Mental Health of Older Latin-American Immigrants: an Integrative Review

Hormazábal-Salgado, Raúl, Osman, Abdi D, Whitehead, Dean and Hills, Danny (2024) Mental Health of Older Latin-American Immigrants: an Integrative Review. Journal of International Migration and Integration. ISSN 1488-3473

The publisher's official version can be found at
https://doi.org/10.1007/s12134-024-01200-6

Mental health of older Latin-American immigrants: An integrative review

Raúl Hormazábal-Salgado[a*], Abdi D. Osman[b], Dean Whitehead[c], Danny Hills[d]

[a] RN, BN, MN. PhD student, Federation University Australia - Berwick Campus* **Corresponding author:** ra.hormazabalsalgado@federation.edu.au, **telephone number:** +61343137973, **ORCID:** 0000-0002-6736-9983

[b] RN, BN, GCEmergN, MPHTM, DrPH, GCHELT. Senior Lecturer, Victoria University College of Sport and Exercise Science, Melbourne, Australia; email: abdi.osman@vu.edu.au, ORCID: 0000-0002-8104-8019; **email:** abdi.osman@vu.edu.au, **ORCID:** 0000-0002-8104-8019

[c] RN, Bed, MSc, MPH, PhD. Senior Lecturer, Federation University Australia, Federation University Australia - Berwick Campus, Melbourne, Australia; **email:** d.whitehead@federation.edu.au, **ORCID:** 0000-0003-4131-4594

[d] BN, Grad Cer Ter Teach, Grad Cer Mgt, MN Hons, PhD. Adjunct Professor, Federation University Australia - Berwick Campus, Melbourne, Australia; **email:** d.hills@federation.edu.au, **ORCID:** 0000-0002-1908-0739

Abstract

Objective: This review examines the current literature on mental health in older Latin-American immigrants.

Methods: This review was guided by Whittemore and Knafl's (2005) methodology and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR). Nine electronic databases were systematically searched: Academic Search Alumni Edition, Academic Search Complete, APA PsycArticles, APA PsycINFO, CINAHL Complete, MEDLINE, PubMed, Scopus, and Web of Science, to identify original research published within a 50-year-period. The search was restricted to peer-reviewed, primary research published in Spanish, Portuguese, or English and focused on the mental health of older Latin-American immigrants aged 60 years or above.

Results: Twenty-four peer-reviewed studies, 23 from the USA and one from Australia, were included and analyzed. Content analysis revealed four essential themes in older Latin-American immigrants: depressive symptoms, different coping mechanisms, cognitive status, English proficiency, and mental health. In all studies, detrimental outcomes for the mental health of older Latin-American immigrants were reported.

Conclusion: There are notable psychosocial factors that represent and outline the complexity of mental health in older Latin-American immigrants. High-quality research using different methodologies and conducted in countries with populations of Latin-American immigrants beyond the USA is strongly recommended.

Keywords: Aged, Coping Skills, Emigrants and Immigrants, Hispanic or Latino, Mental Health

Introduction

According to the United Nations, the global population reached eight billion in November 2022 (United Nations, 2023). Average life expectancy worldwide reached 72.8 years in 2019, having increased by almost nine years since 1990, mainly because of declining mortality levels (United Nations, 2022). The global population of people aged 65 years and older was around eight hundred million in 2022, 10 per cent of the total population, and it is projected to rise to 16 per cent in 2050 (United Nations, 2022). Given the growing number of older adults, countries with ageing populations should implement public health programs that effectively address the health needs of older adults by establishing universal healthcare (United Nations, 2022). International migration means that a growing number of people across the globe are ageing in countries different from where they were born, challenging researchers, policymakers, and healthcare providers as they must design high-quality and user-friendly policies and services (Torres & Karl, 2015). Over the past 50 years, the estimated number of international immigrants has increased steadily from 84 million in 1970 to 153 million in 1990 and almost 281 million in 2020. One of the fastest-growing migrant groups is Latin Americans residing outside their countries and regions of origin, with approximately 32 million people living in North America, followed by Europe, Asia, and Oceania (International Organization for Migration, 2021).

The Latin-American region includes more than fifty countries and territories, some with tiny populations, such as the islands of Grenada and Dominica, and others, such as Mexico and Brazil, with many millions of inhabitants (Guzmán et al., 2006). Latin America has experienced extensive migration patterns throughout its history, going from massive immigration of Europeans between 1870 and 1930 to intra-regional and extra-regional population movements (Guzmán et al., 2006; Sanchez-Alonso, 2018). Over the last decades, extra-regional migration, or emigration away from the region, represents the most significant migrant flow, with an estimated three-quarters of Latin Americans preferring the USA due to the geographical proximity (Guzmán et al., 2006; International Organization for Migration, 2021). Latin Americans represent the largest ethnic minority group in the USA (United States Census Bureau, 2022). The current population of Latin Americans aged 65 years and older in the USA was just over five million people in 2021, representing eight per cent of the total population of Latin Americans (United States Census Bureau, 2022). A progressive expansion to other destinations has been observed in regions such as Europe, Spain, Italy, the Netherlands, Portugal, France, and the United Kingdom, with 4.1 million South Americans around 2020 (United Nations, 2020). The percentage of Latin Americans aged 65 and over in Europe is 5.9%, significantly lower than the average of 17.6% for foreign-born populations (Abud et al., 2022; Bayona-i-Carrasco & Avila-Tàpies, 2020).

Health disparities, including those related to mental health, are a concern within the populations of older Latin American immigrants around the world since they face several health and mental health problems (Prina et al., 2019; Sanchez et al., 2020). Research indicates that the prevalence of mental disorders among older Latin American immigrants can vary across different populations (Alvarez et al., 2014; Jimenez et al., 2020). Older Latin American immigrants in Australia have higher rates of mental health problems compared to the general population, with 30% of Latin Americans aged 60 years and older experiencing mental issues (Sanchez et al., 2020). The United States has the highest proportion of Latin Americans aged 65 and older (International Organization for Migration, 2021). Common mental health issues in this population include depression and anxiety disorders (Alvarez et al., 2014; Jimenez et al., 2020). Depression is notably prevalent among the older

Latin American population (Alvarez et al., 2014). Multiple studies in the USA indicate that severe depressive symptoms are experienced by between 13% and 35% of older Latin Americans (Alvarez et al., 2014). Prina et al. (2019) estimated a prevalence of depression of 26.9% from a sample of 12,844 Latin Americans aged 65 or older. The authors estimated that as much as one-third of frailty in later life may be linked to depression (Prina et al., 2019). Some research shows that the prevalence of anxiety disorders goes between 15.2% and 15.3% (Jimenez et al., 2020). Jiménez et al. (2024) reported a higher proportion of anxiety, with 40.6% of older Latin Americans being affected from a sample of 283 Latin Americans aged 65 years and older. A survey conducted by the University of Washington (2021) indicates a higher perception of anxiety among older Latin Americans compared to the general population of Latin American immigrants, which aligns with previous research. Additionally, anxiety and depression have been associated in some studies (Camacho et al., 2015; Martinez Tyson et al., 2011). Around 12% of older Latin American immigrants living in the USA have identified anxiety as a symptom of depression (Martinez Tyson et al., 2011). From a sample of 16,064 Latin Americans who reported anxious depressive symptoms, about 25% were aged 65 years and older (Camacho et al., 2015). It is essential to consider that accurate prevalence rates depend on factors such as study methodology, definitions of mental disorders, sample size, the type of measures used, and assessment tools' validity, reliability, and cultural sensitivity (Aranda, 2013).

The present review is informed by the findings of Jimenez et al. (2020) and Sanchez et al. (2020). The narrative review conducted by Jimenez et al. (2020) indicates that social inequalities related to risk tend to be exacerbated by advancing age. Furthermore, the social disadvantages experienced by Latin Americans residing in the United States contribute to an elevated risk of mental illness throughout their lifespan (Jimenez et al., 2020). Additionally, the cross-sectional study by Sanchez et al. (2020) examined clinical data pertaining to Latin American Spanish-speaking patients in Australia. This study revealed an aging population characterized by significant risk factors and a considerable burden of chronic diseases and comorbidities. Sanchez et al. (2020) made a noteworthy contribution to the existing literature by emphasising the healthcare needs of this population in Australia. Their findings underscore the importance of researching Latin American immigrant groups in countries and regions where their demographic representation may be comparatively smaller than in North America.

A preliminary search of Google Scholar, Medline, PROSPERO, the Joanna Briggs Institute of Evidence Synthesis, and the Cochrane Database of Systematic Reviews revealed two literature reviews related to the mental health of older Latin-American immigrants in the USA and no reviews focused on studies conducted worldwide in diasporas of Latin-Americans. Alvarez et al. (2014) searched for studies focused on two mental issues, depression and dementia, and Jimenez et al. (2020) explored the mental health of Cubans, Mexicans, and Puerto Ricans, the three subgroups with more extended residential history in The USA. The main findings of these narrative reviews show a large proportion of research on common mental health problems such as depression, dementia, and anxiety, besides sociocultural factors like acculturation and limited access to mental health services (Alvarez et al., 2014; Jimenez et al., 2020). Given the limited literature outside of the USA, an integrative review of peer-reviewed journal articles published over 50 years was undertaken. The main goal of this review was to systematically appraise and synthesize evidence that examines the mental health of Latin Americans aged 60 years and older. The guiding review questions were: What is known about the mental health of older Latin-American immigrants globally? To what extent the mental health of this group of migrants has been studied at a global level?

Methods

This study followed the guidelines for Integrative Reviews, informed by Whittemore and Knafl (2005), and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist (Tricco et al., 2018). The main reason for conducting an integrative review is to provide a holistic understanding of the topic through the simultaneous inclusion of non-experimental and experimental studies that have varied research designs, leading to a better understanding of the topic of mental health in older Latin-American immigrants (Whittemore & Knafl, 2005). This is contrasted by systematic reviews or qualitative synthesis, limited to empirical studies using a specific research design (Oermann & Knafl, 2021).

The systematic search strategy combined Medical Subject Headings (MeSH) terms and free text (Table 1). A broad range of search terms related to (and including) "mental health," "older adult," and "immigrant" were used. Searches were conducted via electronic searches of scientific journals from Academic Search Alumni Edition, Academic Search Complete, APA PsycArticles, APA PsycInfo, CINAHL Complete, MEDLINE, PubMed, Scopus, and Web of Science.

Inclusion and exclusion criteria

Studies published up to September 2023 were considered to provide an appropriate perspective, with the earliest related empirical studies falling within this range. The search was left open to retrieve historical records that might be relevant. The systematic search was restricted to peer-reviewed, primary research published in Spanish, Portuguese, or English, focused on people aged 60 years or above, the mental health of older Latin-American immigrants, and the health care of these older populations. Studies need to explicitly mention the concepts "mental health", "emotional health", or those related to mental illness like "cognitive impairment", "depression", or "depressive" either in their title or abstract, offer a description of mental health needs related to individuals with a Latin-American background (either born in the host country or migrated later in life). Anecdotal articles, letters to the editor, books or book chapters, comments, conference papers, theses, literature reviews, expert opinions or similar publications were excluded. The search was run in October 2023.

The reported population in this review was composed of individuals aged 60 years or older, as defined by the United Nations as an agreed cut-off point (World Health Organization, 2022), mainly due to the multiple variations in the definitions of "elderly," "older person," and "later life" across the currently available research conducted on older adults.

The retrieved citations were chosen for screening based on the title, abstract, and full text. Screening involved the selection of retrieved citations by title, abstract and full text. Titles and abstracts of studies considered potentially relevant were selected for further examination. The bibliographic details, keywords, abstracts, and website addresses (where available) of identified articles were imported into Covidence (Veritas Health Innovation, 2023), a web-based collaboration software platform that streamlines the production of systematic and other literature reviews. Relevant studies concerning inclusion/exclusion criteria were selected for synthesis. The entire sample was double-reviewed. Two researchers read the full text of each potentially eligible article before a final decision was reached about its inclusion. Discussions among the study team members were used to solve disagreements. Data were extracted and summarized using a data extraction form to provide the foundation for appraising,

analyzing, summarizing, and interpreting the evidence. For each study, information about the author(s), year of publication, country, design, research objectives, sample characteristics, methods, main findings, and limitations was collected and summarized as shown in Table 2.

The initial search yielded 3070 results, 344 of which were removed as duplicates. There were 2726 studies for title and abstract screening. After the subsequent exclusion of 2685 studies, 41 remained for full-text review. In this last phase, 17 articles were further excluded for not meeting the inclusion criteria, leaving 24 studies to be included in the review, as shown in the PRISMA flow diagram (Page et al., 2021) (Figure 1).

Data synthesis

Synthesis of the main findings of the retrieved studies is detailed in the summary table (Table 2), where data has been reduced, organized and displayed for each of the topics of interest, facilitating the comparison between primary sources on specific variables and sample characteristics in a matrix; the identification of patterns and themes is conducted through two strategies of data comparison: critical analysis of data and data display (Whittemore & Knafl, 2005). Ethical approval for this systematic literature review was not required.

Strength of the evidence

While undertaking quality assessment for the included studies is not mandatory for integrative reviews, the strength of the evidence was assessed.

Several critical appraisal tools were utilized to address the methodological design of the study articles specifically. The chosen studies were subjected to quality evaluations using The Joanna Briggs Institute (JBI) critical appraisal tools – namely the Checklist for Analytical Cross-Sectional Studies, Checklist for Cohort Studies, Checklist for Qualitative Research, Checklist for Randomized Controlled Trials and Checklist for Quasi-Experimental Studies (Joanna Briggs Institute, 2022). Additionally, the Mixed Methods Appraisal Tool (MMAT), version 2018 (Hong et al., 2018) was used to assess a mixed-design study. The main aspects assessed by these appraisal tools for quantitative studies were clearly explained inclusion criteria, study settings, reliability to measure the variables of interest, and appropriateness of statistical analyses that varied according to the methodology employed. For qualitative approaches, the tools assessed congruity among research philosophies, research methodology, objectives, data collection methods, representation, and analysis of data in addition to ethical aspects.

Two authors independently assessed the quality of the eligible studies (RH and AO). Any potential disagreements were adjudicated by a third or a fourth author (DW and DH) where required. No studies were excluded based on the methodological quality rating to capture the topic's depth and breadth and ensure a better understanding of the phenomenon of concern (Whittemore & Knafl, 2005). The quality assessment score of all studies was included as a variable in the data analysis stage, where reports of low rigor and relevance contributed less to the analytic process (Whittemore & Knafl, 2005). The included studies underwent quality assessment based on the study methodology, and 17 studies were rated 'good', with the remainder rated either as 'fair' (4) or 'poor' (3) (Table 3).

Findings

The selected studies addressed the main themes, namely depressive symptoms in older Latin-American immigrants, different coping mechanisms of older Latin-Americans, cognitive status of older Latin-Americans, and English proficiency and mental health of older Latin-Americans. Twenty-three studies were developed in the USA, with one study from Australia.

1.- Depressive symptoms in older Latin-American immigrants.

Out of the 24 selected studies, 14 studies discussed depressive symptoms in older Latin-American immigrants. Severe depression could be experienced in addition to an average of five chronic conditions, and it could be described by using several words and idioms (Camacho et al., 2018). Depression was the most familiar term for older adults, and it was described as "sadness" besides being differentiated from anxiety and stress (Curtin et al., 2018).

Depressive symptoms have been linked to several health conditions (Rote et al., 2015). The activity of daily living disability and low social support were predictors of depressive symptoms in foreign-born individuals (migrant population) compared to the USA-born (Rote et al., 2015). Among USA-born participants, the risk of depression for either bicultural or Mexican-oriented was notably higher than for Anglo-oriented participants (González et al., 2001). In a similar vein, Mexico-born older adults had a higher risk of depressive symptoms compared to their Mexican American counterparts born in the USA; age of arrival, gender and other covariates did not modify that risk (Gerst et al., 2010).

Depressive symptoms were associated with the psychosocial–cultural variables of acculturation, familism, and ethnic identity (Chavez-Korell et al., 2014). Lower acculturation lead to more depressive symptoms, whereas the values of familism, family orientation and connectedness, and ethnic identity were related to lower depressive symptoms (Chavez-Korell et al., 2014). Higher levels of depressive symptoms were associated with lower levels of physical functioning (Chavez-Korell et al., 2014). Similarly, Kwag et al. (2012) described a more significant association of acculturation with depressive symptoms among those who lived in neighborhoods with a lower density of Hispanics, meaning that lower acculturation levels lead to more depressive symptoms. Neighborhood climate was significant for mental health (Hernandez et al., 2015). There was an inverse relationship between psychological distress and neighborhood climate, where those who perceived their neighborhood as low in criminal activity were less likely to experience elevated depressive symptoms (Hernandez et al., 2015). According to Hahn et al. (2011), high acculturation levels in older Mexican American caregivers have been associated with higher depressive symptoms, contrasted with caregivers with low acculturation. In addition, an increased risk of depression has been associated with older age (80 and older), lower levels of education, female gender, unmarried status, and low monthly income (González et al., 2001). In a study with a sample of Cuban older adults, perceived financial strain was the only sociodemographic factor associated with greater odds of clinically relevant symptoms (Perrino et al., 2008).

The age of arrival at the host country was another factor to consider when assessing the risk of depressive symptoms (García et al., 2019; Monserud & Markides, 2018). Later-life immigrant men (after age 50) were at risk of depression in old age (age 65 and above and women were at a higher risk of depression in old age, specifically early-life, mid-life, and particularly later-life immigrant women (García et al., 2019). Comparably, Monserud and

Markides (2018) found that early-life immigrant men and women exhibited similar levels and age-related increases in depressive symptoms compared to their USA-born counterparts. However, at age 65, mid-life immigrant men had lower levels of depressive symptoms than women (Monserud & Markides, 2018). Additionally, being married was associated with fewer depressive symptoms for both genders (Monserud & Markides, 2018). A further factor was the cross-border ties of older Latin-American immigrants, who maintained contact with people from their country of origin after arriving in the host country (Torres et al., 2016). Cross-border ties may represent a unique source of both resilience and risk for the long-term mental health of immigrant Latin-Americans and their descendants, where these ties were significantly associated with depression (Torres et al., 2016).

Miranda et al. (2011) described the historical and later-life circumstances of the migration of older Latin-Americans and their depressive symptoms. Different prevalences of depressive symptoms among Mexican immigrants have been reported across different historical periods (Miranda et al., 2011). Immigrants who arrived in the USA following the Mexican Revolution (1918–1928) reported significantly fewer depressive symptoms compared to those who arrived in the Bracero era (1942–1964) (Miranda et al., 2011). Those who arrived following the enactment of the Immigration Reform Control Act (1965–1994) reported more symptoms of depression compared to those who arrived in the Bracero era (1942–1964) (Miranda et al., 2011). Changes in immigration policies had enduring implications, where Bracero-era immigrants encountered fewer barriers and employment opportunities contrasted with those who arrived later, who encountered pervasive hostility and deportation threats (Miranda et al., 2011).

To sum up, older Latin-Americans could be at a greater risk of having more significant depressive symptoms compared to the local populations. Higher acculturation and cultural values such as familism and ethnic identity have been associated with lower symptoms of depression. Conversely, financial problems and perception of a low-density, high-crime neighborhood have been related to higher depressive symptoms. Age at migration and historical circumstances at migration have been associated with symptoms of depression in older Latin-Americans.

2. Different coping mechanisms of older Latin-American immigrants

Five of the included studies described different coping skills older Latin-American immigrants used.

Family and community support has been found necessary for older Latin-American immigrants. A study conducted in Australia described the connection with family as an active coping skill used by older Latin-American immigrants when dealing with stress related to the planification of their future care (Rojas-Lizana & Cordella, 2020). Community support, specifically support from religious and social centers, was another coping skill (Rojas-Lizana & Cordella, 2020). Guo et al. (2014) state that, despite having substantially higher levels of family and community support, older Latin-Americans living in the USA were twice as likely as Asians to have had any anxiety or mood disorders, with a high prevalence of panic attacks, panic disorders, and major depressive episodes. Poor self-rated mental health has been associated with significantly greater use of mental health services (Kim et al., 2010). For older Latin-Americans, the use of mental health services was significantly associated with

both predisposing factors, such as being younger and female, and mental health need factors, like having any mood disorders and poor self-rated mental health (Kim et al., 2010).

Religious beliefs helped older Latin-Americans cope. Religion, including religious practices and spiritual beliefs, was among other coping mechanisms used by older Latin-American immigrants, such as social support, distraction, medications, and professional help (Curtin et al., 2019). Similarly, praying and being tranquil lead to good mental health since an older person must integrate physical, mental, and spiritual health to be healthy (Ailinger & Causey, 1995). For older Latin-Americans, good mental health was related to enjoying life and having good interpersonal relationships (Ailinger & Causey, 1995).

All in all, a higher prevalence of anxiety disorders and depression has been observed in older Latin-American immigrants despite counting on higher social support. Access to healthcare services is crucial, considering the overall poor mental health of these populations. Effective coping strategies for older Latin-American immigrants are religious beliefs, religious practices, family support, and community support.

3. Cognitive status of older Latin-American immigrants

The cognitive status of older Latin-American immigrants was the focus of three of the 24 studies in the review. Cognitive functioning has been directly and significantly associated with neighborhood climate and psychological distress, where a healthy neighborhood climate could improve cognitive functioning in older Latin-Americans (Brown et al., 2009). Social support was associated with a positive neighborhood climate and less psychological distress (Brown et al., 2009). Higher levels of everyday perceived discrimination have been associated with a lower cognitive function in older Puerto Ricans, where depression fully mediated the relationship between both variables (Wang et al., 2022). Cognitive impairment was prevalent among older Latin-Americans compared to older migrant populations of Asians (Saadi et al., 2021). By contrast, higher post-traumatic stress disorder symptoms have been associated with cognitive impairment in Asians but not older Latin-Americans (Saadi et al., 2021).

To summarize, cognitive impairment is prevalent among older Latin-American immigrants compared to other populations. Whilst high perceived discrimination is related to lower cognitive function, social support and a healthy neighborhood climate can improve cognitive functioning.

4. English proficiency and mental health of older Latin-American immigrants

Two out of the 24 studies discussed English proficiency in older Latin-Americans. Limited English proficiency was a risk factor for more significant depressive symptomatology and an accelerated trajectory of depressive symptoms over time (Kim et al., 2019). Older Latin-Americans and Asians with limited English proficiency were at higher risk for poor physical and mental health outcomes and inadequate healthcare (Kim et al., 2011).

To conclude, limited English proficiency in older Latin-Americans can lead to overall poorer health and mental health, including depressive symptoms.

Discussion

The main goal of this integrative review was to explore the literature focused on older Latin-American immigrants' mental health while living in a host country. The retrieved studies show a constellation of factors that underpins the complexity of mental health in older Latin-American immigrants. Some of the most salient mental health issues were depressive symptoms, anxiety disorders, and poor cognitive functioning, which are associated with acculturation, familism, financial problems, perceived discrimination, English proficiency, neighborhood density of older Latin-Americans and neighborhood climate. Historical circumstances and age at migration have been associated with depressive symptoms in older Latin-Americans. Positive coping strategies for older Latin-American immigrants are social support and religious practices that can lead to a healthier lifestyle.

Analyzing historical research offered a longitudinal view, vital for comprehending the evolution of perceptions, attitudes, and approaches to mental health in older Latin Americans. The findings reveal a growing body of evidence, especially after the first decade of the 21st century, with only one relevant study (Ailinger & Causey, 1995) conducted before 2000. The six studies conducted in the fifteen years between 1995 and 2010 explored the conceptualization of mental health (Ailinger & Causey, 1995), Neighborhood climate (Brown et al., 2009), mental health service use (Kim et al., 2010), and the prevalence of depression (Gerst et al., 2010; González et al., 2001; Perrino et al., 2008). The other 18 studies carried out over the last twelve-year period from 2011 to 2023 further expanded the research in the areas mentioned earlier, especially around the topic of depression. In general, the retrieved studies focused on depression and coping strategies accounted for around 60% and 20% of the findings, respectively. The remaining studies focused on cognitive status (12%) and English proficiency (8%). Therefore, future research should focus on how the cognitive status and English proficiency of older Latin American immigrants influence their mental health.

Multiple mental health measures were used in the retrieved studies. The most used mental health measure in the quantitative studies was the Center for Epidemiologic Studies Depression Scale (CES-D), a 20-item self-report metric intended to measure depression (Radloff, 1977). The systematic review of Cosco et al. (2020) provides tentative evidence that the original four-factor structure proposed by Radloff (1977), i.e. depressed affect, positive affect, somatic, and interpersonal, is valid in populations of older adults. However, the six analyzed studies were conducted in mostly Caucasian community-dwelling adults aged 65 (Radloff, 1977). The authors suggest that further inquiry is needed when using this scale in non-Caucasian older adults (Cosco et al., 2020). Using this scale in older Latin-Americans might be reliable regarding the degree to which the intended variable is captured. However, as Cosco et al. (2020) put forward, studies about the scale's psychometric properties are needed. On the other hand, four of the five qualitative studies retrieved did not assess any mental health measure using scales, primarily because of their subjective nature of seeking to understand human actions, experiences and meanings (Fossey et al., 2002). This heterogeneity in designs and approaches used to explore mental health could explain the different conclusions obtained for the same research question across the studies. In other words, using various mental health measures can result in multiple findings from different themes.

This review shows that depressive symptoms and anxiety disorders were prevalent among older populations of Latin-Americans. Several sociocultural factors have been linked as the root cause of these conditions, meaning that preventative interventions must be implemented. One of these interventions can be the early recognition of depressive and anxiety symptoms because older migrants tend to fail to correctly recognize mental disorders, increasing the risk of developing complications in the long term (Malkin et al., 2019). In this context, a trustworthy

professional service relationship is essential to engaging older adults in mental health care, familiarizing them with those services while meeting their cultural needs (Ortiz, 2012). These requirements can be addressed by training mental health workers in language competency to provide linguistically accessible health services (Guruge et al., 2015). In addition, inclusive immigration policies are associated with better health outcomes and slower disability growth in older Latin-American immigrants compared to more restrictive immigration policies (Mueller & Bartlett, 2019). Healthcare providers must thus help older Latin-American immigrants identify any risk factors while considering the socio-political context of the host country.

A total of nine studies were focused on the mental health of older Mexican American immigrants (García et al., 2019; Gerst et al., 2010; González et al., 2001; Hahn et al., 2011; Kim et al., 2019; Miranda et al., 2011; Monserud & Markides, 2018; Rote et al., 2015; Torres et al., 2016). The remaining studies included participants from Central and South America, whereas a few did not report the country of origin, using the denomination "Hispanic" or "Latino" (Guo et al., 2014; Saadi et al., 2021). While all the older migrants included in the studies identified themselves as Latin-Americans, no further information about how cultural aspects could influence their mental health was provided by the authors. This information is relevant because of the diversity of the sociodemographic profiles of extra-regional migrants, which vary depending on the country of origin and economic and educational levels (International Organization for Migration, 2019). Sociodemographic profiles are closely associated with the ethnic identity of individuals or self-identification with an ethnic group in addition to acculturation or assimilation of cultural aspects from the host country (Balidemaj & Small, 2019). A positive cultural identity and a high acculturation level are associated with better mental health and well-being (Balidemaj & Small, 2019). As a result, understanding the cultural and ethnic diversity of older Latin-American immigrants should be the focus of future inquiry into mental health.

Notably, only one out of the 24 studies included were conducted in a country outside of the USA, specifically Australia (Rojas-Lizana & Cordella, 2020). Most of the theoretical and empirical work on migration in the Americas is conducted with Mexican migrants, as they represent the most significant sustained migratory flow between any two nations worldwide (Donato et al., 2010). Further reasons that could explain the predominance of contemporary Latin-American Studies among North American scholars are global economic dominance, cultural exchange, and geographical proximity (Kath, 2016). Historically, these causes have been conceived as primarily relevant to the USA and Europe, specifically Portugal and Spain, due to linguistic similarities and a colonial past with America (Kath, 2016). Despite the dominance of Mexican migrants, migration has emerged as a critical issue across all countries in Latin America and the Caribbean (primarily Cuba) over the last several decades (Donato et al., 2010). Therefore, a significant shortcoming of prior research is its overreliance on data from just one country (Mexico) since the findings of these studies may not be generalizable to other migrant Latin-American populations. Subsequently, studies conducted in one migratory context may produce non-generalizable findings for different groups of Latin-American migrants living elsewhere. Conducting further research in countries other than the USA is recommended to understand their specific mental health needs further.

Limitations

There are several limitations to this review, as listed below:

1. Only original research retrieved from peer-reviewed journals available in ten databases was examined. This may have influenced the findings, particularly opinions on the amount of research on the mental health of older Latin-American immigrants. Thus, potentially relevant studies published in non-peer-reviewed journals that might help better understand the topic of interest may not have been explored.
2. The inclusion criteria were limited to English, Spanish, and Portuguese studies, automatically excluding potentially relevant studies published in any other language, such as those from Asia.
3. The study designs were heterogeneous and mainly cross-sectional, revealing the gap between longitudinal and qualitative research. Additionally, due to the cross-sectional nature of the research retrieved, cause-effect relationships cannot be determined.
4. It is verified that most studies analyzed were developed in the USA, potentially limiting the scope of their findings internationally.
5. Three studies were classified as poor quality. However, they provide relevant information to understand the mental health of older Latin-American immigrants and show the need for further high-quality research in this field. They also form a good part of our discussion.

Conclusion

The findings of this integrative review emphasize the complex nature of mental health among older Latin-American immigrants, which is influenced by various factors, including depressive symptoms, anxiety disorders, and cognitive functioning. The findings highlight the importance of considering multiple factors when examining the mental health of these individuals, such as acculturation, perceived discrimination, and English proficiency. These factors are interconnected and can significantly impact their overall well-being. Therefore, understanding and addressing these factors is crucial for developing culturally sensitive interventions and support systems that promote the mental health of older Latin-American immigrants.

A recommendation for practice is carrying out further high-quality studies using a variety of appropriate methodologies beyond the predominant cross-sectional approach. This could provide varied and rich data that helps to identify better and effectively address the older Latin-American immigrants' demand for mental health support. In addition, conducting culturally pertinent research in countries besides the USA is strongly recommended, leading to a broader understanding of this phenomenon among scholars and communities worldwide, potentially leading to policy change and better healthcare service outcomes. A third recommendation is that healthcare providers should offer culturally pertinent health services that consider the physical and psychosocial elements involved in the mental health of people of Latin-American origin.

Conflict of Interest

The authors declared that they have no conflict of interest.

Funding statement

No funding was obtained to conduct this research.

Author Contribution declaration

Each of the four authors named in the submission of this paper played an integral role in its development. They made substantial contributions to the conception, design, acquisition, analysis, or interpretation of data and the creation of new software for the project. Additionally, each author drafted the manuscript or provided critical revisions for important intellectual content. All authors granted approval for the final version intended for publication. Furthermore, they collectively agreed to be accountable for all aspects of the work, committing to the thorough investigation and resolution of any questions related to the accuracy or integrity of any part of the research.

Data Availability declaration

This article does not involve data sharing since no new data were generated or analyzed during the course of this study.

References

Abud, T., Kounidas, G., Martin, K. R., Werth, M., Cooper, K., & Myint, P. K. (2022). Determinants of healthy ageing: a systematic review of contemporary literature. *Aging Clinical and Experimental Research*, *34*(6), 1215-1223. https://doi.org/10.1007/s40520-021-02049-w

Ailinger, R. L., & Causey, M. E. (1995). Health concept of older Hispanic immigrants. *Western Journal of Nursing Research*, *17*(6), 605-613. https://doi.org/10.1177/019394599501700603

Alvarez, P., Rengifo, J., Emrani, T., & Gallagher-Thompson, D. (2014). Latino Older Adults and Mental Health: A Review and Commentary. *Clinical Gerontologist*, *37*(1), 33-48. https://doi.org/10.1080/07317115.2013.847514

Aranda, M. (2013). Depression-related disparities among older, low-acculturated US latinos. *Psychiatric Times*, *30*(9). Retrieved 09/01, from https://www.psychiatrictimes.com/view/depression-related-disparities-among-older-low-acculturated-us-latinos

Balidemaj, A., & Small, M. (2019). The effects of ethnic identity and acculturation in mental health of immigrants: A literature review [Article]. *International Journal of Social Psychiatry*, *65*(7/8), 643-655. https://doi.org/10.1177/0020764019867994

Bayona-i-Carrasco, J., & Avila-Tàpies, R. (2020). Latin Americans and Caribbeans in Europe: A Cross-Country Analysis [Article]. *International Migration*, *58*(1), 198-218. https://doi.org/10.1111/imig.12565

Brown, S. C., Mason, C. A., Spokane, A. R., Cruza-Guet, M. C., Lopez, B., & Szapocznik, J. (2009). The Relationship of Neighborhood Climate to Perceived Social Support and Mental Health in Older Hispanic Immigrants in Miami, Florida [Article]. *Journal of Aging & Health*, *21*(3), 431-459. https://doi.org/10.1177/0898264308328976

Camacho, Á., Gonzalez, P., Buelna, C., Emory, K. T., Talavera, G. A., Castañeda, S. F., Espinoza, R. A., Howard, A. G., Perreira, K. M., Isasi, C. R., Daviglus, M. L., & Roesch, S. C. (2015). Anxious-depression among Hispanic/Latinos from different backgrounds: results from the Hispanic Community Health Study/Study of Latinos (HCHS/SOL). *Social Psychiatry and Psychiatric Epidemiology*, *50*(11), 1669-1677. https://doi.org/10.1007/s00127-015-1120-4

Camacho, D., Estrada, E., Lagomasino, I. T., Aranda, M. P., & Green, J. (2018). Descriptions of depression and depression treatment in older Hispanic immigrants in a geriatric collaborative care program. *Aging & Mental Health*, *22*(8), 1056-1062. https://doi.org/10.1080/13607863.2017.1332159

Chavez-Korell, S., Benson-Flórez, G., Rendón, A. D., & Farías, R. (2014). Examining the relationships between physical functioning, ethnic identity, acculturation, familismo, and depressive symptoms for Latino older adults. *The Counseling Psychologist*, *42*(2), 255-277. https://doi.org/10.1177/0011000013477906

Cosco, T. D., Lachance, C. C., Blodgett, J. M., Stubbs, B., Co, M., Veronese, N., Wu, Y.-T., & Prina, A. M. (2020). Latent structure of the Centre for Epidemiologic Studies Depression Scale (CES-D) in older adult populations: a systematic review [Article]. *Aging & Mental Health*, *24*(5), 700-704. https://doi.org/10.1080/13607863.2019.1566434

Curtin, A., Martins, D. C., & Schwartz-Barcott, D. (2019). Coping with mental health issues among older Hispanic adults. *Geriatric Nursing*, *40*(2), 123-128. https://doi.org/10.1016/j.gerinurse.2018.07.003

Curtin, A. J., Martins, D. C., Schwartz-Barcott, D., Genere, A. A., Perez, D. M., Cabrera, E., & Viveiros, N. (2018). Perceptions of Mental Health Among Hispanic Older Adults: Findings Among Immigrants from the Dominican Republic, Colombia, and Guatemala. *Journal of Gerontological Nursing*, *44*(11), 44-50. https://doi.org/10.3928/00989134-20181010-05

Donato, K. M., Hiskey, J., Durand, J., & Massey, D. S. (2010). Migration in the Americas: Mexico and Latin America in Comparative Context. *Annals of the American Academy of Political and Social Science*, *630*, 6-17. https://doi.org/10.1177/0002716210368101

Fossey, E., Harvey, C., McDermott, F., & Davidson, L. (2002). Understanding and Evaluating Qualitative Research. *Australian & New Zealand Journal of Psychiatry*, *36*(6), 717-732. https://doi.org/10.1046/j.1440-1614.2002.01100.x

García, C., Garcia, M. A., Chiu, C.-T., Rivera, F. I., & Raji, M. (2019). Life Expectancies With Depression by Age of Migration and Gender Among Older Mexican Americans. *The Gerontologist*, *59*(5), 877-885. https://doi.org/10.1093/geront/gny107

Gerst, K., Al-Ghatrif, M., Beard, H. A., Samper-Ternent, R., & Markides, K. S. (2010). High depressive symptomatology among older community-dwelling Mexican Americans: The impact of immigration [Article]. *Aging & Mental Health*, *14*(3), 347-354. https://doi.org/10.1080/13607860903292578

González, H. M., Haan, M. N., & Hinton, L. (2001). Acculturation and the Prevalence of Depression in Older Mexican Americans: Baseline Results of the Sacramento Area Latino Study on Aging [Article]. *Journal of the American Geriatrics Society*, *49*(7), 948-953. https://doi.org/10.1046/j.1532-5415.2001.49186.x

Guo, M., Li, S., Liu, J., & Sun, F. (2014). Family Relations, Social Connections, and Mental Health Among Latino and Asian Older Adults. *Research on Aging*, *37*(2), 123-147. https://doi.org/10.1177/0164027514523298

Guruge, S., Thomson, M. S., & Seifi, S. G. (2015). Mental Health and Service Issues Faced by Older Immigrants in Canada: A Scoping Review. *Canadian Journal on Aging / La Revue canadienne du vieillissement*, *34*(4), 431-444. https://doi.org/10.1017/S0714980815000379

Guzmán, J. M., Rodríguez, J., Martínez, J., Contreras, J. M., & González, D. (2006). The Demography of Latin America and the Caribbean since 1950. *Population (english edition)*, *61*(5). https://doi.org/10.3917/pope.605.0519

Hahn, E. A., Kim, G., & Chiriboga, D. A. (2011). Acculturation and Depressive Symptoms Among Mexican American Elders New to the Caregiving Role: Results From the Hispanic-EPESE [Journal Article]. *Journal of Aging & Health*, *23*(3), 417-432. https://doi.org/10.1177/0898264310380454

Hernandez, R., Kershaw, K. N., Prohaska, T. R., Wang, P.-C., Marquez, D. X., & Sarkisian, C. A. (2015). The cross-sectional and longitudinal association between perceived neighborhood walkability characteristics and depressive symptoms in older Latinos: The '¡Caminemos!' study. *Journal of Aging and Health*, *27*(3), 551-568. https://doi.org/10.1177/0898264314553211

Hong, Q. N., Pluye, P., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., Gagnon, M.-P., Griffiths, F., & Nicolau, B. (2018). Mixed methods appraisal tool (MMAT), version 2018. *Registration of copyright*, *1148552*(10).

International Organization for Migration. (2019). *Extra regional Migration in The Americas: Profiles, Experiences and Needs*. International Organization for Migration. https://publications.iom.int/system/files/pdf/extraregional-migration-report-en.pdf

International Organization for Migration. (2021). *World migration report 2022* (M. McAuliffe & A. Triandafyllidou, Eds.). International Organization for Migration. https://publications.iom.int/books/world-migration-report-2022

Jiménez, A. L., Cruz-Gonzalez, M., Calhoun, T. F., Cohen, L., & Alegría, M. (2024). Late Life Anxiety and Depression Symptoms, and Suicidal Behaviors in Racial/Ethnic Minority Older Adults in Community-Based Organizations and Community Clinics in the U.S [Article]. *Cultural Diversity & Ethnic Minority Psychology*, *30*(1), 22-34. https://doi.org/10.1037/cdp0000524

Jimenez, D. E., Martinez Garza, D., Cárdenas, V., & Marquine, M. (2020). Older Latino Mental Health: A Complicated Picture. *Innovation in aging*, *4*(5), igaa033. https://doi.org/10.1093/geroni/igaa033

Joanna Briggs Institute. (2022). *Critical appraisal tools*. Joanna Briggs Institute. https://jbi.global/critical-appraisal-tools

Kath, E. E. (2016). *Australian-Latin American Relations*. Palgrave Macmillan US.

Kim, G., Jang, Y., Chiriboga, D. A., Ma, G. X., & Schonfeld, L. (2010). Factors associated with mental health service use in Latino and Asian immigrant elders [Article]. *Aging & Mental Health*, *14*(5), 535-542. https://doi.org/10.1080/13607860903311758

Kim, G., Kim, M., Park, S., Jimenez, D. E., & Chiriboga, D. A. (2019). Limited English Proficiency and Trajectories of Depressive Symptoms Among Mexican American Older Adults. *The Gerontologist*, *59*(5), 856-864. https://doi.org/10.1093/geront/gny032

Kim, G., Worley, C. B., Allen, R. S., Vinson, L., Crowther, M. R., Parmelee, P., & Chiriboga, D. A. (2011). Vulnerability of Older Latino and Asian Immigrants with Limited English Proficiency [Article]. *Journal of the American Geriatrics Society*, *59*(7), 1246-1252. https://doi.org/10.1111/j.1532-5415.2011.03483.x

Kwag, K., Jang, Y., & Chiriboga, D. (2012). Acculturation and Depressive Symptoms in Hispanic Older Adults: Does Perceived Ethnic Density Moderate their Relationship? [Journal Article]. *Journal of Immigrant & Minority Health*, *14*(6), 1107-1111. https://doi.org/10.1007/s10903-011-9569-z

Malkin, G., Hayat, T., Amichai-Hamburger, Y., Ben-David, B. M., Regev, T., & Nakash, O. (2019). How well do older adults recognise mental illness? A literature review [Article]. *Psychogeriatrics*, *19*(5), 491-504. https://doi.org/10.1111/psyg.12427

Martinez Tyson, D. D., Castañeda, H., Porter, M., Quiroz, M., & Carrion, I. (2011). More Similar than Different? Exploring Cultural Models of Depression among Latino Immigrants in Florida. *Depression research and treatment*, *2011*, 564396. https://doi.org/10.1155/2011/564396

Miranda, P., Schulz, A., Israel, B., & González, H. (2011). Context of Entry and Number of Depressive Symptoms in an Older Mexican-Origin Immigrant Population [Journal Article]. *Journal of Immigrant & Minority Health*, *13*(4), 706-712. https://doi.org/10.1007/s10903-010-9317-9

Monserud, M. A., & Markides, K. S. (2018). Age Trajectories of Depressive Symptoms by Age at Immigration among Older Men and Women of Mexican Descent: The Role of Social Resources [Article]. *Sociological Perspectives*, *61*(4), 513-534. https://doi.org/10.1177/0731121417751378

Mueller, C. W., & Bartlett, B. J. (2019). US immigration policy regimes and physical disability trajectories among Mexico–US immigrants. *The Journals of Gerontology: Series B: Psychological Sciences and Social Sciences*, *74*(4), 725-734. https://doi.org/10.1093/geronb/gbx026

Oermann, M. H., & Knafl, K. A. (2021). Strategies for completing a successful integrative review. *Nurse Author & Editor (Blackwell)*, *31*(3/4), 65-68. https://doi.org/10.1111/nae2.30

Ortiz, D. V. (2012). Structuring Mental Health Within Senior Services: A Case Study of an Outpatient Mental Health Clinic Serving Latinos. *Journal of Gerontological Social Work*, *55*(6), 503-518. https://doi.org/10.1080/01634372.2012.673539

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., & McGuinness, L. A. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews [Journal Article]. *PLoS Medicine*, *18*(3), 1-15. https://doi.org/10.1371/journal.pmed.1003583

Perrino, T., Brown, S. C., Mason, C. A., & Szapocznik, J. (2008). Depressive Symptoms Among Urban Hispanic Older Adults in Miami: Prevalence and Sociodemographic Correlates. *Clinical Gerontologist*, *32*(1), 26-43. https://doi.org/10.1080/07317110802478024

Prina, A. M., Stubbs, B., Veronese, N., Guerra, M., Kralj, C., Llibre Rodriguez, J. J., Prince, M., & Wu, Y.-T. (2019). Depression and Incidence of Frailty in Older People From Six Latin American Countries. *The American Journal of Geriatric Psychiatry*, *27*(10), 1072-1079. https://doi.org/https://doi.org/10.1016/j.jagp.2019.04.008

Radloff, L. S. (1977). The CES-D Scale: A Self-Report Depression Scale for Research in the General Population. *Applied Psychological Measurement*, *1*(3), 385-401. https://doi.org/10.1177/014662167700100306

Rojas-Lizana, S., & Cordella, M. (2020). Ageing in a foreign land: Stressors and coping strategies in the discourse of older adult Spanish speakers in Australia. *Transitions: Journal of Transient Migration*, *4*, 5-23. https://doi.org/10.1386/tjtm_00010_1

Rote, S., Chen, N. W., & Markides, K. (2015). Trajectories of Depressive Symptoms in Elderly Mexican Americans [Article]. *Journal of the American Geriatrics Society*, *63*(7), 1324-1330. https://doi.org/10.1111/jgs.13480

Saadi, A., Cruz-Gonzalez, M., Hwang, A., Cohen, L., & Alegria, M. (2021). Associations Between Trauma, Sleep, and Cognitive Impairment Among Latino and Asian Older Adults [Article]. *Journal of the American Geriatrics Society*, *69*(4), 1019-1026. https://doi.org/10.1111/jgs.16986

Sanchez-Alonso, B. (2018). The age of mass migration in Latin America. *The Economic History Review*, *72*. https://doi.org/10.1111/ehr.12787

Sanchez, L., Johnson, T., Williams, S., Spurling, G., & Durham, J. (2020). Identifying inequities in an urban Latin American population: a cross-sectional study in Australian primary health care. *Australian Journal of Primary Health*, *26*(2), 140-146. https://doi.org/10.1071/PY19049

Torres, J. M., Lee, A., González, H. M., Garcia, L., & Haan, M. N. (2016). A longitudinal analysis of cross-border ties and depression for Latino adults [Article]. *Social Science & Medicine*, *160*, 111-119. https://doi.org/10.1016/j.socscimed.2016.04.018

Torres, S., & Karl, U. (2015). A migration lens on inquiries into ageing, old age and elderly care In U. Karl & S. Torres (Eds.), *Ageing in Contexts of Migration* (1st ed., pp. 12). Routledge. https://doi.org/https://doi.org/10.4324/9781315817606

Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., Moher, D., Peters, M. D. J., Horsley, T., Weeks, L., Hempel, S., Akl, E. A., Chang, C., McGowan, J., Stewart, L., Hartling, L., Aldcroft, A., Wilson, M. G., Garritty, C., . . . Straus, S. E. (2018). PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Annals of Internal Medicine*, *169*(7), 467-473. https://doi.org/10.7326/m18-0850

United Nations. (2020). *International Migrant Stock*. United Nations. https://www.un.org/development/desa/pd/content/international-migrant-stock

United Nations. (2022). *World Population Prospects 2022: Summary of Results*. United Nations,. https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/wpp2022_summary_of_results.pdf

United Nations. (2023). *Data Portal, Population Division*. United Nations. https://population.un.org/dataportal/home

United States Census Bureau. (2022). *Sex by Age (Hispanic or Latino)*. United States Government. Retrieved February 25 from https://data.census.gov/table/ACSDT1Y2022.B01001I?q=older%20Latinos

University of Washington. (2021). Covid-19 Policy Brief Series - Depression and Anxiety among Latinos: Urgent Call for Mental Health Services. https://latinocenterforhealth.org/wordpress_latcntr/wp-content/uploads/2021/06/MentalHealthPolicyBriefJune16.pdf

Veritas Health Innovation. (2023). *Covidence systematic review software*. Veritas Health Innovation. www.covidence.org

Wang, K., Maglalang, D. D., Woo, B., De Fries, C. M., Hasche, L. K., & Falcón, L. M. (2022). Perceived discrimination and cognitive function among older Puerto Ricans in Boston: The mediating role of depression. *International Journal of Geriatric Psychiatry*, *37*(5), 1-10. https://doi.org/10.1002/gps.5717

Whittemore, R., & Knafl, K. (2005). The integrative review: updated methodology. *Journal of Advanced Nursing*, *52*(5), 546-553. https://doi.org/10.1111/j.1365-2648.2005.03621.x

World Health Organization. (2022). *UN Decade of Healthy Ageing 2020–2030*. World Health Organization. www.who.int/initiatives/decade-of-healthy-ageing

Table 1: Search terms

Concept	Search terms
Concept 1	“Mental health” OR “psychological health”
Concept 2	“Older adult*” OR elder* OR geriatric OR geriatric* OR aging OR ageing OR senior* OR “older people” OR aged 60 or 60+
Concept 3	"Latin America*" OR Hispanic* OR Latin*
Concept 4	Migrant* OR immigrant* OR immigration OR migration

Table 2 – Summary of the characteristics of the selected studies

N°	Author(s), year	Country	Article Title	Journal, volume, and issue	Design and purpose	Sample	Mental Health Measures and Methods	Findings	Limitations
Depressive symptoms in older Latin-American immigrants									
1	Camacho et al., 2018	The United States	Descriptions of depression and depression treatment in older Hispanic immigrants in a geriatric collaborative care program.	Aging & Mental Health, 22(8).	Qualitative. To explore experiences with depression and depression treatment among older Hispanic immigrants participating in a collaborative care program of psychotherapy and antidepressant medication.	Older Spanish-speaking Hispanic immigrants with significant depression participated in a collaborative care program within a public sector specialty geriatric clinic in Los Angeles, CA (n=14).	**Mental health measure:** The Geriatric Depression Scale, GDS-15, measured depressive symptoms. Quantitative baseline interview. Six-month follow-up survey to assess depression outcomes. A collaborative care intervention. Semi-structured interview.	- Participants experienced severe depression in addition to an average of five chronic conditions. - Participants described experiences with depression and treatment by using a variety of words and idioms.	- Participants received a new collaborative care intervention. - Participants were from only four Latin American countries. - Limited generalizability due to the comorbidities besides depression.
2	Chavez-Korell et al., 2013	The United States	Examining the Relationships Between Physical Functioning, Ethnic	The Counseling Psychologist, 42(2)	Cross-sectional To examine the relationship between	Latin Americans aged 65 and older from a moderately sized Midwestern	**Mental health measure:** The 9-Item Patient Health Questionnaire (PHQ-9) measured participants'	- Depressive symptoms are positively associated with the psychosocial–cultural variables of acculturation	- Limited generalizability of the findings due to a small, not-randomly selected sample. - It was not. Using

N°	Author(s), year	Country	Article Title	Journal, volume, and issue	Design and purpose	Sample	Mental Health Measures and Methods	Findings	Limitations
			Identity, Acculturation, Familismo, and Depressive Symptoms for Latino Older Adults		physical and mental health for Latin American older adults, to explore the ethnic identity and the relationships between psychosocial–cultural factors (i.e., acculturation, familism, and ethnic identity) and the depressive symptoms of Latin American older adults.	city in the USA (n=98).	depressive symptoms. Analyses of variance between groups (ANOVAs). Multiple regression.	and familism and negatively associated with ethnic identity. - Higher levels of depressive symptoms are associated with lower levels of physical functioning.	more robust statistical designs was impossible due to the small sample size. - More women than men composed the sample. - The sample might not be reflective of all Hispanic heritage groups.
3	Curtin et al., 2018	The United States	Perceptions of mental health among Hispanic older adults: Findings among immigrants from the Dominican	Journal of Gerontological Nursing, 44(11).	Inductive qualitative descriptive. To address the central question: How do Hispanic older adults identify, label,	Convenience sample of Hispanic more senior adult volunteers (eight from the Dominican Republic, five	**Mental health measures were not assessed.** Semi-structured interviews with open-ended questions. Immersion/	- Depression was the most familiar term to participants. - Depression was described as "sadness" and was differentiated from stress and anxiety. - Several terms were used to describe	- Findings are not intended to be generalisable. - Populations of older adults from other socio-economic levels were not included. - Difficulty to talk

N°	Author(s), year	Country	Article Title	Journal, volume, and issue	Design and purpose	Sample	Mental Health Measures and Methods	Findings	Limitations
			Republic, Colombia, and Guatemala.		and describe mental health problems related to stress, anxiety, and depression.	from Colombia, and four from Guatemala) (n=17).	crystallisation and template organising styles of analysis.	anxiety. - No distinctions were found regarding the three countries of origin.	about emotional experiences in one single interview for participants.
4	García C. et al., 2019	The United States	Life expectancies with depression by age of migration and gender among older Mexican Americans.	The Gerontologist, 59(5).	Longitudinal. To examine whether life expectancy with and without depression varies by nativity, age of migration, and gender.	Data from the Hispanic Established Populations for the Epidemiologic Study of the Elderly (surveys). Mexican Americans aged 65 years and older (n=3588).	**Mental health measure:** Depressive symptoms were assessed by the Center for Epidemiological Studies Scale (CES-D). Age-graded latent growth curve models stratified by gender.	- Early-life, mid-life, and particularly late-life immigrant women (after age 50) are at risk of depression in old age (age 65 and above). - Only late-life immigrant men are at risk of depression in old age.	- Psychosocial mechanisms associated with depression not addressed. - The variables of social support and health status varied over time. - Lack of information about legal status, citizenship, and migration motivations.
5	Gerst et al., 2010	The United States	High depressive symptomatology among older community-dwelling Mexican Americans:	Aging & Mental Health, 14(3).	Cross-sectional. To explore nativity differences in depressive symptoms among very	Data from the fifth wave (2004-2005) of the Hispanic Established Population for the Epidemiologic Study of the	**Mental health measure:** Depressive symptoms were assessed by the Center for Epidemiological Studies Scale (CES-D).	- Mexico-born older adults had a higher risk of depressive symptoms compared to Mexican-Americans born in the United States. - Age of arrival,	- Causality cannot be established with cross-sectional data. - Exclusion of those who did not complete any of the 20 items on the CES-D scale.

N°	Author(s), year	Country	Article Title	Journal, volume, and issue	Design and purpose	Sample	Mental Health Measures and Methods	Findings	Limitations
			The impact of immigration.		old (75+) community-dwelling Mexican Americans.	Elderly (Hispanic EPESE): non-institutionalized Mexican American men and women aged 75 and over (n=1699).	Logistic regression and multinomial logistic regression.	gender and other covariates did not modify that risk.	- The CES-D measure is not a diagnostic tool.
6	González et al., 2001	The United States	Acculturation and the Prevalence of Depression in Older Mexican Americans: Baseline Results of the Sacramento Area Latino Study on Aging	Journal of the American Geriatrics Society, 49(7).	Cross-sectional. To determine the association between acculturation, immigration, and prevalence of depression in older Mexican Americans.	One thousand seven hundred and eighty-nine Latin-Americans recruited from a population-based sample (85% Mexican Americans) with a mean age of 70.6 (range 60–100; 58.2% were women.	**Mental health measure:** Depressive symptoms were assessed by the Center for Epidemiological Studies Scale (CES-D). The Acculturation Rating Scale measured acculturation for Mexican Americans—II. Multivariate logistic regression.	- An increased risk of depression was associated with older age (80 and older), lower levels of education, female gender, unmarried status, and low monthly income. - Among USA-born participants, the risk of depression for either bicultural or Mexican-oriented was notably higher than for Anglo-oriented participants.	- Limitations not reported by the authors.
7	Hahn et al., 2011	The United States	Acculturation and Depressive Symptoms	Journal of Aging and Health 23(3).	Longitudinal. To identify characteristics	A total of 152 Mexican American recent	**Mental health measure:** Depressive symptoms were	- Mexican Americans who had recently become caregivers	- Inability to examine the quality and types of family

N°	Author(s), year	Country	Article Title	Journal, volume, and issue	Design and purpose	Sample	Mental Health Measures and Methods	Findings	Limitations
			Among Mexican American Older adults New to the Caregiving Role: Results From the Hispanic-EPESE		associated with becoming a caregiver among Mexican American (MA) older adults and to examine predictors of depressive symptoms among the new caregivers Two years later.	caregivers aged 65 or older.	assessed by the Center for Epidemiological Studies Scale (CES-D). Acculturation was assessed by asking how well the respondents read, speak, and understand English. Residualised change regression analysis.	exhibited a significantly greater number of depressive symptoms compared to those who had not. - Highly acculturated caregivers had significantly higher depressive symptoms contrasted with caregivers with low acculturation.	relationships due to the nature of data. - It is unclear what the history of caregiving might be for the individuals who had not become a caregiver during the study period.
8	Hernandez et al., 2015	The United States	The Cross-Sectional and Longitudinal Association Between Perceived Neighbourhood Walkability Characteristics and Depressive Symptoms in Older Latinos: The "¡Caminemo	Journal of Aging and Health, 27(3).	Cross-sectional data and longitudinal analysis To evaluate the cross-sectional and longitudinal association between perceived walkability-related neighbourhood	Data from a randomised controlled trial (RCT) conducted between August 2005 and 2009. Latin Americans aged ≥60 participated in an exercise intervention at 27 senior	**Mental health measure:** Depressive symptoms were assessed at baseline, 12-months and 24-months using the five-item Geriatric Depression Scale. Descriptive statistics. Multivariate logistic regression.	- Those who perceive their neighbourhood as low in criminal activity are less likely to experience elevated depressive symptoms. - There is an inverse relationship between psychological distress and neighbourhood climate (i.e., positive/negative	- Findings may differ if clinical diagnostic guidelines were used to diagnose depressive symptoms. - Information about pharmacotherapy was not collected. - Limited statistical power to detect an association between neighbourhood walkability and

N°	Author(s), year	Country	Article Title	Journal, volume, and issue	Design and purpose	Sample	Mental Health Measures and Methods	Findings	Limitations
			s!" Study		characteristics (e.g., traffic safety) and depressive symptoms among community-dwelling older Latin Americans.	centres (N=570).		aspects of the neighbourhood social environment).	incident depressive symptoms due to a small sample size.
9	Kwag et al., 2012	The United States	Acculturation and depressive symptoms in Hispanic older adults: does perceived ethnic density moderate their relationship?	Journal of Immigrant and Minority Health, 14(6).	Longitudinal. To examine whether individuals' perception of a neighbourhood's racial/ethnic density moderates the link between acculturation and depressive symptoms.	Data from the Sacramento Area Latino Study on Aging, including Hispanics aged 60-year-old and above (n = 1267).	**Mental health measure:** Depressive symptoms were assessed by the Center for Epidemiological Studies Scale (CES-D). The Geriatric Acculturation Rating Scale assessed acculturation for Mexican–Americans (G-ARSMA). Hierarchical regression models of depressive symptoms	- Greater association of acculturation with depressive symptoms among those who lived in neighbourhoods with a lower density of Hispanics.	- Use only one subjective indicator to assess the density of Hispanics in neighbourhoods. - A significant but small amount of variance of depressive symptoms was explained by perceived density. - Lack of longitudinal data on residential change. - The within-group heterogeneity of Hispanics was not explored.

N°	Author(s), year	Country	Article Title	Journal, volume, and issue	Design and purpose	Sample	Mental Health Measures and Methods	Findings	Limitations
							were estimated with sets of predictors.		
10	Miranda et al., 2011	The United States	Context of entry and number of depressive symptoms in an older Mexican-origin immigrant population.	Journal of Immigrant and Minority Health, 13(4).	Cross-sectional. To examine the association between the context of entry into the United States and symptoms of depression in an older age Mexican-origin population.	Data from the immigrant subsample of the baseline wave (1993–1994) of the Hispanic Established Populations for the Epidemiologic Studies of the Elderly (H-EPESE, n = 1,346), including Mexican-origin individuals aged 65 years and older.	**Mental health measure:** Depressive symptoms were assessed by the Center for Epidemiological Studies Scale (CES-D). Hypothesis were tested.	- Immigrants who arrived in the USA following the Mexican Revolution (1918–1928) reported significantly fewer depressive symptoms compared to those who came in the Bracero era (1942–1964). - Those who arrived following the enactment of the Immigration Reform Control Act (1965–1994) reported significantly more symptoms of depression compared to those who arrived in the Bracero Era.	- Generalizations are limited due to the cross-sectional design. - Use of an approximate measure of socio-political context. - Use of the highest level of education and household income to control for socioeconomic position. - Exclusion of current health conditions as a covariate in analyses. - Focus on contexts of entry without contexts of exit.
11	Monserud et al., 2018	The United States	Age trajectories of depressive symptoms by	Sociological Perspectives: SP:	Cross-sectional. To examine	Data from eight waves of the Hispanic Established	**Mental health measure:** Depressive symptoms were	- Early-life immigrant men and women had comparable initial	- Factors that could better explain immigrant status/age-at-

N°	Author(s), year	Country	Article Title	Journal, volume, and issue	Design and purpose	Sample	Mental Health Measures and Methods	Findings	Limitations
			age at immigration among older men and women of Mexican descent: The role of social resources.	Official Publication of the Pacific Sociological Association, 61(4).	differences and similarities by immigrant status/age at immigration not only in the average levels of but also in the rates of change in depressive symptoms with age separately for older men and women of Mexican descent.	Population for the Epidemiologic Study of the Elderly. Noninstitutionalised Mexican Americans aged 65 and older (n=13041).	assessed by the Center for Epidemiological Studies Scale (CES-D). Growth curve models.	levels and age-related increases in depressive symptoms to those of their USA-born counterparts. - Mid-life immigrant men had lower levels of depressive symptoms at age 65 compared to women. - Being married was related to fewer depressive symptoms in both men and women.	immigration differences in depressive symptoms were not considered.
12	Perrino et al., 2008	The United States	Depressive symptoms among urban Hispanic older adults in Miami: Prevalence and sociodemographic correlates.	Clinical Gerontologist, 32(1).	Cross-sectional. To document the prevalence of clinically relevant depressive symptoms, how these correlate with sociodemographics, and	Hispanics aged 70 years or older living in an urban Miami neighbourhood (n=273).	**Mental health measure:** Depressive symptoms were assessed by the Center for Epidemiological Studies Scale (CES-D). Interviews by native Spanish-speaking assessors.	- There is a 35% prevalence of clinically relevant depressive symptoms in a population-based sample of Cuban older adults. - Perceived financial strain was the only sociodemographic factor associated with greater odds	- Information about limitations not provided by the authors.

N°	Author(s), year	Country	Article Title	Journal, volume, and issue	Design and purpose	Sample	Mental Health Measures and Methods	Findings	Limitations
					illustrate the findings in a case study.		Descriptive statistics analysis.	of clinically relevant symptoms. - Older adults' mental health has an impact of financial strain.	
13	Rote et al., 2015	The United States	Trajectories of depressive symptoms in older Mexican Americans.	Journal of the American Geriatrics Society, 63(7).	Longitudinal. To identify depressive symptom trajectories and factors associated with trajectory group membership in the ancient segment of the rapidly growing and long-living Mexican American population.	Data drawn from the Hispanic Established Populations for Epidemiologic Studies of the Elderly. Community-dwelling Mexican Americans aged 75 and older (n=1487).	**Mental health measure:** Depressive symptoms were assessed by the Center for Epidemiological Studies Scale (CES-D). Latent growth curve modelling. Multinomial logistic regression.	- Activity of daily living disability was the strongest predictor of depressive symptoms, followed by social support. - Foreign-born individuals were at greater risk of high but decreasing depressive symptoms than USA-born individuals.	- Limited observation of depressive symptoms (only every 2-3 years). - Acculturation and life course stage at migration were not considered.
14	Torres et al., 2016	The United States	A longitudinal analysis of cross-border ties and depression for Latino	Social Science & Medicine (1982), 160.	Longitudinal. To examine the effects of cross-border ties on trajectories of	Data from the Sacramento Area Latino Study on Aging (SALSA, 1998-2008) is	**Mental health measure:** Depressive symptoms were assessed by the Center for Epidemiological	- Cross-border ties are significantly associated with depression. - Cross-border ties may represent a unique source of	- Indicators of social integration do not illuminate the specific source and function of referenced social

N°	Author(s), year	Country	Article Title	Journal, volume, and issue	Design and purpose	Sample	Mental Health Measures and Methods	Findings	Limitations
			adults.		depression for a prospective cohort of immigrant and USA-born Latin Americans.	a population-based, prospective study of Latin American-origin adults 60 years and older (n=1270).	Studies Scale (CES-D). Descriptive statistics. Logistic regression models.	both resilience and risk for the long-term mental health of immigrant Latin Americans and their descendants.	ties. - Limitation in assessing differences in the association between cross-border ties and depressive symptoms by country of origin. - Findings are specific to the characteristics of the sample.
Different coping mechanisms									
15	Ailinger et al., 1995	The United States	Health Concept of Older Hispanic Immigrants	Western Journal of Nursing Research, 17(6).	Qualitative To examine what is the meaning of health to older Hispanic immigrants	A non-probabilistic sample of 54 respondents from a larger sample of 156 more senior Hispanic immigrants who participated in a longitudinal community-based study	**No mental health indicators were assessed by scales.** Home interviews with four open-ended questions about their health. Content analysis Elaboration of categories	- An older person must integrate physical, mental, and spiritual to be healthy. - An excellent mental health is related to enjoying life and having good interpersonal relationships. - Activities that lead to good mental health are praying and being tranquil.	- Bias involved, like the questions asked.

N°	Author(s), year	Country	Article Title	Journal, volume, and issue	Design and purpose	Sample	Mental Health Measures and Methods	Findings	Limitations
16	Curtin et al., 2019	The United States	Coping with mental health issues among older Hispanic adults.	Geriatric Nursing (New York, N.Y.), 40(2).	Qualitative descriptive. To understand how older Hispanic immigrants cope with mental health issues (e.g. stress, anxiety, and depression).	Older Hispanic immigrants from Guatemala, the Dominican Republic, and Colombia (n=17).	**No mental health indicators were assessed by scales.** Semi-structured interviews. Immersion/ crystallisation and template organising styles of analysis.	- Coping mechanisms included spiritual beliefs, religious practices, social support, distraction, medications, and professional help.	- A considerable amount time is needed to build trusting relationships with interviewees. - Close attention from the interviewers to ask participants to explain further their responses to mental health issues.
17	Guo et al., 2014	The United States	Family relations, social connections, and mental health among Latino and Asian older adults.	Research on Aging, 37(2).	Cross-sectional. To explore the lifetime and 12-month prevalence rates of DSM-IV-defined anxiety and mood disorders among Asian and Latin American older adults and understand if family	Data from the National Latino and Asian American Study (NLAAS, 2002–2003). Individuals aged 60 and older (n=616), including 360 Latin Americans and 256 Asians.	**Mental health measure:** Eight psychiatric disorders. Six anxiety disorders (i.e., GAD, PTSD, social phobia, panic attack, panic disorder, and agoraphobia) and two mood disorders (i.e., major depressive episodes and dysthymia). World Mental Health Survey Initiative	- Family cohesion was associated with a lower prevalence of mood disorders. - Latin American older adults had substantially higher levels of support from both family and friends than Asians did. - Latin Americans had a higher prevalence of panic attacks, panic disorders and major depressive	- Intragroup differences among Latin Americans and Asians were not explored. - Causality cannot be established with cross-sectional data. - Social stigmas associated with mental illness and the desire for social approval might have inhibited participants from

N°	Author(s), year	Country	Article Title	Journal, volume, and issue	Design and purpose	Sample	Mental Health Measures and Methods	Findings	Limitations
					relations and social connections affect the 12-month prevalence of anxiety and mood disorders.		version of the Composite International Diagnostic Interview (WMH-CIDI). Logistic regressions to examine the associations of 12-month prevalence of anxiety and mood disorders.	episodes than Asians. - Latin American older adults were twice as likely as Asians to have had any anxiety or mood disorders.	overtly acknowledging mental disorders and negative family interactions.
18	Kim et al., 2010	The United States	Factors associated with mental health service use in Latin American and Asian immigrant older adults.	Aging & Mental Health, 14(5).	Cross-sectional. To examine factors associated with the mental health service use of Latin American and Asian immigrant older adults.	Data from the National Latino and Asian American Survey (NLAAS). 60-year-olds and older Latino (n=290) and Asian (n=211).	**Mental health measures:** Mood disorders, anxiety disorders, and self-rated mental health. Mood and anxiety disorders were measured by the World Health Organization (WHO) Composite International Diagnostic Interview (CIDI). Self-rated mental health was assessed with a single item ‘‘How would you rate your	- Poor self-rated mental health was associated with significantly more mental health service use. - For Latin Americans, the use of mental health services was significantly associated with both predisposing factors (being younger and female) and mental health need factors (having any mood disorders and poor self-rated mental	- Data based on a cross-sectional survey that used retrospective service use and diagnosis measures. - The study did not consider possible within-group differences in Latin American and Asian immigrants.

N°	Author(s), year	Country	Article Title	Journal, volume, and issue	Design and purpose	Sample	Mental Health Measures and Methods	Findings	Limitations
							mental health?'' Hierarchical logistic regression analyses of mental health service use.	health).	
19	Rojas-Lizana & Cordella., 2020	Australia	Ageing in a foreign land: stressors and coping strategies in the discourse of older adult Spanish Speakers in Australia	Transitions: Journal of Transient Migration, 4(1).	Cross-sectional qualitative. To explore the connections between ageing and coping in the discourse of culturally and linguistically diverse older Spanish speakers in Australia about the stressor "uncertainty about future care".	Ten females and nine males aged between 65 and 84 who were living in Brisbane, Queensland.	**No mental health indicators were assessed by scales.** Semi-structured interviews. Transcriptions and theme identification. Analysis conducted through a Discourse Analytic framework.	- Referencing "future care" is stressful for older adults. - Connection with family and community support are active coping skills older Latin-American immigrants use.	- Changes over time cannot be answered with the obtained data.
Cognitive status of older Latin-American immigrants									
20	Brown et al., 2009	The United States	The relationship of	Journal of Aging and	Cross-sectional.	273 community-dwelling older	**Mental health:** It was assessed as psychological	- Neighbourhood climate had a significant direct	- Causality cannot be established with cross-

N°	Author(s), year	Country	Article Title	Journal, volume, and issue	Design and purpose	Sample	Mental Health Measures and Methods	Findings	Limitations
			neighbourhood climate to perceived social support and mental health in older Hispanic immigrants in Miami, Florida.	Health, 21(3).	To examine the relationship of neighbourhood climate (i.e., neighbourhood social environment) to perceived social support and mental health outcomes in older Hispanic immigrants.	Hispanic immigrants (aged 70 to 100) in Miami, Florida.	distress through self-reported anxiety and depressive symptoms. Anxiety was measured using a Spanish-language 10-item short version of the Spielberger State Anxiety Inventory, taken directly from Spielberger's more extensive State-Trait Personality Inventory. Depressive symptoms were measured by the Center for Epidemiological Studies Depression Scale (CES-D).	relationship to cognitive functioning and a meaningful indirect relationship to psychological distress. - Social support mediated the relationship between neighbourhood climate and psychological distress.	sectional data. - Only one form of social support (i.e., perceived support) was investigated. - Limited generalizability of the findings. - Lack of data on the specific sources of social support, health status and personality traits.
21	Saadi et al., 2021	The United States	Associations between trauma, sleep, and cognitive impairment among	Journal of the American Geriatrics Society, 69(4).	Cross-sectional. To examine the association between trauma	Data from the Positive Minds-Strong Bodies (PMSB) randomised controlled trial	**Neuropsychiatric measures:** Mini Montreal Cognitive Assessment (MoCA). Posttraumatic Stress Disorder Checklist	- Higher PTSD symptoms were associated with cognitive impairment in Asian, but not Latin American,	- Causality cannot be established with cross-sectional data. - Confounding variables such as acculturation,

N°	Author(s), year	Country	Article Title	Journal, volume, and issue	Design and purpose	Sample	Mental Health Measures and Methods	Findings	Limitations
			Latino and Asian older adults.		exposures and Post Traumatic Stress Disorder (PTSD) with cognitive impairment besides sleep quality in a sample of older Latin American and Asians.	(RCT) on disability prevention. Hispanic/Latin American and Asian/ Pacific Islander adults age 60+ (n=134 and n=86, respectively).	for DSM-5 (PCL-5). Brief Trauma Questionnaire (BTQ). Patient Health Questionnaire-9 (PHQ-9). Generalised Anxiety Disorder Scale-7 (GAD-7). Epworth Sleepiness Scale (ESS). Multivariate analysis.	older adults.	discrimination, or traumatic brain injury are not included. - Self-reported data. - Small sample size.
22	Wang et al., 2022	The United States	Perceived discrimination and cognitive function among older Puerto Ricans in Boston: The mediating role of depression.	International Journal of Geriatric Psychiatry, 37(5).	Cross-sectional. To examine the association between perceived discrimination, including everyday perceived discrimination and principal lifetime perceived discrimination, and cognitive function	A total of 562 Puerto Ricans aged 60 and older.	**Mental health measures:** Cognitive functioning was assessed using the Mini-Mental State Examination (MMSE). Depressive symptoms were assessed by the Center for Epidemiological Studies Scale (CES-D). Descriptive statistics	- Everyday perceived discrimination was negatively associated with cognitive function, which was fully mediated by depression.	- Data on the perceived discrimination measures were only collected at one point. - Participants were aged 60 and 81, limiting the generalizability of the findings. - Participants were only recruited from the Greater Boston Area.

N°	Author(s), year	Country	Article Title	Journal, volume, and issue	Design and purpose	Sample	Mental Health Measures and Methods	Findings	Limitations
					among older Puerto Ricans.		analysis.		
English proficiency and mental health of older Latin-American immigrants									
23	Kim G et al., 2011	The United States	Vulnerability of older Latin American and Asian immigrants with limited English proficiency: Vulnerability of older adults with Limited English Proficiency (LEP).	Journal of the American Geriatrics Society, 59(7).	Cross-sectional. To explore the implications of LEP for disparities in health status and healthcare service use of older Latin American and Asian immigrants.	The 2007 California Health Interview Survey data included Latin American and Asian immigrants aged 60 and older (n=51745).	**Mental Health Status:** Psychological distress was measured with six items included in the K6 scale, a scale measuring psychological distress. Comparison of Sociodemographic characteristics, health status, health service use, and barriers to service use. Statistical analysis.	- Older Latin Americans and Asians with LEP are at higher risk for poor physical and mental health outcomes and inadequate health care.	- Differences between subcategories of Latin Americans and Asians were not considered. - Results from the analyses may not represent national trends. - Many significant geriatric conditions might have been missed. - Analyses based on descriptive characteristics. - Questions of measurement equivalence in psychological assessments were not examined.
24	Kim G et al., 2019	The United States	Limited English proficiency and	The Gerontologist, 59(5).	Longitudinal. To examine the effect of	Data from the Hispanic Established Population for	**Mental health measure:** Depressive symptoms were	- LEP is a risk factor for more significant depressive	- Limited generalizability due to the focus on Mexican

N°	Author(s), year	Country	Article Title	Journal, volume, and issue	Design and purpose	Sample	Mental Health Measures and Methods	Findings	Limitations
			trajectories of depressive symptoms among Mexican American older adults.		limited English proficiency (LEP) on trajectories of depressive symptoms among Mexican American older adults in the United States.	Epidemiological Studies of the Elderly (H-EPESE), including Mexican American older adults (n=2945).	assessed by the Center for Epidemiological Studies Scale (CES-D). A latent growth curve model that considers the between individual differences and variance to analyse the longitudinal trajectories of depressive symptoms.	symptomatology and an accelerated trajectory of depressive symptoms over time.	Americans. - There may be a heterogeneity issue even within the Mexican American sample. - Findings are probably affected by attrition over time. - Controlling potentially stressful life events was not possible. - The CES-D may not have functioned equally across linguistic groups.

Table 3 – Quality assessment of each article

N°	Type of study design	Quality assessment tool	Rated quality
1	Cross-sectional	JBI Critical Appraisal Checklist for analytical cross-sectional studies (CACACS)	Good
2	Qualitative	JBI Critical Appraisal Checklist for Qualitative Research (CACQR)	Fair
3	Qualitative	JBI Critical Appraisal Checklist for Qualitative Research (CACQR)	Good
4	Qualitative	JBI Critical Appraisal Checklist for Qualitative Research (CACQR)	Good
5	Longitudinal	JBI Critical Appraisal Checklist for Cohort Studies (CACCS)	Poor
6	Cross-sectional	JBI Critical Appraisal Checklist for analytical cross-sectional studies (CACACS)	Good
7	Cross-sectional	JBI Critical Appraisal Checklist for analytical cross-sectional studies (CACACS)	Good
8	Cross-sectional	JBI Critical Appraisal Checklist for analytical cross-sectional studies (CACACS)	Good
9	Longitudinal	JBI Critical Appraisal Checklist for Cohort Studies (CACCS)	Good
10	Cross-sectional	JBI Critical Appraisal Checklist for analytical cross-sectional studies (CACACS)	Good
11	Cross-sectional	JBI Critical Appraisal Checklist for analytical cross-sectional studies (CACACS)	Good
12	Longitudinal	JBI Critical Appraisal Checklist for Cohort Studies (CACCS)	Fair
13	Longitudinal	JBI Critical Appraisal Checklist for Cohort Studies (CACCS)	Poor

14	Cross-sectional	JBI Critical Appraisal Checklist for analytical cross-sectional studies (CACACS)	Good
15	Cross-sectional	JBI Critical Appraisal Checklist for analytical cross-sectional studies (CACACS)	Good
16	Cross-sectional	JBI Critical Appraisal Checklist for analytical cross-sectional studies (CACACS)	Good
17	Cross-sectional qualitative	JBI Critical Appraisal Checklist for Qualitative Research (CACQR)	Good
18	Longitudinal	JBI Critical Appraisal Checklist for Cohort Studies (CACCS)	Fair
19	Cross-sectional	JBI Critical Appraisal Checklist for analytical cross-sectional studies (CACACS)	Good
20	Longitudinal	JBI Critical Appraisal Checklist for Cohort Studies (CACCS)	Fair
21	Cross-sectional	JBI Critical Appraisal Checklist for analytical cross-sectional studies (CACACS)	Good
22	Qualitative	JBI Critical Appraisal Checklist for Qualitative Research (CACQR)	Poor
23	Cross-sectional	JBI Critical Appraisal Checklist for analytical cross-sectional studies (CACACS)	Good
24	Cross-sectional and longitudinal	Mixed Methods Appraisal Tool (MMAT), version 2018	Good

Figure 1: PRISMA flow diagram (from: Page et al. 2021).