUCTION

There has been a growing interest in social determinants of health (SDOH) during the past two decades. As a result, references to these determinants have increased by almost 2,000% in literature and gathered attention in the public health community and health care (Naz et al., 2016; Shim & Compton, 2018). The definition of SDOH is "access to power, money and resources and the conditions of daily life – the circumstances in which people are born, grow, live, work, and age" (Solar & Irwin, 2010). These determinants include, for instance, income distribution, education, safety networks, employment and working conditions, unemployment and job security, housing, early

childhood development, social exclusion, race, gender, food insecurity, disability, Aboriginal status and access to health care (Ndumbe-Eyoh & Moffatt, 2013; Solar & Irwin, 2010). However, as seen, most of these crucial determinants of health exist outside the healthcare system (Ndumbe-Eyoh & Moffatt, 2013). Therefore, health professionals should identify these underlying factors contributing to health disparities to provide patient-centred care and improve health equity (Andermann, 2016).

Despite the considerable attention to SDOH, consideration of the social determinants of mental health (SDMH), which are not necessarily distinct from the social determinants of physical health, is neglected in health care (Shim et al., 2014). In fact, some nurses experience difficulties in providing care for patients with mental health

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challenges (Yıldırım et al., 2019), let alone in addressing SDMH. These determinants focus holistically on mental health, which is defined as *a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community* (World Health Organization & Calouste Gulbenkian Foundation, 2014). However, mental health does not exclude mental disorders, which indicates that people living with a mental disorder may maintain good well-being (World Health Organization & Calouste Gulbenkian Foundation, 2014). Nevertheless, it is currently unclear to what extent the previous caregiving literature has focused on the factors creating mental health inequalities among older caregivers. Therefore, further evidence on SDMH is required to recognize actions for future caregiving research and nursing practice.

## 1.1 | Background

Informal caregiving is typically unpaid care of older adults or individuals living with physical or mental health challenges. Caregiving is associated with experiences of adverse mental health outcomes and higher rates of depression and anxiety compared to non-caregivers (Schulz et al., 2020). These psychological experiences may increase caregivers' morbidity and mortality (McLaughlin, 2011). Caregivers living with depression may also provide a lower quality of care due to mental health difficulties (Lwi et al., 2017). Besides, caregivers' levels of distress are high enough to establish a public health concern (National Academies of Sciences, Engineering, and Medicine (NASEM), 2016). Especially older caregivers might be more vulnerable to the risk of mental health challenges due to their older age and caregiving role, both risk factors of experiencing adverse mental health outcomes (NASEM, 2016; Sachs-Ericsson et al., 2019). Thus, the most common cause of suffering for older adults is depression (Sachs-Ericsson et al., 2019). Moreover, it has a long-lasting negative influence on functioning, even if the episode of depression has been dispatched (Sachs-Ericsson et al., 2019). However, there is relatively limited evidence on distributions of mental health challenges among older adults (World Health Organization & Calouste Gulbenkian Foundation, 2014).

The previous evidence shows that caregivers' background factors, caregiving activities, and care recipient's characteristics affect caregivers' mental health outcomes (Schulz et al., 2020). However, the prior research is primarily provided by the Stress Appraisal model of Yates and the Stress Process by Pearlin in empirical caregiving studies (Avison et al., 2010; Phetsitong et al., 2019). Besides, several different types of research have addressed caregivers' mental health challenges (Geng et al., 2018; Muñoz-Bermejo et al., 2020; Phetsitong et al., 2019). However, few caregiving studies have assessed the link between socioeconomic position and caregiving's psychological or emotional impact (Tough et al., 2020). Moreover, a limited number of caregiving studies are designed to examine how socioeconomic status, ethnicity and sexual orientation affect caregivers (NASEM, 2016).

Similarly, a recent study identified that systematic reviews have failed to consider factors related to health inequalities of caregivers, even though the majority of these reviews focused on improving older caregivers' mental health (Young et al., 2020). The finding is considerable, given that health care relies on systematic reviews as "gold standards" of the evidence. Therefore, the current evidence seems to be limited to assess older caregivers' SDMH in health care. The prior evidence suggests the need for further research on diverse factors affecting older caregivers' mental health. The act is necessary to provide evidence for the practical assessment of SDMH. Thus, a multidimensional assessment of the risk factors of psychological health among caregivers is needed. Besides, a significant gap exists in research to describe the social distribution of mental disorders and actions to prevent the issues (World Health Organization & Calouste Gulbenkian Foundation, 2014). Therefore, this review aims to assess how the current caregiving research considers and reports SDMH among older caregivers.

The prior evidence from the World Health Organization's (WHO) framework is used to address the SDMH of older caregivers. The available evidence has shown that inequalities in older adults' mental health are related to their socioeconomic status (SES), educational status, gender, ethnicity, age and levels of physical health (related to cultural, social, and economic factors) (World Health Organization & Calouste Gulbenkian Foundation, 2014). Therefore, these determinants are used to synthesize the factors linked to older caregivers' mental health inequalities. Moreover, this review focuses only on older adults (50 years and older) who are unprofessional caregivers, providing care at home. The mental health challenges investigated are depression, anxiety, and sub-threshold mental disorders, all common among older adults and caregivers in general (NASEM, 2016; Sachs-Ericsson et al., 2019). The sub-threshold mental disorders, in this context, include feelings of depression and anxiety and different forms of caregiver burden, which might associate with depression and anxiety (Denno et al., 2013). Consequently, we can include older caregivers who have self-reported feelings of depression or anxiety, whether the medical doctor has diagnosed them. Hence, in terms of sub-threshold mental disorder, an individual may not meet the criteria of the mental disorder according to the International Classification of Diseases (ICD-10) or Diagnostic Statistical Manual of Mental Disorders (DSM-5) (World Health Organization, 1992; World Health Organization & Calouste Gulbenkian Foundation, 2014).

## 2 | THE REVIEW

### 2.1 | Aims

This integrative review aims to examine the reported SDMH among older caregivers in the previous caregiving literature. The objective is to present the reported determinants linked to mental health inequalities and recognize implications for future research, nursing practice and policy approaches based on the evidence.

The following research question guide this review:

1. What are the reported social determinants of mental health among older caregivers in the previous caregiving literature?

## 2.2 | Design

This integrative review used a method outlined by Whittemore and Knafelz to inform a comprehensive methodological review, including quantitative research, qualitative research and the grey literature (Whittemore & Knafelz, 2005).

## 2.3 | Method

The method by Whittemore and Knafelz includes six phases: guiding question, literature search, data collection, critical analysis of the studies formed, results and presentation of the integrative review (Whittemore & Knafelz, 2005). The WHO's multilevel framework was used to define the SDMH, extract the relevant data and summarize the variables (World Health Organization & Calouste Gulbenkian Foundation, 2014). To improve the accuracy of combining different methods, we followed a systematic approach and data analysis methods (Whittemore & Knafelz, 2005).

### 2.3.1 | Search methods

Searches of published literature were systematically conducted in the following databases: Cumulative Index to Nursing and Allied Health Literature (CINAHL), MEDLINE (Ovid), PubMed, and Science Direct. In addition, the search for citations was added to ensure robustness. Moreover, a grey literature search by the web search engine Google and journal hand searching was used.

The relevant articles were considered between the periods of January 1999 and December 2019. Therefore, the search period covered the last 20 years to assess the previous and existing literature on the topic of interest to provide new knowledge and recommendations to meet today's society and the challenges of modern health care.

Search terms included but were not limited to the following keywords/MeSH terms: older, caregiver, family caregiver, mental health and social determinants. Terms were used alone and combined using Boolean Operators (and/or). As an example, the search string used in PubMed was: (((("informal caregivers" OR "family caregivers") AND health AND ("socioeconomic" OR "socio-economic" OR "social determinants" OR "social factors" OR "socio-demographic") AND ("elderly" OR "aging" OR "ageing" OR "older" OR "aged")))).

### 2.3.2 | Inclusion and exclusion criteria

A structured SPIDER method (Sample, Phenomenon of Interest, Design, Evaluation, Research type) was used to evaluate the articles' eligibility (Methley et al., 2014). A SPIDER method was identified as an appropriate systematic search strategy tool due to this review's

qualitative nature. Table 1 shows the SPIDER inclusion and exclusion criteria. In addition to SPIDER domains, articles were included if they were (1) peer-reviewed or grey literature and (2) published in English. Articles that did not meet the inclusion criteria were excluded.

Furthermore, reviewed articles were not restricted to any specific country. Therefore, we defined all those caregivers aged 50 or older as "older" caregivers, regardless of traditional definitions of 60 or 65 years or over, by the United Nations (United Nations, 2019). Otherwise, we might have missed the articles outside the Western countries, where older people are sometimes defined as those over 50 years (Sanuade & Boatemaa, 2015).

### 2.3.3 | Quality appraisal

The quality appraisal of included articles was undertaken using different tools proportionate to their research design. The two authors used the Mixed-Method Appraisal Tool checklist (MMAT) and the A Measurement Tool to Assess Systematic Reviews 2 (AMSTAR 2). The MMA tool was used for empirical studies; it includes two screening questions and five questions based on the quality (Hong et al., 2018). The rating varies from one point (20%) to five points (100%) in meeting the criteria of MMAT. Besides, the AMSTAR 2 was used to provide more specific methodological quality criteria for systematic literature reviews and considerations to assess the risk of bias (Shea et al., 2017).

### 2.3.4 | Data abstraction and synthesis

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses approach (PRISMA) was used to review process and report article selection (Moher et al., 2009). The first and last authors screened the titles and abstracts of articles independently based on the inclusion criteria. Then, the authors selected eligible publications to the subsequent stage, where abstracts were read. Finally, the eligible publications were read in full and qualified articles from this group were selected for the final stage. Disputes regarding the included articles were solved through discussion and collegial decision before continuing to the next steps of this integrative review.

From 1,086 screened articles, the authors included 12 articles for review. These articles included 10 quantitative studies (83%) and two meta-analytical studies (17%). Then, these data were classified, summarized and organized into an integrated conclusion about the research question (Whittemore & Knafelz, 2005). Thus, information was systematically gained from selected articles by the first author. Besides, all study designs were treated equally during data extraction. Table 2 shows the items of data extraction and synthesis.

Furthermore, caregivers' terms were "informal caregiver", "family caregiver" and "caregiver" in the reviewed articles. Therefore, we will use "caregiver" throughout the results. In addition, reviewed articles discussed "females", "males", "women" and "men" caregivers. The first and second terms, in general, refer to sex, which is a biologically determined factor, when the two last ones refer to gender,

TABLE 1 SPIDER inclusion and exclusion criteria

Spider domain	Inclusion criteria	Exclusion criteria
Sample	Caregiver who is aged $\geq 50$ years, non-professional caregiver, who provides informal or formal care for an adult at home The reported mean age of the study population can be a minimum of 50 years, or most of the caregivers (over 50%) in the study population are over 50 years, if the mean age is not reported No restrictions of care recipients' physical, psychological or medical condition	A young or younger middle-aged caregiver (under 50 years) Caregiver who is not a family member/friend Caregiver who takes care of a child or person who is hospitalized or institutionalized The reported mean age of the study population of caregivers is less than 50 years, or most of the caregivers (over 50%) in a study population are under 50 years if the mean age is not reported
Phenomenon of interest	Caregiving in a context where caregiver experiences depression, anxiety or sub-threshold mental disorders (e.g. caregiver burden) Mental health outcomes can be linked to social determinants of mental health	Caregivers with dementia (dementia is excluded from the WHO's analysis) No information about the factors of social determinants of mental health
Design/Evaluation	Equitable articles related to the phenomenon of interest All outcome measures	-
Research type	Qualitative, quantitative or mixed-method studies	-

TABLE 2 Data extraction and synthesis

Items	Data extraction
Reference	Authors, year of publication
Study location	Country
Study purpose	Aim/purpose of the study
Study population	Caregivers, reported age/mean age of study population ( $\geq 50$ years)
Results	Findings were extracted to link caregivers' common mental disorders (depression and anxiety) and sub-threshold mental disorders to social determinants of mental health from the reviewed articles
Tools	Information on the tools used to assess mental health outcomes and sociodemographic factors were extracted
Data synthesis	Description
Common mental disorders	Older caregivers are experiencing or living with depression and anxiety and sub-threshold mental disorders (e.g. feelings of depression and anxiety, and different forms of caregiver burden since caregiver burden may associate with depression and anxiety). Older caregivers living with dementia were excluded
Caregiver	A non-professional caregiver (a spouse, next of kin or another close family member/friend) who provides care for an adult at home. No limitations based on paid or unpaid caregiving
Older adult	Caregivers aged 50 years or older. The reported mean age of the study population of caregivers can be a minimum of 50 years. If the mean age of the study population is not reported, most of the caregivers (50% or more) in the research should be over 50 years old
Factors linked to mental health inequalities among older adults, by the World Health Organization & Calouste Gulbenkian Foundation (2014)	Socioeconomic status, educational status, gender, ethnicity, age and levels of physical health, referred to as social determinants of mental health. The definition of "older adults" was not defined in the original source; therefore, the determinants are considered suitable for assessing those caregivers over 50 years

which is socially constructed (Solar & Irwin, 2010). Consequently, we will refer to the original source.

### 2.3.5 | Data reduction, display, and comparison

The articles included were subdivided according to the evidence and the pre-defined conceptual classification (Whittemore &

Knafl, 2005). The classification included the SDMH, and each type of evidence on determinants was synthesized into a format of qualitative research in a matrix (Whittemore & Knafl, 2005). The first author performed pattern coding in a matrix for data comparison between the articles involved (Whittemore & Knafl, 2005). Hence, the data visualization and comparison provided a clearer understanding of the topic of interest (Whittemore & Knafl, 2005).

### 2.3.6 | Conclusion drawing and verification

Conclusion and verification were the final data analysis stages of this integrative review (Whittemore & Knafl, 2005). Then, based on the guideline by Whittemore and Knafl, data were combined regardless of the methodological quality of included articles to assess the review question and draw conclusions (Whittemore & Knafl, 2005). Finally, the first author concluded the critical elements of included articles into an integrated summation, which was then reviewed, revised and approved by all authors (Whittemore & Knafl, 2005).

## 3 | RESULTS

### 3.1 | Description of the studies

From 1,086 identified articles, 12 studies were included to answer the research question. Figure 1 shows the PRISMA-flow chart and article selection. Articles were published in eight different countries, and two articles were international. The reported mean ages of caregivers varied from 50.2 to 73.2 years. Two studies did not report the overall mean ages but were not excluded; thus, the study populations were primarily over 50 years (Abajo et al., 2017; Pinquart & Sörensen, 2011).

### 3.2 | Methodological quality

The overall quality of the articles was considered moderate. The included articles met 60% to 100% of the MMAT criteria. The systematic review and meta-analysis were moderate-quality. In quantitative studies, the response rate ranged from 27% (Hastrup et al., 2011) to 71% (Saito et al., 2018); however, a minority of studies reported response rates. All the eligible articles were included regardless of the methodological quality.

### 3.3 | Social determinants of mental health

Older caregivers' "levels of physical health" was mainly cited factor linked to mental health inequalities. Thus, the evidence showed that older caregivers' poor perceived health was linked to emotional exhaustion, burden, depression and anxiety (Valente et al., 2011). Similarly, caregivers' subjective burden was associated with illness ( $p < .02$ ) and low health-related quality of life ( $p < .001$ ) (Hastrup et al., 2011). Moreover, caregivers' experiences of depression were linked to all health-related quality of life variables with correlation coefficients ranging from  $-0.27$  (physical functioning) to  $-0.38$  (general health) (Moreno et al., 2015). Besides, caregivers with high levels of depression reported less vitality and worse general health (Moreno et al., 2015). Correspondingly, one article found that depression was linked to caregivers' chronic disease among caregivers

of cancer patients (Geng et al., 2018). In addition, depressive symptoms predicted low emotional health-related quality of life ( $p \leq .001$ ) at four and eight months after baseline among caregivers of patients with heart failure (Pressler et al., 2009).

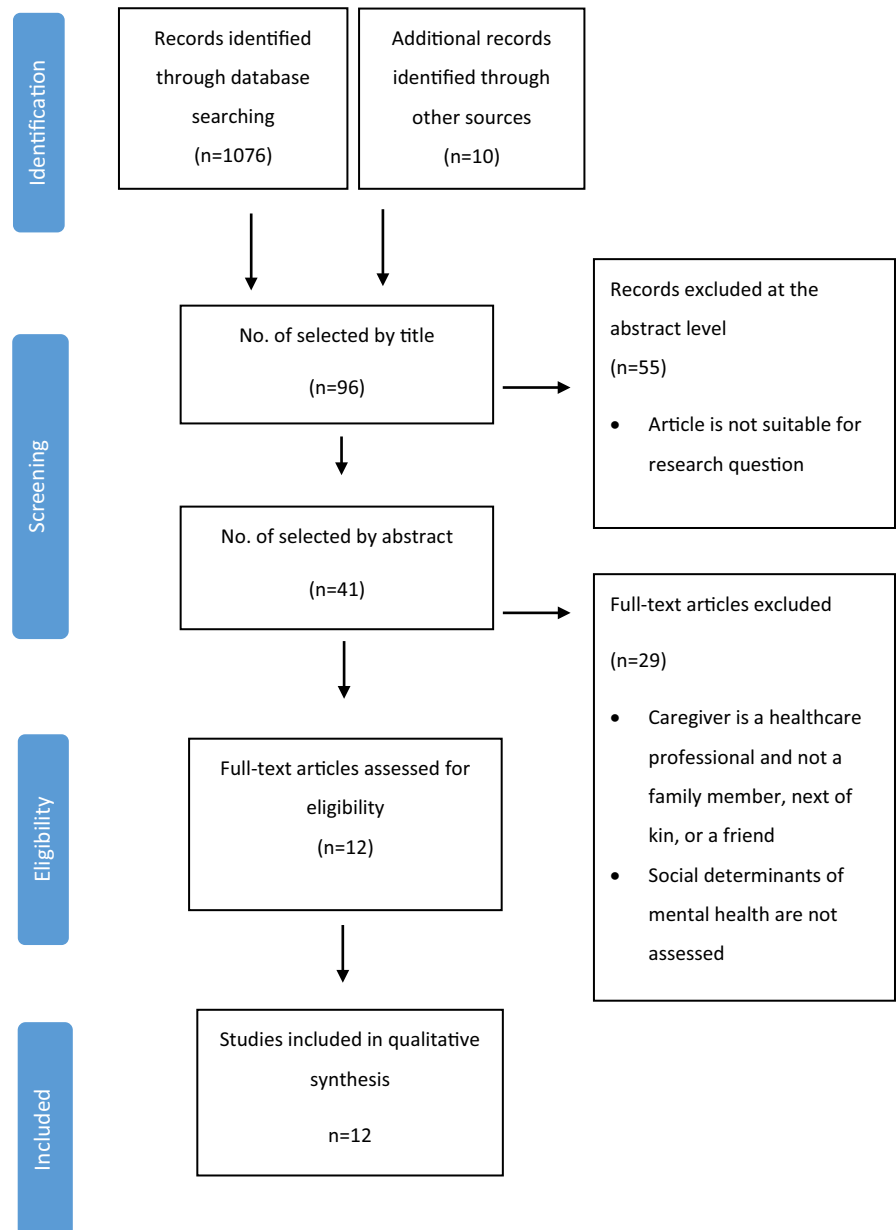
Caregivers' SES was also a predictor of depression (André et al., 2014). Caregivers with a lower SES had more significant depression and higher caregiver burden than caregivers with a higher SES (Abajo et al., 2017; André et al., 2014; Saito et al., 2018). Similarly, those caregivers who reported lower household incomes and assessed the caregiving situation as more stressful and threatening reported more depression (Lee et al., 2001). The researchers stated that caregivers' total household income and educational levels positively influenced caregiving outcomes, for instance, lower levels of depression (Lee et al., 2001). Other studies found comparable evidence since lower educational attainment and less or no education were linked to depressive symptoms or burden (Abajo et al., 2017; Geng et al., 2018; Pinquart & Sörensen, 2011; Sanuade & Boatemaa, 2015). Alternatively, no mental health inequalities or differences in subjective caregiver burden were identified among caregivers based on their education, and results were somewhat conflicting regarding income (Cook et al., 2018; Hastrup et al., 2011).

Caregivers' age was negatively associated with feelings of depression (Geng et al., 2018), and caregivers aged 65 and older had a negative emotional burden (OR 8.43, 95% CI: 1.25, 57.06) when providing high monthly hours of care (Cook et al., 2018). On the other hand, another study found that caregivers' higher age was linked to better mental well-being (Pinquart & Sörensen, 2011).

Furthermore, based on the evidence, caregivers' female sex was positively associated with depressive symptoms (Geng et al., 2018). Female caregivers had more severe depression ( $p = .024$ ) than male caregivers (André et al., 2014). In contrast, one study found that males providing high monthly hours of caregiving were more likely to experience a negative emotional burden (OR = 2.98, 95% CI: 1.20, 7.38) (Cook et al., 2018). Then again, female caregivers' greater odds of experiencing negative emotions were more likely linked to higher caregiving intensity (Cook et al., 2018). Finally, regarding the gender differences, 39% of women caregivers felt depressed compared to 24% of men caregivers ( $p < .001$ ) (Abajo et al., 2017).

Additionally, there was a paucity of data capturing ethnicity in the articles included in this integrative review, although some of them were conducted in ethnically diverse countries. However, one study identified that White (non-Hispanic) caregivers providing high monthly hours of care and high activities of daily living (ADL) care experienced more negative emotions compared to their low-intensity counterparts (Cook et al., 2018). On the other hand, Black (non-Hispanic) caregivers experienced more likely positive emotions associating with caregiving when providing highly intensive care (Cook et al., 2018). Also, there was a link between the ethnic minority status of a caregiver and better mental well-being (Pinquart & Sörensen, 2011). Nevertheless, the "minority status" is unclear in this context since the study was comparing "White non-Hispanics" to "others". Please see Table 3 for synthesized evidence.

FIGURE 1 PRISMA-flow chart for study selection



## 4 | DISCUSSION

This integrative review found that older caregivers' lower levels of physical health are linked to mental health inequalities. Therefore, older caregivers' low health status and its link to mental health challenges might imply that caregivers' physical problems cause mental health disparities and vice versa. However, reviewed evidence did not focus on levels of physical health and its related cultural, social and economic factors.

Moreover, the experiences of depression were more represented among female caregivers than male caregivers (André et al., 2014; Geng et al., 2018). Prior evidence supports the finding (NASEM, 2016). Women tolerate, in general, the primary burden of adverse health outcomes based on the social ladder (Solar & Irwin, 2010). Therefore, when evaluating mental health inequalities, social structures, gender-based discrimination and gender norms should be

considered in caregiving studies. Accordingly, domestic responsibilities, including caregiving, fell more on women. These responsibilities affect their career pathways, possibly reducing earning capacity and increasing their risk of poverty at an older age (Solar & Irwin, 2010).

Besides, in terms of gender and sexual orientation, none of the included articles involved or mentioned caregivers of diverse sexual orientation and gender identity (SOGI) (World Bank Group & Sexual Minorities and Development, 2020). Limited evidence has also been identified in the previous caregiving literature (Young et al., 2020). This kind of exclusion of older adults with diverse SOGI in research fails to assess factors associating with mental health challenges and inequalities in mental health. Therefore, further evidence on caregivers of varied SOGI and their mental health challenges would be essential. This act would ensure that future policies and actions in nursing are informed by research specifically addressing inequalities among diverse populations of older caregivers. However, although

TABLE 3 The synthesized data on social determinants of mental health from included studies

No.	Reference	Design	Purpose	Sample	Main results	Social determinants	Instruments
1.	Abajo et al., 2017 Spain	Cross-sectional	To examine associations between social determinants, caregiver's network support, the burden of care, and their consequences in health and living conditions of caregivers	Around 52% of women and 36% of men were 45 to 65 years old, and 27% of women and 45% of men were over 65 years old	The caregiver burden fell more on women caregivers and those of lower socioeconomic levels. Caregivers with primary or less education than caregivers with higher education levels were more likely to declare depressed feelings in both sexes.	Gender Education Socioeconomic status	Depression and/or anxiety. Self-report. The National Disability, Independence and Dependency Situations Survey (DIDSS-2008) was conducted by the National Statistics Institute in Spain. Sociodemographic factors: sex, age, marital status and area of residence, highest educational level attained, employment status and social class
2.	André et al., 2014 Portugal	Cross-sectional	To examine whether socioeconomic status predicts informal caregivers' state of mind (depression)	Mean age 50.2 years.	Depression was linked to more inferior socioeconomic status and female sex.	Socioeconomic status	Depression and/or anxiety: The Beck Depression Inventory. Sociodemographic factors: The Graffar Socioeconomic Level (Scale).
3.	Cook et al., 2018 USA	Cross-sectional	To examine the association between caregiving intensity and three dimensions of quality-of-life outcomes	Mean age 54.6 years	The emotional burden of caregiving was linked to White non-Hispanic caregivers when they provided high-intensity care. In contrast, Black (non-Hispanic) caregivers experienced more likely positive emotions associating with caregiving when providing highly intensive care. Older age was linked to the emotional burden. Males experienced a negative emotional burden when providing a high number of monthly hours of caregiving.	Age Ethnicity	Depression and/or anxiety: Three primary outcomes of caregiver QOL were assessed: 1) Social Strain, 2) Negative Emotional Burden, 3) Positive Emotional Benefit, previously validated through factor analysis. Sociodemographic factors: age, gender, race/ethnicity and annual family income

(Continues)

TABLE 3 (Continued)

No.	Reference	Design	Purpose	Sample	Main results	Social determinants	Instruments
4.	Geng et al., 2018 International	Systematic review +meta- analysis	To examine the prevalence rate of depression in cancer patient caregivers and identify factors affecting depression and the quality of life of caregivers	Mean age 52.7 years.	Caregivers' depression was positively linked to the female sex and caregivers with chronic disease. Caregivers' depression was negatively linked to the caregiver's education level and caregiver's age.	Age Education Physical health	Depression and/or anxiety; Beck Depression Inventory (BDI; 4 studies); Center for Epidemiological Studies Depression scale (CESD; 13 studies); Depression Anxiety Stress Scales (DASS-21; 2 studies); Hospital Anxiety and Depression Scale (HADS; 10 studies); Profile of Mood States (POMS; 1 study); State-Trait Anxiety Inventory (STAI; 2 studies), and Structured Clinical Interview (SCID) for Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV; 1 study). Quality of caregiver's life was measured with several tools, including 15-item Core Questionnaire of the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C15- PAL; 1 study); Short Form (SF-8; 1 study; SF-36; 1 study); Caregiver's Quality of Life Index—Cancer (CQOLC; 4 studies); and World Health Organization Quality of Life Best Available Techniques Reference Document (WHOQOL-BREF; 1 study). Sociodemographic factors: unclear.
5.	Hastrup et al., 2011 Netherlands	Cross-sectional comparative study	To examine the subjective caregiver burden by caregivers' characteristics and objective burden	Mean age 60 years	Subjective burden of caregiving (incl. depressive feelings and anxiety) was linked to a low health- related quality of life (EQ-5D) or having an illness.	Physical health	Depression and/or anxiety; Caregivers' health-related quality of life was assessed using the generic EQ-5D index. The subjective caregiver burden was measured using Caregiver Strain Index (CSI). Sociodemographic factors: a survey of age, gender, educational level, income level and occupation

(Continues)



TABLE 3 (Continued)

No.	Reference	Design	Purpose	Sample	Main results	Social determinants	Instruments
6.	Lee et al., 2001 USA	A descriptive, correlational, cross-sectional design	To examine what are the best predictors of a caregiver's depression, life satisfaction, and physical health, controlling for the covariates of caregiver gender, age, relationship to the care recipient, and caregiving demands	Mean age 65 years	Caregivers who reported lower household incomes and assessed the situation of caregiving as more stressful and threatening reported more depression. Educational levels had a positive influence on caregiving outcomes, reflected by lower levels of caregivers' depression.	Education	Depression and/or anxiety: Center for Epidemiologic Studies Depression Index (CES-D), Appraisal of Caregiving Scale (ACS). The ACS consists of 27 items and measures three dimensions of appraisal: two types of stressful appraisals, threat and general stressfulness, and one type of positive appraisal, benefit.  Sociodemographic factors: a survey of age, gender, educational level, total household income and relationship
7.	Moreno et al., 2015 Colombia	Cross-sectional	To examine the relationship between health-related quality-of-life and psychological factors	Mean age 58.4 years.	Depression of caregivers was linked to all health-related quality of life variables. Those caregivers with fewer symptoms of depression had better general health and more vitality.	Physical health	Depression and/or anxiety: The Patient Health Questionnaire (PHQ-9). The Satisfaction with Life Scale (SWLS). The Zarit Burden Interview (ZBI). The 36-item Short Health Questionnaire.  Sociodemographic factors: gender, socioeconomic status, employment, family income and education.
8.	Pinquart & Sörensen, 2011 International	Meta-analysis	To examine the differences between caregiving spouses, adult children, and children-in-law, and whether sociodemographic variables can explain their differences in psychological distress	Mean age >50 years. Spouses mean age 69.8. Adult children's mean age was 51.08. Children-in-law's mean age 47.15 (around 7% of all caregivers were children-in-law)	Depression symptoms were related to lower age, lower education, and worse physical health.	Age Education Physical health	Depression and/or anxiety: Caregiver burden was assessed with the Caregiver Burden Interview, Caregiver Strain Index, the Perceived Stress Scale, and other scales. Caregiver depression was most often assessed by the Center for Epidemiological Studies Depression Scale, the Geriatric Depression Scale and other measures.  Caregiver physical health was assessed by single-item indicators of perceived health, symptom checklists and questions regarding the frequency of doctor visits and medication use. Coping was assessed with the Ways of Coping Questionnaire and related instruments  Sociodemographic factors: age, gender, employment status, co-residence, ethnicity, marital status, income level and year of school completed

(Continues)

TABLE 3 (Continued)

No.	Reference	Design	Purpose	Sample	Main results	Social determinants	Instruments
9.	Pressler et al., 2009 USA	Cross-sectional	To examine predictors of family caregiving outcomes among caregivers of patients with heart failure and to identify the tasks reported as most difficult and the most negative outcomes	Mean age 59.7 years	Caregivers' depressive symptoms were predictors of emotional health-related quality of life.	Physical health	Depression and/or anxiety: Bakas Caregiving Outcomes Scale The Oberst Caregiving Burden Scale The Anxiety Subscale of the Brief Symptom Inventory. Depressive symptoms of caregivers were measured by using the Patient Health Questionnaire-8 (PHQ-8) Physical and Mental Component Summary of the Medical Outcomes Study Short-Form-12 (SF-12). Sociodemographic factors: a survey of age, sex, race, economic status and education
10.	Saito et al., 2018 Japan	Cross-sectional	To examine socioeconomic disparity in caregiving time and depressive symptoms	Mean age 73.2 years	Low-income caregivers had a higher risk of >5 on the Geriatrics Depression Scale.	Socioeconomic status	Depression and/or anxiety: Geriatrics Depression Scale (GDS) (Japanese version) Sociodemographic factors: a survey of household income, age, gender, education, marital status and work engagement
11.	Sanuade & Boatemaa, 2015 Ghana	Cross-sectional	To examine caregiver profiles and determinants of the burden of caregiving	Mean age 61 years	The burden of caregiving was lower among those with primary and secondary/higher education than those with no education.	Education	Depression and/or anxiety: WHO Impact of Caregiving Scale. Sociodemographic factors: a survey of age, sex, place of residence, level of education, marital status, religion and employment status
12.	Valente et al., 2011 Brazil	Cross-sectional	To examine caregivers' perceived health and relationships with patients and caregivers' sociodemographic and clinical data	Mean age 56.8 years	Caregivers' poor perceived health was associated with emotional exhaustion, burden, depression, and anxiety. Anxiety was an independent variable associated with caregivers' poor health.	Physical health	Depression and/or anxiety: Beck Depression and Anxiety Inventories; Zarit Burden Interview, and Maslach Burnout Inventory Sociodemographic factors: Sociodemographic Questionnaire

discussion around sex and gender is interesting in nursing, these are yet unproblematic concepts (Ion et al., 2021). Therefore, increasing attention is required on how both are viewed and used among academics, nurses and policymakers.

Furthermore, older caregivers' lower education and income were more likely linked to mental health inequalities, but findings were mixed. Moreover, included articles focused less on SES, and income and education were assessed separately. Therefore, future caregiving studies could focus more on SES and its link to mental health challenges among older caregivers. Thus, mental health and its challenges are partly driven by, for instance, policies on individuals' rights and opportunities, structural environment, social fabric and political setting (Shim et al., 2014). Then, the distribution of money and resources in society contributes to SDMH (Shim et al., 2014).

In addition, the social and economic inequalities may perpetuate across generations, resulting in mental health disorders over time (World Health Organization & Calouste Gulbenkian Foundation, 2014). However, there is limited evidence on the intergenerational transfer of inequity among older caregivers. Besides this, it is required to consider if older caregivers' financial situation across countries is strong enough to maintain a decent and healthy life. A lack of money and resources may further increase the risk of mental health disparities among older caregivers who are socially and economically vulnerable. In fact, over 40% of non-working caregivers are in the lowest income quartile in Europe (Embracing Carers, 2017), which may affect their mental health. Therefore, society would have a meaningful role in determining how to address caregivers' poor financial situation and mental health disparities.

Finally, the findings of this review indicate that factors related to older people's mental health disparities by the WHO might not be explicitly addressed in the previous caregiving literature among older caregivers. Hence, during the literature search, we came across many papers that addressed factors linked to caregivers' mental health or mental health disparities; however, the focus was less on older caregivers, or the age of caregivers was unclear. Therefore, the view of diversity may not be strong enough in caregiving literature among older caregivers, especially regarding their ethnic and gender-related mental health differences. Besides, reviewed articles collected data on sociodemographic factors, but some of the examinations of these factors and mental health inequalities were not done or reported. Therefore, greater attention is required towards SDMH among older caregivers. Thus, the lack of consideration of these factors in research is perturbing because the risk factors of many common mental disorders are heavily occurring from social inequalities (World Health Organization & Calouste Gulbenkian Foundation, 2014). Besides, lack of evidence means a paucity of data to efficiently provide tools and protocols to assess older caregivers' mental health outcomes.

Nevertheless, our findings have some important recommendations for future research and healthcare practice to address SDMH. In addition, the results are essential to those planning healthcare and nursing education. One of the first steps to improve older caregivers' mental health equity is to include a diverse population of older

caregivers and their care recipients in research and report their heterogeneous factors contributing to mental health disparities. The second concept to consider is implementing a life-course approach to social and health care. The multilevel framework by the WHO highly recommends this approach since many mental health issues which occur in later life are created earlier in life (World Health Organization & Calouste Gulbenkian Foundation, 2014). Therefore, a life-course approach highlights an individual's social and temporal perspective or a cohort's, like older caregivers', life experiences (World Health Organization, 2000). These experiences are linked to current health and disease patterns shaped by social, economic and cultural contexts (World Health Organization, 2000). The approach aims to identify underlying factors, such as biological, behavioural, and psychosocial factors, affecting the life span (World Health Organization, 2000). The life-course approach includes social arrangements and institutions that significantly impact individuals choosing their life course, such as social care and education (World Health Organization & Calouste Gulbenkian Foundation, 2014). Besides, this approach effectively addresses the intergenerational transfer of inequity (World Health Organization & Calouste Gulbenkian Foundation, 2014).

Moreover, clinical interventions of registered psychiatric nurses, general practitioners and psychiatrists could tackle SDMH. These actions involve, for instance, one-on-one interventions, including education and counseling. Besides, mental health professionals could address the economic, environmental and family/social network factors that impact individuals' well-being (Shim et al., 2014). The health professionals could then assess the individual risk factors restricting mental health (Shim et al., 2014). Moreover, educating individuals on SDMH and how these determinants might lead to mental health challenges may initiate improved changes in individuals' health behaviour and decision-making (Shim et al., 2014).

However, the previous evidence shows that some registered nurses' skills to address social determinants are limited (Thornton & Persaud, 2018). In fact, sometimes, health professionals are unsure how to tackle social determinants in day-to-day practice (Naz et al., 2016). Moreover, some common themes which may explain why health professionals are not addressing SDOH in a clinical setting are linked to lack of knowledge, questioning whether addressing these factors is part of their role, and lack of role models (Andermann, 2018).

Nonetheless, these barriers can be overcome. Therefore, stronger education on the determinants contributing to mental health inequalities is needed to reduce the knowledge-to-action gap among healthcare professionals and nurses from all fields. Then, nurses could more effectively assess SDMH in one-on-one interventions and clinical settings. Besides, collaborations from a higher level, including interprofessional education through nursing education programs, could be beneficial in addressing social determinants (Thornton & Persaud, 2018). Also, practical research on older caregivers' SDMH could enable nurses to screen the factors contributing to mental health disparities. Currently, there is no evidence on screening tools of SDMH or practice of screening these determinants among older caregivers.

Furthermore, another solution to consider is liaison mental health services and liaison mental health nurses in countries where this nursing field is currently limited. This nursing speciality's theoretical basis can be seen as an integration of psychological, biological and sociological perspectives (Roberts, 1997), which would be beneficial in assessing the SDMH in health care. In fact, previous evidence shows that some registered nurses experience difficulties giving care to patients living with mental health challenges, and they need more support (Yildirim et al., 2019). Therefore, liaison mental health nurses could have a remarkable role in supporting other nurses and reducing mental health disparities.

The third act to evaluate is policy movements; hence, a stronger political will is required to address SDMH (World Health Organization & Calouste Gulbenkian Foundation, 2014). Moreover, policy approaches should emphasize the importance of improving social protection policies for those older caregivers in poverty or at risk of poverty since lower SES might play a crucial role in caregivers' mental health inequalities. However, tackling SDMH should focus not only on the most vulnerable caregivers but also on the social gradient in mental health. Thus, focusing solely on the most vulnerable fails to achieve the required reduction in mental health inequalities (World Health Organization & Calouste Gulbenkian Foundation, 2014). Besides, the measures taken to support mental health equity must be universal; however, these measures need to be standardized concerning disadvantages (World Health Organization & Calouste Gulbenkian Foundation, 2014).

#### 4.1 | Limitations

This integrative review has several limitations. Our restriction to English reviews may have incomplete our access to non-English articles addressing the SDMH among older caregivers. Moreover, some articles included in this review gave *p*-values to measure statistical significance without, for example, confidence intervals. Therefore, some of the *p*-values might provide limited meaning. Similarly, the included articles measured depression differently; therefore, affecting factors may vary between the older caregivers with clinical diagnose and those with feelings of depression. The included articles were primarily cross-sectional design which is also required to consider when evaluating the results; hence, there is no evidence of possible causality. This review's strengths include using the rigorous methodology by Whittemore and Knafl, a systematic approach, and explicit methods for data analysis (Whittemore & Knafl, 2005). Moreover, included articles were screened and quality appraised by at least two authors.

#### 5 | CONCLUSION

This review found that the older caregivers' mental health inequalities were associated with levels of physical health. Besides, mental health challenges were more represented among females and less

educated. However, the evidence on SDMH among older caregivers seems limited, especially regarding their gender-related, ethnic and socioeconomic differences. Therefore, future caregiving research could focus on measuring the determinants among a diverse group of older caregivers and provide screening programs to combat mental health inequalities. In addition, more robust education on SDMH among nurses from all fields and liaison mental health services, which integrate the psychological, biological, and sociological perspectives of nursing, should be considered. Finally, policy approaches should be standardized regarding vulnerability and focus on the social gradient of mental health.

#### CONFLICT OF INTEREST

No conflict of interest has been declared by the authors.

#### AUTHOR CONTRIBUTIONS

All authors have agreed on the final version and meet at least one of the following criteria (recommended by the ICMJE [<http://www.icmje.org/recommendations/>]): substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data; drafting the article or revising it critically for important intellectual content.

#### ETHICAL APPROVAL

Ethical approval was not required.

#### PATIENT CONSENT

A patient consent statement was not required.

#### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author, R-M S., upon reasonable request.

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**How to cite this article:** Savela, R.-M., Schwab, U., & Välimäki, T. (2022). An integrative review of the social determinants of mental health among older caregivers. *Nursing Open*, 9, 94–107. <https://doi.org/10.1002/nop2.1094>