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# Psychopathological Symptoms in Caregivers of Demented and Nondemented Patients

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Additional information is available at the end of the chapter

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## Abstract

Currently, more than 1 in 10 adults living in the Organization for Economic Co-operation and Development is involved in nonprofessional care of a dependent family member. The main causes of dependence are dementia, followed by other conditions such as cerebrovascular accidents, limb impairment, depression, and vision impairment. Although care provided by the caregiver is crucial to the well-being of the cared person, it can also have negative consequences on the caregiver's emotional state. This chapter aims to describe the psychopathological symptoms experienced by caregivers based on the condition of the person cared for. A bibliographic search was conducted to examine the effects of care on the emotional state of caregivers, distinguishing patients with dementia from those with other conditions. Depressive and anxiety symptoms were the most frequent psychopathological symptoms, both in caregivers of demented and nondemented patients, experienced by caregivers of patients with dementia, cerebrovascular accidents, traumatic brain injury, schizophrenia, cancer, amyotrophic lateral sclerosis, and autism spectrum disorder. In caregivers of patients with bipolar disorder and vision impairment, depressive symptoms were most prominent, whereas anxiety symptoms were common in caregivers of patients with spinal cord injuries. Sleep disturbances were found among caregivers of dementia and schizophrenia patients. Strategies for preventing psychopathological symptoms were provided and the importance of professional support when they occur was pointed out.

**Keywords:** caregiver, dementia, nondementia, psychopathology, symptoms

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## 1. Introduction

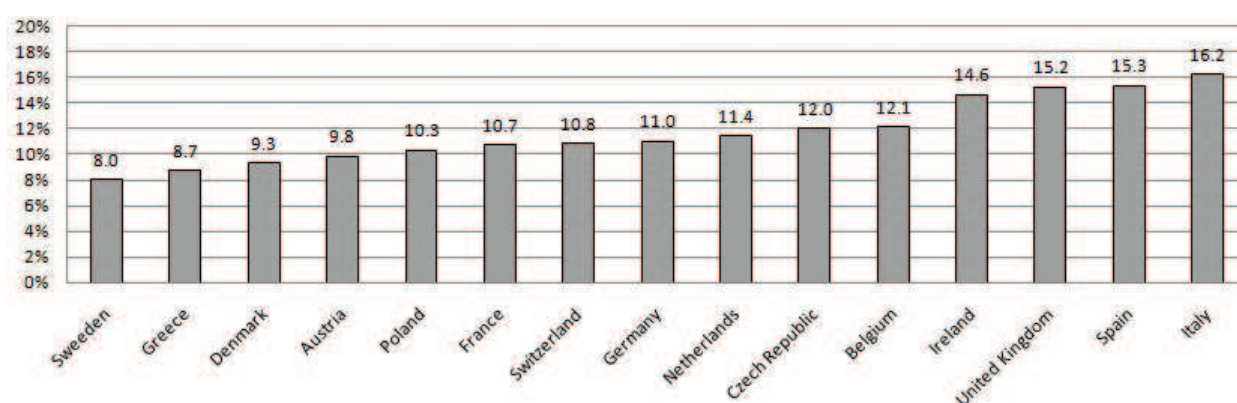
Great discoveries and advances in hygiene, nutrition, medical technology, and social achievements have led to a decline in mortality and an increase in life expectancy [1]. In parallel with

this increase in life expectancy, there has also been an increase in individuals dependent on caregivers, which is associated with both the aging of the population and the rising survival rates. In fact, it is estimated that there are around 349 million dependents around the world [2] and the proportion of disability-adjusted life years due to the number of years living with a disability increased globally to 31.2% in 2013 [3].

In addition, figures related to dependency are not limited to the person who suffers dependency. Individuals with a disability need the assistance and care of another person to carry out most of their daily activities. This responsibility usually falls on one of their relatives. Thus, currently more than one in 10 adults living in the Organization for Economic Co-operation and Development (OECD) countries is involved in the unpaid care of a dependent family member [4]. In the United States, an estimated 43.5 million adults have provided unpaid care to an adult or child with disability in the last 12 months [5]. In Europe, it is estimated that there are around 54.5 million nonprofessional caregivers [4]. **Figure 1** shows the percentages of caregivers by country.

The conditions that can lead a patient to require dependent care are varied, with up to 301 different diagnoses having been associated with different levels of dependency [3]. Among these, the main causes of dependence are, first, dementia, followed by other conditions such as cerebrovascular accidents, limb impairment, severe depression, and vision problems [6]. Typically, all these conditions require daily caregiver assistance [2].

Although the care provided by the caregiver is crucial to the well-being of the dependent person, it entails great costs and sacrifices for the caregiver in terms of leisure time, self-care, family life, money, work, and personal projects, all of which can affect their well-being. The impact of caregiving on the emotional state of caregivers is well documented [7]. Specifically, it has been found that 10.0% of caregivers have anxiety disorders [8] and between 8.9% and 32.0% have a major depressive episode [9, 10], being insomnia or hypersomnia, diminished ability to think or concentrate and depressed mood the most frequent symptoms (see **Table 1**) [10].



**Figure 1.** Percentage of the population reported to be nonprofessional caregivers. *Note:* Adapted from Colombo et al. [4]. Reproduced with permission.

Symptom	Presence (%)	Absence (%)
1. Depressed mood	84.4	15.6
2. Diminished interest or pleasure	75.6	24.4
3. Significant weight loss or gain	80.0	20.0
4. Insomnia or hypersomnia	93.3	6.7
5. Psychomotor agitation or retardation	77.8	22.2
6. Fatigue or loss of energy	71.1	28.9
7. Feelings of worthlessness or excessive or inappropriate guilt	20.0	80.0
8. Diminished ability to think or concentrate or indecisiveness	91.1	8.9
9. Recurrent thoughts of death, or a suicide attempt, or a specific plan for committing suicide	77.8	22.2

**Table 1.** Clinical symptoms of major depressive episodes in nonprofessional caregivers.

It should be noted, however, that much of the information about the mental health of caregivers was obtained from studies of caregivers of people with dementia [11]; although more recently, there has been recognition that caregivers of patients who have other conditions also suffer from adverse effects [12, 13].

The aim of this chapter is to describe the psychopathological symptoms experienced by caregivers based on the condition of the person cared for and to compare the symptoms present in the caregivers of demented and nondemented patients.

## 2. Psychopathology of caregivers according to the diagnosis of the person being cared for

We reviewed the main psychopathological manifestations of the caregivers found in the scientific literature and organized them as a function of the diagnosis of their relatives (see **Table 2**). Specifically, we group them according to whether care is provided to a person with dementia or with other conditions.

### 2.1. Dementia

Dementia is a clinical syndrome that leads to a progressive deterioration of memory, intellect, personality, and physical abilities, and has serious consequences for individuals, their families, the health system, and the economy [14], affecting 24.3 million people worldwide [15]. Alzheimer's is the most prevalent form of dementia, with an average survival of 10 years,

Dependent's diagnosis	Main psychopathological manifestations found in caregivers
Dementia	Depressive symptoms, major depressive disorder, anxiety symptoms, anxiety disorder, sleep disturbances, insomnia, anticipatory grief
Cerebrovascular accident	Depressive symptoms, anxiety symptoms
Traumatic brain injury	Depressive symptoms, anxiety symptoms
Bipolar disorder	Depressive symptoms
Schizophrenia	Depressive symptoms, anxiety symptoms, sleep disturbances, insomnia
Spinal cord injury	Anxiety symptoms, burden in the social role and adjustment to the ongoing recovery process, negative outcomes on the family system
Vision impairment and blindness	Depressive symptoms
Cancer	Depressive symptoms, anxiety symptoms, concerns about the future and fear of loss and loneliness
Amyotrophic lateral sclerosis	Depressive symptoms, anxiety symptoms, anticipatory grief
Autism spectrum disorder	Depressive symptoms, anxiety symptoms

**Table 2.** Main psychopathological manifestations of caregivers according to the diagnosis of the person cared for.

though this varies depending on the age of onset [14]. As dementia progresses, the affected person requires an increasing amount of help [16] and time [17]. In this situation, caregivers are essential, and it is expected that the number of caregivers of people with dementia will increase significantly in the following decades, as it is estimated that the number of people with dementia will reach 75.6 million worldwide in the year 2030 [15].

It is well documented that caregivers of people with dementia experience mental health problems to a greater extent than noncaregivers [7]. Most of these caregivers present a high prevalence of elevated symptoms of depression and anxiety [7, 18].

Regarding depressive symptoms, previous research has found that between 27.9% and 55.0% of caregivers of patients with dementia have elevated depressive symptoms [11]. This is not a trivial fact; elevated depressive symptoms are one of the major predictors of the development of major depressive disorder [19] and have a mortality risk comparable to that of major depressive disorder [20]. In addition, previous research has found that between 15.0% and 32.0% of caregivers of patients with dementia meet the diagnostic criteria for a major depressive episode [21]. Risk factors related to depression in caregivers of people with dementia include loneliness, younger age (that the caregiver be under the age of 65), low income, being a wife, dedicating a greater number of daily hours to care, the patient presenting with behavioral disturbances (particularly angry or aggressive behavior), and the patient presenting a greater dependence for the basic activities of their daily life [22, 23].

In the context of anxiety, between 3.7% and 76.5% of caregivers present symptoms of anxiety [18] and between 10.0% and 16.0% suffer from an anxiety disorder [8, 24]. The severity of

physical health consequences of the person with dementia and the caregiver's overload and their coping style (escape-avoidance and confrontation, especially) are factors associated with higher levels of anxiety [18].

In addition to these main psychopathological manifestations, it has also been found that two-thirds of these caregivers experience some form of sleep disturbance during the course of their caregiving career [25] and 41.0% suffer from insomnia [26]. Finally, and although it is not a pathological process, given the degenerative nature of dementia, many caregivers come to experience what is known as *anticipatory grief*,<sup>1</sup> which generates feelings of denial, anger, depression, and finally acceptance of reality. They progressively experience the loss of their loved one, even before he or she dies, with the consequent conflict of emotions and the feeling of being physically and emotionally exhausted.

## 2.2. Conditions other than dementia that lead to dependence

### 2.2.1. Cerebrovascular accident and traumatic brain injury

#### 2.2.1.2. Cerebrovascular accident

A cerebrovascular accident is a neurological condition attributed to acute focal damage of the brain cells due to a vascular cause (a significant decrease in blood flow in the brain or bleeding), also known as a stroke. In 2010 alone, 16.9 million people worldwide suffered a first stroke and 33 million people who have previously had a stroke were still alive [28].

In many cases, a cerebrovascular accident occurs in an instant and involves a permanent life change. Cognitive, behavioral, and personality changes can occur, and as a result, their autonomy can be limited or totally reduced. This can have a huge impact on the family, as it is likely they will be the main caregivers once the patient leaves the hospital [29].

Previous research has found that 55.0% of caregivers of people who have suffered a stroke have significant emotional distress [30], which manifests primarily as symptoms of depression and anxiety. In fact, between 18.8% and 33.0% of caregivers of people who suffered a cardiovascular accident were found to have clinically significant depressive symptoms [12, 31]. The depression of the caregiver was associated with the severity of the stroke, with the best predictor being the caregiver's depression in the acute phase of the illness and the patient's anxiety and depression [12, 31].

Furthermore, it was found that around 31.1% of stroke patient caregivers experienced elevated anxiety symptoms [31]. The predictors of anxiety among caregivers were anxiety, depression, and cognitive impairment of the patient [31].

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<sup>1</sup>*Anticipatory grief*. This term refers to the mourning that takes place before the actual loss of a loved one. It occurs in those cases where the death of a loved one is an outcome that is already known (due, for example, to a terminal or degenerative disease). During this period of anticipation, the potential survivor begins the tasks of mourning and begins to experience different emotional responses before the death of the loved one [27].



### 2.2.1.2. *Traumatic brain injury*

Traumatic brain injuries are another condition in which damage occurs in the brain, typically as a result of an external force (such as falls, vehicle collisions, or violence). The overall estimated incidence rate of traumatic brain injury is 262 per 100,000 populations in Europe [32], and in 2010, it was 824 per 100,000 populations in the United States [33]. It can result in an alteration of the individual's cognitive, physical, and/or emotional abilities. Thus, it can affect the emotional state of the caregiver.

It has been found that between 37.0% and 60.0% of caregivers of people with traumatic brain injury have clinically significant symptoms of depression [34, 35] and 39.0% of these caregivers experience elevated anxiety symptoms [35].

Two variables frequently studied in caregivers of people with traumatic brain injury are the behavioral and personality changes that occur in the patient and the effected family changes as a result of the caregiving situation. Regarding the behavioral and personality changes, relationships between the patient's disruptive behaviors and mental health indicators in caregivers have been found, but this relationship may be mediated by the caregiver's beliefs about these changes [36]. For example, believing that the behavior was under the control of the person with traumatic brain injury and/or was motivated by hostile intentions was associated with more depression, but less stress. This was because the perception that the other person is in control of their behavior gave the caregiver more confidence in their own ability to control the behavior through persuasion. Another affected variable is the family unit [35]. This is an important factor to bear in mind since it has been suggested that having family support may be one of the most effective variables in reducing depressive symptoms [37] and is related to improved well-being and general health [38].

### 2.2.2. *Severe mental disorders*

The importance of family in the care of people with severe mental illness has grown due to the deinstitutionalization of psychiatric patients [39]. However, providing care to a family member with a severe mental disorder is an overwhelming experience for the caregiver.

Caregivers of people with severe mental illness often exhibit depressive symptomatology, and care-related burden contributes significantly to such symptomatology [40]. Further aggravating the prevalence of depressive symptomatology, social support of the caregivers may decrease due to the social stigma associated with severe mental illness [40].

The two types of serious mental disorders that have received the most attention are bipolar disorder and schizophrenia. Severe depression is also considered a major cause of dependency and a condition requiring daily care [2, 6]. However, to the best of our knowledge, no studies have been done on the emotional consequences of caring for a family member with severe depression.

#### 2.2.2.1. *Bipolar disorder*

Bipolar disorder is characterized by unusual changes in mood (euphoria vs. depression), energy, activity level, and ability to perform daily tasks. The life prevalence of this disorder in

caregivers is around 3.9% [41]. It can be especially stressful because of its chronic and cyclical nature. Caregivers may be concerned about future mood swings and about the likelihood of suicide [42].

Caregivers of patients with bipolar disorder experience more psychiatric symptoms, especially depression [42]. Specifically, it has been found that between 24.0% and 38.0% of caregivers of people with bipolar disorder present clinically significant depressive symptoms [43].

Given the variable course of the patient's illness, it is important to establish whether caregivers experience symptoms during subsyndromic phases and whether the severity of the patient's symptoms impacts the caregiver's symptoms [42]. However, some previous research has not found a significant association between the clinical state of the patient and the depressive symptoms of the caregiver [44]. In addition, the perceived stigma of the caregiver has been identified as significantly related to depression, which may reduce their coping effectiveness [44].

#### 2.2.2.2. *Schizophrenia*

Schizophrenia is a severe mental disorder, characterized by profound disruptions in thinking, affecting language, perception, the sense of self, and the patient's ability to engage in day-to-day activities. It is estimated that schizophrenia affects 21 million people in the world [45]. Caregiving of a patient with schizophrenia involves assisting patients in daily tasks, which may disrupt caregiver behavior and their daily routine, among others [46].

Gupta et al. [13] conducted a study to examine the health status of caregivers of patients with schizophrenia compared to noncaregivers and caregivers of adults with other conditions. There were 398 schizophrenia caregivers, 158,989 noncaregivers, and 14,341 caregivers of other conditions from five European countries (France, Germany, Italy, Spain, and the United Kingdom); all were matched on baseline characteristics. Comparing the caregivers of people with schizophrenia and noncaregivers, it was found that caregivers presented a significantly higher proportion of difficulties sleeping (42.7% vs. 28.5%), insomnia (32.4% vs. 18.5%), anxiety (37.9% vs. 23.6%), and depression (29.4% vs. 19.4%). Comparing schizophrenia caregivers and other caregivers, schizophrenia caregivers were more likely to experience sleep difficulties (42.7% vs. 32.8%), insomnia (32.4% vs. 22.0%), and anxiety (37.9%).

#### 2.2.3. *Spinal cord injury*

A spinal cord injury is damage to the spinal cord; it causes changes in its function, either temporarily or permanently. These changes translate into loss of muscle function below the level of the lesion. Depending on the location and severity of damage along the spinal cord, the symptoms can vary widely, from pain or numbness to paralysis. The prognosis also ranges widely from full recovery to permanent tetraplegia (also called quadriplegia) in injuries at the level of the neck and paraplegia.

Caregivers of people with a spinal cord injury have to provide care in the basic daily life activities and as a result, the quality of their own life may be affected. However, research on psychopathological manifestations in caregivers of people with spinal cord injury is scarce



though one study found caregivers of patients with a spinal cord injury to present more stress than noncaregivers [47]. Caregivers also experience significant burden, especially in the social role functioning and adjustment to the ongoing recovery process [48]. Likewise, in caregivers who are married to the patient when the spinal cord injury occurs, more negative outcomes on the family system have been reported [49].

#### *2.2.4. Vision impairment and blindness*

Vision impairment is a decrease in the ability to see to the point where glasses cannot treat the impairment. It is often defined as the best corrected visual acuity worse than 20/40 or 20/60. The term blindness is used for the complete loss of vision. The most common causes of vision impairment are refractory errors, cataracts and glaucoma, macular degeneration, or diabetic retinopathy. It is estimated that in 2012, there were 285 million visually impaired people worldwide, with 246 million having low vision and 39 million being blind [50]. These problems can cause difficulties in daily activities, such as driving, reading, socializing, or walking. Thus, it is important to receive care and support from a loved one.

Despite their prevalence, little research has been conducted on the psychopathological manifestations of the caregivers of people with vision impairments. The only manifestation studied was depression, finding that between 3.8% and 16.0% of the caregivers of people with low vision and between 9.2% and 48.0% of the caregivers of totally blind people presented clinically significant depressive symptoms [51, 52].

Related variables for depression in caregivers were being a woman, daily hours required for close supervision of the patient, intensity of care-giving, low household income, being the parent of a blind adult child, and being caregivers of patients who have not completed vision rehabilitation programs [51, 52].

#### *2.2.5. Cancer*

Cancer is characterized by the rapid creation of abnormal cells that grow beyond their usual boundaries and then invade adjoining parts of the body and spread to other organs. According to data from the World Health Organization [53], cancer is the second leading cause of death in the world, causing 1 in 6 deaths. In addition, its economic impact is \$1.16 trillion per year and this is expected to continue increasing.

The diagnosis of cancer is a traumatic event that has a significant impact in the patients and their families [54, 55]. In addition, recent advances in the treatment of cancer have resulted in shorter periods of hospitalization and the dispensing of treatment using medical devices in their homes. As a result, patients have become more chronic patients who spend more time at home, resulting in more caregiving tasks being placed on caregivers [55].

Elevated levels of anxiety and depression have been found in caregivers of cancer patients [56], including higher levels of anxiety than depression. In the palliative phases, Grov et al. [57] found that anxiety levels were significantly higher in these caregivers than in noncaregiver normative pairs. In contrast, they found no significant differences in depression. The authors suggest that the elevated levels of anxiety may be related to concerns about the future and fear

of loss and loneliness, issues of special relevance to impending death. However, the quality of life and anxiety do not differ significantly between caregivers in the palliative and curative stages of the disease, suggesting that both phases are equally stressful and challenging [58] and always include a concern about the future. However, in another study [59], clinically significant levels of depressive symptomatology were found, which did not change markedly over time of the disease.

#### 2.2.6. *Amyotrophic lateral sclerosis (ALS)*

Amyotrophic lateral sclerosis (ALS) is a neuromuscular degenerative disease with a late-onset fatal prognosis, whose incidence rate is 2.16 per 100,000 person-years in Europe [60] and 5 per 100,000 for 2013 in the USA [61]. Life expectancy since diagnosis is usually about 3–5 years and the age of onset is between 50 and 65 years [62]. Patients with ALS need increasing attention in all daily life activities because as the disease progresses, their ability to write or speak decreases, as well as the ability to complete daily life tasks, and the demands for attention from their caregivers are progressively greater.

Depressive and anxiety symptoms have been found among caregivers of patients with ALS [63]. More specifically, it has been found that between 13.0% and 61.0% had moderate to severe levels of depression and about 16.0% take medication for depression [63–65]. However, caregivers may be actually experiencing anticipated grief and pain for the future loss than a typical situation of care, characterized by progressive but prolonged deterioration over time. In fact, in these cases, mutual support between patient and caregiver takes on an essential role, rather than a unilateral benefit that may exist in other care relationships [63].

In addition, between 16.0% and 75.6% demonstrated moderate to severe levels of anxiety [66, 67], with the anxiety traits of the caregiver being the best predictors of state anxiety [67].

#### 2.2.7. *Autism and autism spectrum disorders*

Autism is a neurodevelopmental disorder characterized by difficulties in social interaction and communication and by repetitive behaviors [68]. It is estimated that 62 out of every 10,000 people in the world suffer from an autism spectrum disorder [69].

Due to the early age of onset of autism (i.e., early childhood), the main caregivers are usually the parents. The caregivers face the symptoms of the disorder and behavior problems [70] and other secondary difficulties such as social stigma and lack of understanding of the disease. In fact, anxiety and depression scores were higher in parents of children with autism spectrum disorders than in parents of children with normal development [68]. A meta-analysis found that mothers of children with developmental disorders, including autism spectrum disorder, had significantly more depressive symptoms than mothers with problem-free children, with an effect size of 0.39 [71]. When analyzing the long-term effects, Barker et al. [70] found that after 10 years of follow-up, there were no significant changes in depressive symptomatology, though anxiety did decrease.

Behavioral problems are one of the most important predictors of parental stress, along with obedience/tranquility and self-isolation/ritualism [72].

### 2.3. Comparison of psychopathological symptoms among caregivers of patients with dementia and without dementia

Previous research has suggested that caring for a person with dementia is more difficult and burdensome than caring for people with other conditions. There are several reasons why caregivers of people with dementia may be at increased risk for these adverse effects. On the one hand, they are exposed to difficult disruptive behaviors, cognitive impairment, and affective losses characteristic of the progression of dementia. On the other hand, patients with dementia require more supervision, express less gratitude for the help they receive, are more likely to be depressed, and may present with aggressiveness and personality changes [73, 74]. However, there are few studies that have compared the consequences on the emotional state of the caregivers of people with dementia with those of caregivers of dependent people without dementia, and the results have been contradictory.

Clipp and George [75] compared caregiver spouses of patients with dementia and cancer patients. They found that caregivers of patients with dementia had significantly greater stress, burden, and negative affect compared with caregivers of people with cancer. Furthermore, Ory et al. [76] found that caring for a person with dementia has more adverse effects than caring for a person with another condition, in terms of physical and emotional strain, physical and mental problems, time for leisure, and family conflict.

However, Crespo et al. [77] found no evidence that caregivers of people with dementia had a poorer emotional state (evaluated as depressive and anxiety symptoms) than those who cared for dependent relatives without dementia. Moreover, Papastavrou et al. [78] reported that caregivers of people with cancer were more depressed compared with caregivers of schizophrenia and of people with dementia, whereas caregivers of people with dementia reported the highest levels of burden. Finally, Loi et al. [79] found higher levels of depressive symptomatology and burden in caregivers of people with physical disabilities (fragility and vision difficulties) than in caregivers of people with dementia.

### 3. Strategies for preventing psychopathological symptoms

Regardless of the condition of the person cared for, caregivers may consider the following strategies to take care of their own well-being and prevent the onset of psychopathological symptoms [80, 81]

- *Finding information on the disease of the family member cared for.* It will allow the caregiver to better understand their behaviors and moods.
- *Asking for and accepting help.* It is important that caregivers do not wait until they feel overwhelmed to ask for help. They should try to get as many family members involved in caregiving as possible. The caregiver could prepare a list of simple tasks that others could help him/her with, and let the helper choose what he or she would like to do. For instance, one person might be willing to take the person cared for on a walk a couple of times a week, and someone else might offer to pick up groceries.

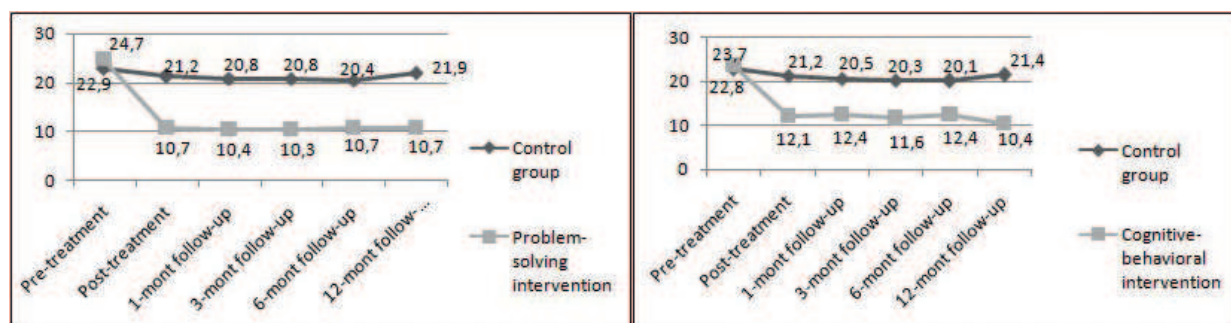
- *Maintaining personal relationships.* Caregivers should try to stay well connected with family and friends who can offer nonjudgmental emotional support. If it is difficult for them to leave home, they could invite a relative to visit them or phone some friend.
- *Setting realistic goals.* Caregivers can break large tasks into smaller steps that they can do one at a time. It is important to prioritize and focus on the things they can control.
- *Taking time for himself/herself.* Caregivers are encouraged to participate in pleasant activities that allow them to relax and have fun, such as reading a book, going to a movie, or taking a warm bath.
- *Reducing personal stress.* Caregivers can learn to recognize warning signs such as irritability or forgetfulness, identify sources of stress, distinguish what can and cannot change, and take some action to reduce stress. Stress reducers can be simple activities like gardening or having coffee with a friend. Relaxation and meditation can also help.
- *Staying positive.* Trying to look at the positive side of situations. Caregiving allows to make a difference in our loved one's life by making him/her feel more comfortable, safe, and loved. Caregiving might also have spiritual meaning. These deep, meaningful motivations can help sustain the caregivers through difficult times.
- *Taking care of personal health.* It is recommended that caregivers meet their own healthcare needs, which include establishing a good sleep routine and proper nutrition with healthy foods and plenty of water. Exercise regularly, for example, going for a walk twice a week.

#### 4. Professional support when psychopathological symptoms occur

When the above is not enough and psychopathological symptoms occur, it is better to seek professional help from a psychologist or a psychiatrist. There are several psychological interventions that have demonstrated efficacy in decreasing depressive and anxiety symptoms [82, 83]. Cognitive-behavioral interventions are more effective in reducing depressive symptoms, group interventions are more effective in increasing social support and respite services are recommended for sleep problems [82, 83].

In addition, it is recommended to ask the professional as soon as possible, in order to act early, before mental illness develops, and thus avoid personal suffering. A few sessions might be enough. In fact, Otero et al. [84] found significant differences between a problem-solving intervention lasting only five sessions and a usual care control group in the reduction of depressive symptomatology ( $d = 1.33$ ) and the onset of new cases of depression at 12-month follow-up (10.1% vs. 25.0%). In another study, Vázquez et al. [85] found significant differences between a five-session cognitive-behavioral intervention and a usual care control group in the reduction of depressive symptomatology ( $d = 1.33$ ) and the incidence of depression (3.4% vs. 22.0%) at 12-month follow-up (see **Figure 2**). Both interventions were effective regardless of the condition of the person cared for [86, 87]; those changes in depressive symptomatology were also clinically significant [88] and homework tasks played a fundamental role in the reduction of depressive symptomatology [89].





**Figure 2.** Depressive symptoms as a function of time in the two interventions from the studies by Otero et al. and Vázquez et al.

Caregivers may delay seeking professional health because of certain accessibility barriers including lack of time, not having someone to take over care during their absence, transportation problems, or stigma. For these cases, the efficacy of telephone-administered psychological interventions, that would allow caregivers to be treated for their psychopathological symptoms without the need to leave their home, is being studied. Thus, in a pilot study, Vázquez et al. [90] compared a cognitive-behavioral intervention via conference call, a behavioral activation intervention via conference call and a control group receiving usual care. They found that at post-treatment, depressive symptoms were significantly reduced in both intervention groups compared with the control group ( $d = 2.18$  and  $d = 2.06$ ) and there was a lower incidence of depression in the cognitive-behavioral group and the behavioral activation group when compared with the control group (0.0% for both interventions vs. 10.5% for the control group).

## 5. Conclusion

It is well documented that the burden of care assumed by nonprofessiona caregivers has negative consequences on their emotional well-being. Depressive and anxiety symptoms have been the most explored variables. Studies have found high levels of depressive and anxious symptomatology in all types of caregivers, regardless of the diagnosis of the dependent person (demented and nondemented patients). Depressive and anxiety symptoms were experienced by caregivers of patients with dementia, cerebrovascular accidents, traumatic brain injury, schizophrenia, cancer, ALS, autism, and autism spectrum disorder. Sleep disturbances were found in caregivers of dementia and schizophrenia patients. Only depressive symptoms were found in caregivers of bipolar disorder and vision impairment, while only anxiety symptoms were found in caregivers of spinal cord injury patients. Therefore, it is recommended that clinicians be prepared to evaluate and treat these symptoms in caregivers using psychological interventions with proven efficacy for the treatment of depressive and anxious symptoms in caregivers [84, 85].

There is no doubt that all the conditions that cause a situation of dependence result in stressors and demand that the caregiver must confront. However, the type of illness of the dependent

person could be only one of the determining factors of the psychopathological manifestations in the caregivers. One possible explanation for these findings is that the effects of being a caregiver on mental health also depend on many other factors, both related to the care situation and the resources available to the caregiver (e.g., socioeconomic level) as well as the psychological resources available to the caregiver (e.g., coping style, the caregiver's beliefs about the problems of the dependent person, social support, or family conflict). Nonprofessional caregivers are a heterogeneous population with different profiles of psychopathological risk, as they vary in their exposure to the demands of care, in the style of coping with them, and in the resources they have at their disposal.

These findings must be interpreted taking into account certain limitations. Most of the work has focused on specific populations of caregivers and methodological limitations, and heterogeneity between studies makes comparisons difficult: the instruments used have been diverse; small samples make it difficult to generalize results; some studies have selected the participants according to different sociodemographic characteristics. There are few comparative studies among caregivers of people with dementia and without dementia. Finally, the cross-sectional nature of these studies prevents establishing cause-effect relationships.

Future research could analyze the specific contribution of each of the factors to the occurrence of depressive and anxiety symptoms in the caregiver population. The number of caregivers is expected to increase significantly in the coming decades, with as many as 613 million people needing care around the world by the year 2050 [2]. Thus, a better understanding of these variables would make it possible to ascertain the specific needs of caregivers and offer interventions that meet their needs. In fact, Zarit and Femia [91] recommended that psychological interventions not be applied to all caregivers indiscriminately, but that a selection of participants be made based on the risk factors to which they are exposed. Studies that have used this approach [80, 81] have achieved significant reductions in psychopathological symptoms such as depression and made strides in the prevention of the occurrence of mental disorders such as depression.

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## References

- [1] World Health Organization, editor. *The World Health Report 2002. Reducing Risks, Promoting Healthy Life*. Geneva: World Health Organization; 2002
- [2] Harwood RH, Sayer AA, Hirschfeld M. Current and future worldwide prevalence of dependency, its relationship to total population, and dependency ratios. *Bulletin of the World Health Organization*. 2004;**82**:251-258. DOI: 10.1590/S0042-96862004000400006
- [3] Global Burden of Disease Study 2013 Collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 301 acute and chronic diseases and injuries in 188 countries, 1990-2013: A systematic analysis for the Global Burden of Disease Study 2013. *Lancet*. 2015;**386**:743-800. DOI: 10.1016/S0140-6736(15)60692-4
- [4] Colombo F, Llena-Nozal A, Mercier J, Tjadens F. *Help Wanted? Providing and Paying for Long-Term Care*. Paris: OECD Publishing; 2011
- [5] National Alliance for Caregiving and AARP Public Policy Institute. *Caregiving in the U.S. 2015* [Internet]. 2015. Available from: [http://www.caregiving.org/wp-content/uploads/2015/05/2015\\_CaregivingintheUS\\_Final-Report-June-4\\_WEB.pdf](http://www.caregiving.org/wp-content/uploads/2015/05/2015_CaregivingintheUS_Final-Report-June-4_WEB.pdf) [Accessed February 10, 2017]
- [6] Sousa RM, Ferri CP, Acosta D, Albanese E, Guerra M, Huang, Y, et al. Contribution of chronic diseases to disability in elderly people in countries with low and middle incomes: A 10/66 Dementia Research Group population-based survey. *Lancet*. 2009;**374**:1821-1830. DOI: 10.1016/S0140-6736(09)61829-8
- [7] Pinquart M, Sörensen S. Differences between caregivers and noncaregivers in psychological health and physical health: A meta-analysis. *Psychology and Aging*. 2003;**18**:250-267. DOI: 10.1037/0882-7974.18.2.250
- [8] Dura JR, Stukenberg KW, Kiecolt-Glaser JK. Anxiety and depressive disorders in adult children caring for demented parents. *Psychology and Aging*. 1991;**6**:467-473. DOI: 10.1037/0882-7974.6.3.467
- [9] Livingston G, Manela M, Katona C. Depression and other psychiatric morbidity in carers of elderly people living at home. *The British Medical Journal*. 1996;**312**:153-156. DOI: 10.1136/bmj.312.7024.153
- [10] Torres A, Blanco V, Vázquez FL, Díaz O, Otero P, Hermida E. Prevalence of major depressive episodes in non-professional caregivers. *Psychiatry Research*. 2015;**226**:333-339. DOI: 10.1016/j.psychres.2014.12.066
- [11] Schulz R, O'Brien AT, Bookwala J, Fleissner K. Psychiatric and physical morbidity effects of dementia caregiving: Prevalence, correlates, and causes. *Gerontologist*. 1995;**35**:771-791. DOI: 10.1093/geront/35.6.771
- [12] Berg A, Palomäki H, Lönnqvist J, Lehtihalmes M, Kaste M. Depression among caregivers of stroke survivors. *Stroke*. 2005;**36**:639-643. DOI: 10.1161/01.STR.0000155690.04697.c0

- [13] Gupta S, Isherwood G, Jones K, Van Impe K. Assessing health status in informal schizophrenia caregivers compared with health status in non-caregivers and caregivers of other conditions. *BMC Psychiatry*. 2015;**15**:162. DOI: 10.1186/s12888-015-0547-1
- [14] Hugo J, Ganguli M. Dementia and cognitive impairment: Epidemiology, diagnosis and treatment. *Clinics in Geriatric Medicine*. 2014;**30**:421-442. DOI: 10.1016/j.cger.2014.04.001
- [15] World Health Organization (WHO). Dementia. Fact Sheet [Internet]. 2016. Available from: <http://www.who.int/mediacentre/factsheets/fs362/en/> [Accessed: February 14, 2017]
- [16] Ferrara M, Langiano E, Di Brango T, De Vito E, Di Cioccio L, Bauco C. Prevalence of stress, anxiety and depression in with Alzheimer caregivers. *Health and Quality of Life Outcomes*. 2008;**6**:93. DOI: 10.1186/1477-7525-6-93
- [17] Langa KM, Chernew ME, Kabeto MU, Herzog AR, Ofstedal MB, Willis RJ, et al. National estimates of the quantity and cost of informal caregiving for the elderly with dementia. *Journal of General Internal Medicine*. 2001;**16**:770-778. DOI: 10.1111/j.1525-1497.2001.10123.x
- [18] Cooper C, Balamurali T, Livingston G. A systematic review of the prevalence and associates of anxiety in caregivers of people with dementia. *International Psychogeriatrics*. 2007;**19**:175-195. DOI: 10.1017/S1041610206004297
- [19] Joling KJ, van Marwijk HW, Veldhuijzen AE, van der Horst HE, Scheltens P, Smit F, et al. The two-year incidence of depression and anxiety disorders in spousal caregivers of persons with dementia: Who is at the greatest risk? *The American Journal of Geriatric Psychiatry*. 2015;**23**:293-303. DOI: 10.1016/j.jagp.2014.05.005
- [20] Cuijpers P, Vogelzangs N, Twisk J, Kleiboer A, Li J, Penninx BW. Differential mortality rates in major and subthreshold depression: Meta-analysis of studies that measured both. *British Journal of Psychiatry*. 2013;**202**:22-27. DOI: 10.1192/bjp.bp.112.112169
- [21] Cuijpers P. Depressive disorders in caregivers of dementia patients: A systematic review. *Aging Ment Health*. 2005;**9**:325-330. DOI: 10.1080/13607860500090078
- [22] Beeson RA. Loneliness and depression in spousal caregivers of those with Alzheimer's disease versus non-caregiving spouses. *Archives of Psychiatric Nursing*. 2003;**17**:135-143. DOI: 10.1016/S0883-9417(03)00057-8
- [23] Covinsky KE, Newcomer R, Fox P, Wood J, Sands L, Dane K, et al. Patient and caregiver characteristics associated with depression in caregivers of patients with dementia. *Journal of General Internal Medicine*. 2003;**18**:1006-1014. DOI: 10.1111/j.1525-1497.2003.30103.x
- [24] Russo J, Vitaliano PP, Brewer DD, Katon W, Becker J. Psychiatric disorders in spouse caregivers of care recipients with Alzheimer's disease and matched controls: A diathesis-stress model of psychopathology. *Journal of Abnormal Psychology*. 1995;**104**:197-204. DOI: 10.1037/0021-843X.104.1.197
- [25] McCurry SM, Logsdon RG, Teri L, Vitiello MV. Sleep disturbances in caregivers of persons with dementia: Contributing factors and treatment implications. *Sleep Medicine Reviews*. 2007;**11**:143-153. DOI: 10.1016/j.smr.2006.09.002

- [26] Simón MA, Bueno AM, Otero P, Blanco V, Vázquez FL. Insomnia in female family caregivers of totally dependent patients with dementia: An exploratory study. *Women Health*. Forthcoming
- [27] Worden JW. *Grief Counselling and Grief Therapy. A Handbook for the Mental Health Practitioner*. New York: Springer Publishing Company; 1997
- [28] Feigin VL, Forouzanfar MH, Krishnamurthi R, Mensah GA, Connor M, Bennett DA, et al. Global and regional burden of stroke during 1990-2010: Findings from the Global Burden of Disease Study 2010. *Lancet*. 2014;**383**:245-255. DOI: 10.1016/S01406736(13)61953-4
- [29] Kreutzer JS, Gervasio AH, Camplair PS. Primary caregivers' psychological status and family functioning after traumatic brain injury. *Brain Injury*. 1994;**8**:197-210. DOI: 10.3109/02699059409150973
- [30] Anderson C, Linto J, Stewart-Wynne EG. A population-based assessment of the impact and burden of caregiving for long-term stroke survivors. *Stroke*. 1995;**26**:843-849. DOI: 10.1161/01.STR.26.5.843
- [31] Atteih S, Mellon L, Hall P, Brewer L, Horgan F, Williams D, et al. Implications of stroke for caregiver outcomes: Findings from the ASPIRE-S study. *International Journal of Stroke*. 2015;**10**:918-923. DOI: 10.1111/ij.s.12535
- [32] Peeters W, van den Brande R, Polinder S, Brazinova A, Steyerberg EW, Lingsma HF, et al. Epidemiology of traumatic brain injury in Europe. *Acta Neurochirurgica*. 2015;**157**:1683-1696. DOI: 10.1007/s00701-015-2512-7
- [33] Centers for Disease Control and Prevention. Rates of TBI-related Emergency Department Visits, hospitalizations, and deaths – United States, 2001-2010 [Internet]. Available from: <https://www.cdc.gov/traumaticbraininjury/data/rates.html> [Accessed: March 19, 2017]
- [34] Douglas JM, Spellacy FJ. Correlates of depression in adults with severe traumatic brain injury and their carers. *Brain Injury*. 2000;**14**:71-88. DOI: 10.1080/026990500120943
- [35] Marsh NV, Kersel DA, Havill JH, Sleight JW. Caregiver burden at 6 months following severe traumatic brain injury. *Brain Injury*. 1998;**12**:225-238. DOI: 10.1080/026990598122700
- [36] Riley GA. Stress and depression in family carers following traumatic brain injury: The influence of beliefs about difficult behaviours. *Clinical Rehabilitation*. 2007;**21**:82-88. DOI: 10.1177/0269215506071279
- [37] Wells R, Dywan J, Dumas J. Life satisfaction and distress in family caregivers as related to specific behavioural changes after traumatic brain injury. *Brain Injury*. 2005;**19**:1105-1115. DOI: 10.1080/02699050500150062
- [38] Grant JS, Elliott TR, Weaver M, Glandon GL, Raper JL, Giger JN. Social support, social problem-solving abilities, and adjustment of family caregivers of stroke survivors. *Archives of Physical Medicine and Rehabilitation*. 2006;**87**:343-350. DOI: 10.1016/j.apmr.2005.09.019
- [39] Ohaeri, JU. The burden of caregiving in families with a mental illness: A review of 2002. *Current Opinion in Psychiatry*. 2003;**16**:457-465. DOI: 10.1097/01.yco.0000079212.36371.c0

- [40] Song LY, Biegel DE, Milligan SE. Predictors of depressive symptomatology among lower social class caregivers of persons with chronic mental illness. *Community Mental Health Journal*. 1997;**33**:269-286. DOI: 10.1023/A:1025090906696
- [41] Kessler RC, Berglund PA, Demler O, Jin R, Merikangas KR, Walters EE. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R). *Archives of General Psychiatry*. 2005;**62**:593-602. DOI: 10.1001/archpsyc.62.6.593
- [42] Steele A, Maruyama N, Galynker I. Psychiatric symptoms in caregivers of patients with bipolar disorder: A review. *Journal of Affective Disorders*. 2010;**121**:10-21. DOI: 10.1016/j.jad.2009.04.020
- [43] Perlick DA, Rosenheck RA, Miklowitz DJ, Chessick C, Wolff N, Kaczynski R, et al. Prevalence and correlates of burden among caregivers of patients with bipolar disorder enrolled in the Systematic Treatment Enhance Program for Bipolar Disorder. *Bipolar Disorders*. 2007;**9**:262-273. DOI: 10.1111/j.1399-5618.2007.00365.x
- [44] Perlick DA, Miklowitz DJ, Link BG, Struening E, Kaczynski R, Gonzalez J, et al. Perceived stigma and depression among caregivers of patients with bipolar disorder. *British Journal of Psychiatry*. 2007;**190**:535-536. DOI: 10.1192/bjp.bp.105.020826
- [45] World Health Organization (WHO). Schizophrenia [Internet]. Available from: [http://www.who.int/mental\\_health/management/schizophrenia/en/](http://www.who.int/mental_health/management/schizophrenia/en/) [Accessed: March 20, 2017]
- [46] Ochoa S, Vilaplana M, Haro JM, Villalta-Gil V, Martinez F, Negredo MC, et al. Do needs, symptoms or disability of outpatients with schizophrenia influence family burden? *Social Psychiatry and Psychiatric Epidemiology*. 2008;**43**:612-618. DOI: 10.1007/s00127-008-0337-x
- [47] Weitzencamp DA, Gerhart KA, Charlifue SW, Whiteneck GG, Savic G. Spouses of spinal cord injury survivors: The added impact of caregiving. *Archives of Physical Medicine and Rehabilitation*. 1997;**78**:822-827. DOI: 10.1016/S0003-9993(97)90194-5
- [48] Stambrook M, MacBeath S, Moore AD, Peters LC, Zubek E, Friesen IC. Social role functioning following spinal cord injury. *Paraplegia*. 1991;**29**:318-323. DOI: 10.1038/sc.1991.46
- [49] Crewe NM, Krause JS. Marital relationships and spinal cord injury. *Archives of Physical Medicine and Rehabilitation*. 1988;**69**:435-438
- [50] World Health Organization (WHO). Visual Impairment and Blindness. Fact Sheet No. 282 [Internet]. [Updated: 2014]. Available from: <http://www.who.int/mediacentre/factsheets/fs282/en/> [Accessed: March 20, 2017]
- [51] Braich PS, Lal V, Hollands S, Almeida DR. Burden and depression in the caregivers of blind patients in India. *Ophthalmology*. 2012;**119**:221-226. DOI: 10.1016/j.ophttha.2011.07.038
- [52] Khan Z, Braich PS, Rahim K, Rayat JS, Xing L, Iqbal M, et al. Burden and depression among caregivers of visually impaired patients in a Canadian population. *Advances in Medicine*. 2016;**2016**:4683427. DOI: 10.1155/2016/4683427



- [53] World Health Organization (WHO). Cancer. Fact Sheet [Internet]. 2017. Available from: <http://www.who.int/mediacentre/factsheets/fs297/en/> [Accessed: February 8, 2017]
- [54] Kurtz ME, Kurtz JC, Given CW, Given B. Relationship of caregiver reactions and depression to cancer patients' symptoms, functional states and depression – A longitudinal view. *Social Science & Medicine*. 1995;**40**:837-846. DOI: 10.1016/0277-9536(94)00249-S
- [55] Nijboer C, Tempelaar R, Sanderman R, Triemstra M, Spruijt RJ, van den Bos, GA. Cancer and caregiving: The impact on the caregiver's health. *Psycho-oncology*. 1998;**7**:3-13. DOI: 10.1002/(SICI)1099-1611(199801/02)7:1<3::AID-PON320>3.0.CO;2-5
- [56] Sklenarova H, Krümpelmann A, Haun MW, Friederich HC, Huber J, Thomas M, et al. When do we need to care about the caregiver? Supportive care needs, anxiety, and depression among informal caregivers of patients with cancer and cancer survivors. *Cancer*. 2015;**121**:1513-1519. DOI: 10.1002/cncr.29223
- [57] Grov EK, Dahl AA, Moum T, Fosså SD. Anxiety, depression, and quality of life in caregivers of patients with cancer in late palliative phase. *Annals of Oncology*. 2005;**16**:1185-1191. DOI: 10.1093/annonc/mdi210
- [58] Valeberg BT, Grov EK. Symptoms in the cancer patient: Of importance for their caregivers' quality of life and mental health? *European Journal of Oncology Nursing*. 2013;**17**:46-51. DOI: 10.1016/j.ejon.2012.01.009
- [59] Given B, Wyatt G, Given C, Gift A, Sherwood P, DeVoss D, et al. Burden and depression among caregivers of patients with cancer at the end of life. *Oncology Nursing Forum*. 2004;**31**:1105-1117. DOI: 10.1188/04.ONF.1105-1117
- [60] Logroscino G, Traynor BJ, Hardiman O, Chió A, Mitchell D, Swingler RJ, et al. Incidence of amyotrophic lateral sclerosis in Europe. *Journal of Neurology Neurosurgery and Psychiatry*. 2010;**81**:385-390. DOI: 10.1136/jnnp.2009.183525
- [61] Centers for Disease Control and Prevention. Prevalence of amyotrophic lateral sclerosis – United States, 2012-2013. *Morbidity and Mortality Weekly Report*. 2016;**65**:1-12
- [62] Zarei S, Carr K, Reiley L, Diaz K, Guerra O, Altamirano PF, et al. A comprehensive review of amyotrophic lateral sclerosis. *Surgical Neurology International*. 2015;**6**:171. DOI: 10.4103/2152-7806.169561
- [63] Rabkin JG, Albert SM, Rowland LP, Mitsumoto H. How common is depression among ALS caregivers? A longitudinal study. *Amyotrophic Lateral Sclerosis*. 2009;**10**:448-455. DOI: 10.3109/17482960802459889
- [64] Miyashita M, Narita Y, Sakamoto A, Kawada N, Akiyama M, Kayama M, et al. Care burden and depression in caregivers caring for patients with intractable neurological diseases at home in Japan. *Journal of the Neurological Sciences*. 2009;**276**:148-152. DOI: 10.1016/j.jns.2008.09.022
- [65] Trail M, Nelson ND, Van JN, Appel SH, Lai EC. A study comparing patients with amyotrophic lateral sclerosis and their caregivers on measures of quality of life, depression, and their attitudes toward treatment options. *Journal of the Neurological Sciences*. 2003;**209**:79-85. DOI: 10.1016/S0022-510X(03)00003-0

- [66] Lillo P, Mioshi E, Hodges JR. Caregiver burden in amyotrophic lateral sclerosis is more dependent on patients' behavioural changes than physical disability: A comparative study. *BMC Neurology*. 2012;**12**:156. DOI: 10.1186/1471-2377-12-156
- [67] Vignola A, Guzzo A, Calvo A, Moglia C, Pessia A, Cavallo E, et al. Anxiety undermines quality of life in ALS patients and caregivers. *European Journal of Neurology*. 2008;**15**:1231-1236. DOI: 10.1111/j.1468-1331.2008.02303.x
- [68] Almansour MA, Alateeq MA, Alzahrani MK, Algeffari MA, Alhomaïdan HT. Depression and anxiety among parents and caregivers of autistic spectral disorder children. *Neurosciences*. 2013;**18**:58-63
- [69] Elsabbagh M, Divan G, Koh YJ, Kim YS, Kauchali S, Marcín C, et al. Global prevalence of autism and other pervasive developmental disorders. *Autism Research*. 2012;**5**:160-179. DOI: 10.1002/aur.239
- [70] Barker ET, Hartley SL, Seltzer MM, Floyd FJ, Greenberg JS, Orsmond GI. Trajectories of emotional well-being in mothers of adolescents and adults with autism. *Developmental Psychology*. 2011;**47**:551-561. DOI: 10.1037/a0021268
- [71] Singer GH. Meta-analysis of comparative studies of depression in mothers of children with and without developmental disabilities. *American Journal of Mental Retardation*. 2006;**111**:155-169. DOI: 10.1352/0895-8017(2006)111[155:MOCSD]2.0.CO;2
- [72] Levacalier L, Leone S, Wiltz J. The impact of behaviour problems on caregiver stress in young people with autism spectrum disorders. *Journal of Intellectual Disability Research*. 2006;**50**:172-182. DOI: 10.1111/j.1365-2788.2005.00732.x
- [73] Müller-Spahn F. Behavioral disturbances in dementia. *Dialogues in Clinical Neuroscience*. 2003;**5**:49-59
- [74] Rabins PV. Behavioral disturbances of dementia: Practical and conceptual issues. *International Psychogeriatrics*. 1996;**8**:281-283. DOI: 10.1017/S1041610297003487
- [75] Clipp EC, George LK. Dementia and cancer: A comparison of spouse caregivers. *Gerontologist*. 1993;**33**:534-541. DOI: 10.1093/geront/33.4.534
- [76] Ory MG, Hoffman RR, Yee JL, Tennstedt S, Schulz R. Prevalence and impact of caregiving: A detailed comparison between dementia and nondementia caregivers. *Gerontologist*. 1999;**39**:177-185. DOI: 10.1093/geront/39.2.177
- [77] Crespo M, López J, Zarit SH. Depression and anxiety in primary caregivers: A comparative study of caregivers of demented and nondemented older persons. *International Journal of Geriatric Psychiatry*. 2005;**20**:591-592. DOI: 10.1002/gps.1321
- [78] Papastavrou E, Charalambous A, Tsangari H, Karayiannis G. The burdensome and depressive experience of caring: what cancer, schizophrenia, and Alzheimer's disease caregivers have in common. *Cancer Nursing*. 2012;**35**:187-194. DOI: 10.1097/NCC.0b013e31822cb4a0
- [79] Loi SM, Dow B, Moore K, Hill K, Russell M, Cyarto E. The adverse mental health of carers: Does the patient diagnosis play a role? *Maturitas*. 2015;**82**:134-138. DOI: 10.1016/j.maturitas.2015.06.034



- [80] Family Caregiver Alliance. Take Care of You: Self Care for Family Caregivers [Internet]. Available at <https://www.caregiver.org/taking-care-you-self-care-family-caregivers> [Accessed: April 18, 2017]
- [81] Family Caregiver Alliance. Depression and Caregiving [Internet]. Available at <https://www.caregiver.org/depression-and-caregiving> [Accessed: April 19, 2017]
- [82] Pinquart M, Sörensen S. Helping caregivers of persons with dementia: Which interventions work and how large are their effects? *International Psychogeriatrics*. 2006;**18**:577-595. DOI: 10.1017/S1041610206003462
- [83] Sörensen S, Duberstein P, Gill D, Pinquart M. Dementia care: Mental health effects, intervention strategies, and clinical implications. *The Lancet Neurology*. 2006;**5**:961-973. DOI: 10.1016/S1474-4422(06)70599-3
- [84] Otero P, Smit F, Cuijpers P, Torres A, Blanco V, Vázquez FL. Long-term efficacy of indicated prevention of depression in non-professional caregivers: Randomized controlled trial. *Psychological Medicine*. 2015;**45**:1401-1412. DOI: 10.1017/S0033291714002505
- [85] Vázquez FL, Torres A, Blanco V, Otero P, Díaz O, Ferraces MJ. Long-term follow-up of a randomized clinical trial assessing the efficacy of a brief cognitive-behavioral depression prevention intervention for caregivers with elevated depressive symptoms. *The American Journal of Geriatric Psychiatry*. 2016;**24**:421-432. DOI: 10.1016/j.jagp.2016.02.050
- [86] Blanco V, Rohde P, Vázquez FL, Torres A. Identification of caregivers at greatest risk of major depression in two prevention studies. *Psychotherapy Research*. 2014;**24**:578-593. DOI: 10.1080/10503307.2013.847989
- [87] Otero P, Smit F, Cuijpers P, DeRubeis RJ, Torres A, Vázquez FL. Differential response to depression prevention among a sample of informal caregivers: Moderator analysis of longer-term follow-up trial data. *Psychiatry Research*. 2015;**230**:271-278. DOI: 10.1016/j.psychres.2015.09.005
- [88] Blanco V, Otero P, López L, Torres A, Vázquez FL. Predictores del cambio clínicamente significativo en una intervención de prevención de la depresión [Clinically significant predictors of change in an intervention for the prevention of depression]. *Revista Iberoamericana de Psicología y Salud*. 2017;**8**:9-20. DOI: 10.23923/j.rips.2017.08.002
- [89] Otero P, Vázquez FL, Hermida E, Díaz O, Torres A. Relationship of cognitive behavioral therapy effects and homework in an indicated prevention of depression intervention for non-professional caregivers. *Psychological Reports*. 2015;**116**:841-854. DOI: 10.2466/02.PR0.116k22w7
- [90] Vázquez FL, Torres A, Otero P, Blanco V, Díaz O, Estévez LE. Analysis of the components of a cognitive-behavioral intervention administered via conference call for preventing depression among non-professional caregivers: A pilot study. *Aging and Mental Health*. Advanced online. DOI: 10.1080/13607863.2016.1181714
- [91] Zarit S, Femia E. Behavioral and psychosocial interventions for family caregivers. *American Journal of Nursing*. 2008;**108**:47-53. DOI: 10.1097/01.NAJ.0000336415.60495.34