

DEPRESSION IN THE GOLDEN YEARS: AN IN-DEPTH LITERATURE REVIEW OF RISK FACTORS AMONG INSTITUTIONALIZED ELDERS

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Abstract

Depression rates are notably higher in older adults residing in long-term care compared to their community-dwelling counterparts. The complexity of care needs for this group is growing, yet the specific risk factors for depression remain poorly defined. The review consolidates current knowledge on the risk factors for depression, aiming to bridge these gaps in identification and intervention development.

Searches were performed using 3 databases: pubmed, scopus and web of science, for research of original articles published 2000-2023. 8 studies were selected for final analysis. The results reveal that the most prominent risk factors for the emergence of

depression in this population are the presence of depressive symptoms at baseline, cognitive impairment and pain

The findings underscore the imperative for early identification and comprehensive management of depression in older adults residing in long-term care settings. It advocates for an integrated care model that encompasses mental health interventions alongside physical health care.

Keywords: risk factors; depression; elderly; institutionalized

Introduction

Major depressive disorder is diagnosed if at least five symptoms are presented for more than two weeks, including either of two core symptoms: persistent sadness or lack of interest in activities. Other features include a marked change in weight or sleep pattern, restlessness or cognitive impairment, fatigue, feelings of worthlessness, difficulty in concentrating, and thoughts of death or suicide. Such symptoms must significantly interfere with major life areas and cannot be attributed to the direct physiological effects of any substance or another medical condition (American Psychiatric Association, 2013). The percentages from WHO (2023) were able to show that 3.8% of the population in the world is affected by depression, while it spikes to a percentage of 5.7% when focusing on those above 60 years of age.

The aging process comes with serious problems emanating from psychosocial dimensions and physical changes (Blazer, 2005). Events like bereavement, functional decline, and disintegration of the support networks are more common in this age group, and these often result in significant impairment in mental health (Aisenberg-Shafran et al. 2023). It has been proven that depressive syndrome is often undetected in older people (Fiske et al., 2009) due to atypical depressive disorders that arise in this age group (Alexopoulos, 2005; Chapman & Perry, 2008; Chew-Graham et al., 2012; Rodda et al., 2011; Thomas & Shute, 2006), and the second-rate diagnostic considerations given to mental pathology compared with organic pathologies.

The proportion of the elderly aged above 60 years is expected to double in number between now and the year 2050, representing 22% of the world's population (WHO, 2022). Most of the aged will, therefore, need institutionalization given the social,

economic, and cultural evolution that occurred nowadays. Institutionalization, *per se*, is seen as an increased risk factor for the development of depressive symptoms. Institutionalized individuals tend to strongly lose their autonomy and feeling the rupture of previously developed family and social relationships as extremely harmful (Guimarães et al., 2019). Previous researchers had suggested an increased risk for institutionalized elderly compared to community-dwelling elderly in regard to depression, self-harm, and suicidal ideation (Murphy et al. 2015; Wand et al., 2017). The depression rates among community-dwelling aged people range from 14 to 22.5%; however, institutionalized aged people are at a greater risk, with their rates shooting up to 32% to 48% (Gleeson et al., 2019). Depression in old age is a cause of decreased life satisfaction, together with other clinical conditions of graver consequences, such as social isolation, worsening of organic pathologies, cognitive deterioration, and dysfunctionality of day-to-day activities (Fiske et al., 2009). In this respect, it is important to identify and recognize the major risk factors involved in the development of depressive disorder in the elderly population residing in the aged care institutions. The identification of these factors allows for earlier screening of these issues, thus optimizing the intervention process - making it faster and more accurate.

Methods

The paper was written in compliance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement in order to identify the risk factors connected with depression among senior adults residing in long-term care.

Search methods, study selection, and data extraction

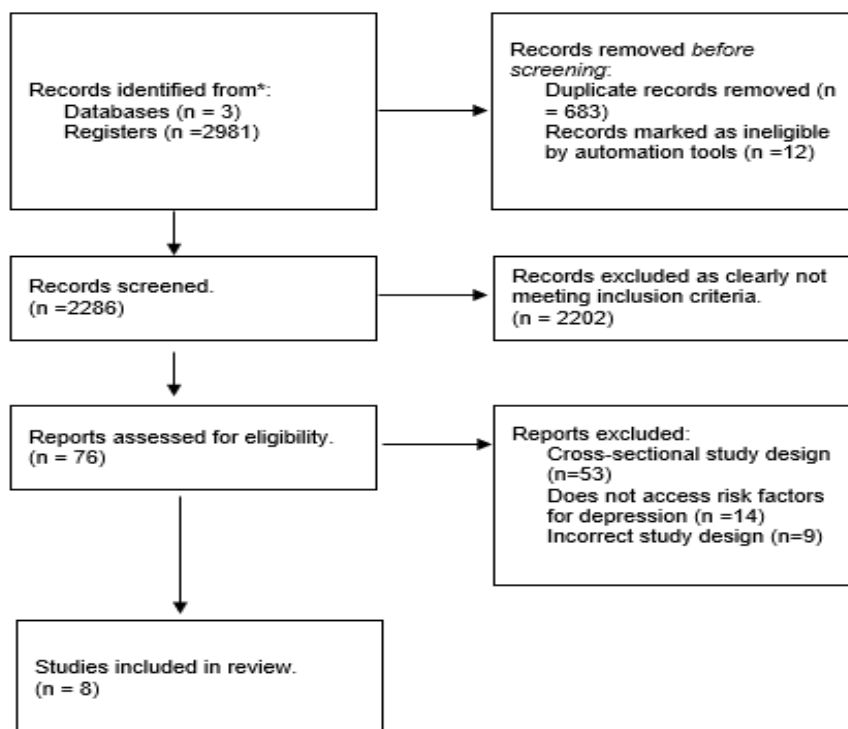
The search was carried out in 3 databases: Pubmed, Web of Science, and Scopus. Keywords used for the search included: ("risk factor" OR "association") AND ("depress*") AND ("elderly" OR "older") AND ("residential care" OR "long term care" OR "nursing home"). There were identified 2981 publications during the first search in September 2023. From these, 683 duplicates were retained; only 12 were considered ineligible by automation. 2286 of the remaining publications underwent title and abstract screening, where most of them were rejected at this level since it was quite evident from their content that they did not cover the intentions of this study. A total of 76 publications

underwent full-text reading, but 68 of them were excluded for the reasons described in Figure 1. Finally, 8 studies have been selected for the present review.

The criteria for inclusion in the current review were as follows: (1) original, peer-reviewed papers, (2) published between the years 2000-2023, (3) written in English and Portuguese, (4) conducted among at least 100 participants living in elderly care institutions (including but not limited to assisted living facilities, residential aged care and nursing home), (5) evaluative assessment of the depressive symptoms, and (6) identification of the individual risk factors associated with the development of depression.

Figure 1

Selection of literature for systematic review



The variable under study, depression, could be identified by the use of scales or by clinical diagnosis according to the Diagnostic and Statistical Manual of Mental Disorders (DSM) (APA, 2013). The assessment of depression was done either through self-reported or informant-reported scales or through structured interviews. For the purposes of this review, a risk factor was taken to be an independent variable associated with changes in incidence or prevalence of depression. The risk factor have been identified by different

scales or by consultation of the clinical process of the residents (more details about the different risk factors and the data extraction are on Appendix 1).

The collected data from each study included: author and year of publication, site of study, type of study, sample size, cut-off age group of the sample, study objectives, prevalence and incidence (if specifically mentioned) of depressive symptoms; timing of the follow-up; data extraction method; evaluation method of depressive symptoms; cut-off for the applied scales; tools for analysis of potential risk factors; and the detected risk factors and their implication on depression diagnosis.

Results

Characteristics of Included Studies

The included studies are categorized into two design types: longitudinal and retrospective (with assessment of depression at different points). Six longitudinal studies (Smalbrugge et al., 2006; Barca et al., 2010; Borza et al., 2015; McCusker et al., 2014; Erdal et al., 2017; Chau et al., 2021) and two retrospective ones (Hoover et al., 2010; Boorsma et al., 2012). The sum of all the samples across studies was taken, totalling 640,824 participants. This corresponds to an average (mean) sample size of approximately 80,103 participants per study (range: 147 to 634,060). Regarding the place of the studies, two were held in Norway (Barca et al., 2010 and Borza et al., 2015), another two in the Netherlands (Smalbrugge et al., 2006, and Boorsma et al., 2012), and the other three were from Canada (McCusker et al., 2014), Australia (Chau et al., 2015), and the USA (Hoover et al., 2010). The studies have a prevalence of depression that ranges from 19% to 54.4% and an incidence from 4.7% to 73.3%. The Cornell Scale for Depression in Dementia (CSDD) was the measure used in four of the studies (Barca et al., 2010; Borza et al., 2015; McCusker et al., 2014; and Erdal et al., 2017). The Geriatric Depression Scale (GDS) was applied in two studies (Smalbrugge et al., 2006 and Chau et al., 2021). Other studies used the clinical diagnosis of depression according to DSM-IV (Hoover et al., 2010; Broosma et al., 2012). More information on the reviewed studies is shown in the Appendix 2.

Summarized risk factors

The risk factors that have been analyzed were grouped in accordance with different categories to allow better analysis and management of every single one of them. The categorization comprises the following groups: demographic risk factors, medical conditions, impairments, pharmacological factors, and psychosocial factors (Appendix 1). Medical conditions is the group between these broad categories that presents the most number of considered relevant risk factors. However, the most consensual factor identified in all the studies is the detection of depressive symptoms at baseline (Smalbrugge et al., 2006; Barca et al., 2010; McCusker et al., 2014; Borza et al., 2015), which falls into the category of psychosocial factors. Subsequently, the cognitive deficit (Barca et al., 2010; Boorsma et al., 2012; McCusker et al., 2014; Borza et al., 2015) and pain (Hoover et al., 2010; McCusker et al., 2014; Erdal et al., 2017; Chau et al., 2021) also appears to be two important risk factors for the development of depressive symptoms, identified in 4 articles.

Demographic

There are demographic characteristics identified, like gender and educational level, in which men (Boorsma et al. 2012) and higher educational levels (Smalbrugge et al. 2006) increase the risk of suffering from depression among the old population. Nonetheless, these risks were taken into consideration in only one study each. Among analyzed factors and those not labeled as significant risk factors for depression were age, marital status, and religion. It thus shows that these factors themselves do not influence the emergence or maintenance of depression symptoms in the elderly population.

Medical conditions

In this categorie, out of the seventeen which were identified under medical conditions, eight were identified as significant risk factors in at least one of the studies appraised. The biggest risk factor identified in most studies in this group, was pain (4 studies, Hoover et al. 2010; McCusker et al. 2014; Erdal et al. 2017; Chau et al, 2021). This is alarming due to the high prevalence of pain in the elderly population. The second major subcategory was comorbidities (as a large group and without specification), two studies noted it as a risk factor (Hoover et al., 2010; Borza et al., 2015). The diabetic condition (McCusker et al. 2014), the dementia and neoplasia (Boorsma et al. 2012) were

identified in only one study as risk factors for the development of depressive symptoms, the same as the general health state (Borza et al. 2015) and delirium (McCusker et al. 2014).

Impairment

In this category, four subcategories emerged, with two named as the risk factors. Another study (Smalbrugge et al., 2006) cited that hearing loss was a big risk for old adults. The most relevant factor that was highlighted to appear in different studies (Barca et al., 2010; McCusker et al., 2014; Erdal et al., 2017; Chau et al., 2021) is cognitive impairment, highlighting its critical role in the elderly population's health.

Pharmacological

Among these, the number of medications, use of antidepressants, and use of analgesics stand out as major risk factors. Indeed, a large cohort study identifies that the number of medications the elderly were taking contributes as a major risk factor for depression; this seemed to rise with the concerns of polypharmacy among them (Chau et al., 2021). One study has indicated analgesics as a risk factor (Erdal et al., 2017). Antidepressants were found to be a risk factor for depression in two studies (Barca et al., 2010; McCusker et al., 2014).

Psychosocial

From the section related to psychosocial factors, several key categories were able to be identified as risk factors when related to depression in the elderly population. From this, time of institutionalization was one identified as a key risk factor, particularly shorter durations being brought to light as a risk from one study (Barca et al., 2010). Another study gave particular emphasis to previous institutionalization (Erdal et al., 2017), possibly indicating the effect of past institutional care on current or later health effects. Accordingly, satisfaction with institution (Chau et al., 2021) and social support (McCusker et al., 2014) are identified to be significant risk factors that underline the importance of social and environmental contexts of institutional care in regard to elderly mental and physical health. Baseline depressive symptoms were at a consistent and marked level

identified as an important risk factor for depression in several of the studies (Barca et al., 2010; McCusker et al., 2014; Erdal et al., 2017; Chau et al., 2021). Pre-existing depressive symptoms are among the most evident predictors of further depression, according to our study.

Discussion

From our study, it has become clear that among the risk factors that contribute the most to depressive symptoms in institutionalized old patients, three factors emerge as relevant: the previous presence of depressive symptoms, the existence of cognitive impairments, and pain.

Baseline depressive symptomatology

The studies reviewed provide insight into the existence of a relationship between baseline depressive symptoms and the risk of future depression. This finding is consistent with general psychiatric understanding that existing depressive symptoms tend to worsen or contribute to the persistence or development of a depressive disorder over time. The depressive symptoms would then be essentially markers for vulnerability to depression, even in the face of different biological, psychological, and social influences. Stressors, health status changes, or other environmental factors are liable to increase this predisposition and thereby raise the risk of more severe development of the depressive episode (Marx et al. 2023). It, therefore, underscores the importance of conducting an appraisal and determination of the depressive symptomatology at the admission of new residents into institutions such as nursing homes or residential care facilities. First, early symptom detection of depression would go along in impacting management and eventual treatment outcome for the residents, since it would allow the providers to institute timely and specifically targeted interventions. This could prevent the escalation of symptoms, and in some instances, also reduce the development of more serious depressive episodes in the future, with a potential impact on quality of life and overall well-being for such people. Knowing that depression is part of the diagnosis upon admission, this will enable tailored care planning that ensures support for mental health is part of the general care awarded to the residents.

Cognitive impairment

The research by Barca et al. (2010) identified that symptoms of depression using the Cornell Scale for Depression in Dementia (CSDD) took place due to cognitive deficits during assessment by means of the Clinical Dementia Rating (CDR). The particular study outlined cognitive deficit as the risk factor for the development of depressive syndromes through the period of the study. Notably, a high baseline CDR score prognosticated the onset of depression but failed to forecast aggravation of the CSDD scores from the tested baseline to 12 months in any of the models. It is an unexpected result, inasmuch as the authors showed that there was a strong relationship between higher CDR and CSDD scores (Barca et al., 2009). They also postulated that the difference may be people at baseline with a high CDR score, who had near-threshold high CSDD scores, and that such differences might account for the disparity in findings. This would group them into the new case category by small increments on the CSDD. However, for the low scores in initial CSDD, the CDR score did not have an apparent significant effect in increasing the number of this group. According to Boorsma et al., 2012, cognitive impairment observed in this study showed a remarkable difference in depression risk within two different environments: nursing homes and residential care homes. Such an effect was much greater for depression with a dementia diagnosis, especially in nursing homes, than for a similar effect for Cognitive Performance Scale (CPS) scores. On the other hand, in residential care homes, it was the CPS score that was prominent as a significant risk factor while a diagnosis of dementia didn't have equal weights. This intriguing difference seems to highlight the complexity cognitive impairment brings to the depression risk but leaves unprobed the underlying causes of these differences. Borza et al. (2014) found a positive correlation between the increase in the CDR sum of boxes score, which is an index for the severity of dementia, and increased CSDD scores on measuring depression symptom. Some workers debate that there is a strong correlation between the severity of dementia and the prevalence of depression (Barca et al, 2008; Muliya and Varghese, 2010). In the study by McCusker et al. (2014) cited in this article, the authors did say that progression to severe cognitive impairment would work as a prelude to the onset of depression. This, therefore, presents a possibility for a valid cause-and-effect relationship between cognitive decline and depressive symptoms. The coexistence of cognitive impairment with depression is established; however, the clear dynamics in

great detail of the relationship over time remain elusive (Han et al., 2006; Bennett and Thomas, 2014), thus urging the need for further research to understand interaction and influence on each other.

With such defined relationship of cognitive impairment with depression, the testing of cognitive symptoms upon the patient's residence admission to home care is significantly important. This is a preventive measure allowing early identification and management of cognitive decline, an important area to prevent or mitigate depression onset. Understanding this will ensure that the person receives all-inclusive care that will fit all the needs cognitively and emotionally, hence improving the quality of life and well-being while within the care environment.

Pain

Pain emerged as one of the most prevalent risk factors for depression, being significantly highlighted in four out of eight reviewed articles (Hoover et al., 2010; McCusker et al., 2014; Erdal et al., 2017; Chau et al., 2021). Hoover et al. (2010) stated that experiencing daily pain is associated with a higher incidence of depression, particularly 10-12 months after admission, compared to at admission. That would mean that better pain management might reduce the prevalence of depression at a later time in the stay. Erdal et al. (2017) further emphasize the direct relationship between pain and depression, even in nursing home residents without declines in cognitive ability. They found that across mild, moderate, and severe levels of cognitive impairment, a 1-point increase in pain level corresponded to a 0.48 increase in depression scores. Furthermore, depressive symptoms decreased over time for those subjects who reported a decrease in their pain at follow-up. The factor with the most significant relationship to depression confirmed by the study of Chau et al. (2021) is the increase in physical pain. There exists common recognition for a relationship between pain and depression, each being independent and can influence or enhance the other. This interrelation poses significant problems in clinical practice concerning diagnosis, management, and treatment strategies for patients (Bair et al, 2003). The situation forms a critical need for the screening of pain at the time when elderly patients are admitted into the nursing homes. Essential to that is the timely recognition and addressing the early stage of pain during admission, laying down an efficient care plan aimed at improving quality of life for the residents. As a

result, early pain assessment can help prevent the exacerbation of chronic conditions and reduce the risk of patient depression development, as was noted in this study. The use of systematic protocols for screening at the point of admission will, by all means, ensure that comprehensive patient care has to include pain management from the very beginning.

Conclusion

This review has therefore identified baseline depressive symptoms, cognitive impairments, and pain as paramount predictors among other risk factors of depression for the older residents in long-term care. Such are problems that this study underscores with the need for early detection to administer targeted intervention and thus preventing or minimizing major depressive syndromes. The current study helps build an integrated care strategy in institutional settings not only with regards to mental health risks for the purpose of improving the general well-being and quality of life of institutionalized elderly persons but also for the purpose of early mental health intervention.

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