

PREVALENCE OF ANXIETY AND DEPRESSION IN CAREGIVERS OF ALZHEIMER'S DEMENTIA PATIENTS

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SUMMARY – Alzheimer's dementia (AD) is the most common neurodegenerative disorder, which affects 30 million people worldwide. With aging of the population, it is becoming an increasing problem in Croatia. Alzheimer's dementia represents not only problem for the patient but affects the patients' caregivers as well. Caring for a patient with AD carries a significant physical, socioeconomic and psychological burden. Previous studies have shown an increased risk of physical and psychiatric illness. The aim of our study was to evaluate the prevalence and intensity of anxious and depressive symptoms in caregivers of AD patients treated at Vrapče University Psychiatric Hospital in Zagreb. The study included 30 caregivers of AD patients. Participants were included consecutively, during July and August 2010. The Croatian version of the Hospital Anxiety and Depression Scale (HADS) was used to assess the level of anxiety and depression in study participants. The mean level of anxiety and depression as measured by HADS was 10.46 ± 4.26 and 8.03 ± 4.08 , respectively. A pathologic level of anxiety was found in 14 (46.7%) and pathologic level of depression as measured by HADS in 8 (26.7%) caregivers. This study showed that not only appropriate treatment of AD patients is necessary, but AD patient caregivers should also be provided due care and support.

Key words: *Alzheimer disease; Dementia; Anxiety – epidemiology; Anxiety – diagnosis; Depressive disorders – epidemiology; Depressive disorders – diagnosis; Caregivers; Psychiatric status, rating scales*

Introduction

Alzheimer's dementia (AD) is a progressive, degenerative disease of the central nervous system, which affects memory, mind and behavior of the patient. It is the most common neurodegenerative disorder in the world, which affects almost 30 million people¹. The consequence of the disease is loss of everyday functioning and therefore an increased need of nursing care by other persons.

Large studies and epidemiological reports point to several risk factors for development of AD. Age of the patient is the most important risk factor; dementia

affects 10% of people aged >65, with a higher incidence in women. The incidence of AD increases with age. In people aged 60-64, the prevalence of AD is 1%-3%, in those aged 70-80 it is 3%-12%, and the proportion increases to as high as 25%-35% in people older than 80². Other risk factors are mutations of the genes for apolipoprotein E (apoE) and for early onset disease, mutations in the genes for amyloid precursor protein (APP), presenilin (PS 1 and PS 2)^{3,4}. Also, other potential risk factors include history of head trauma, lower education level, inflammation and obesity⁵⁻⁷. With aging of the population in Croatia, the AD problem increases.

Alzheimer's dementia poses a problem not only for the patient but also has significant consequences on the patient's caregivers. It is known that caring for a patient with AD contributes to physical and psychiatric illness and increases the risk of death⁸⁻¹⁰. It also

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has a significant economic impact on caregivers. Progressive cognitive impairment leads to considerable loss of physical capabilities and increases the need of care by other persons. Caring for a patient with AD is a permanently frustrating situation with everyday duties, changing the caregiver's life profoundly. It requires time, will, patience, energy and physical effort. Numerous and everyday changes are needed to follow the progressive and irreversible changes in the patient with AD^{8,9}.

Most frequently, the persons caring for patients with AD are members of their families. In recent time, family has suffered significant changes and has transformed from large numbered to small, two or three member communities, therefore the number of persons caring for the patient with AD has decreased. Often, the spouses of AD patients are elderly persons with several chronic diseases, which additionally worsens the problem. AD leaves no hope for recovery, it unknowingly increases anxiety regarding one's future and death, physical deterioration of the patient changes the family dynamics, and constant need of energy and physical work leads to exhaustion and worsening of the physical status of older family members. Sudden, unexpected and sometimes aggressive reactions of the patient are a risk factor for development of mental disturbances in caregivers. In combination with the duration of AD, all these changes leave trace on physical and mental health of persons caring for AD patients. Previous studies have shown that caregivers of AD patients can develop anxious and depressive symptoms, or even complete clinical picture of depressive and anxiety disorder¹⁰.

The aim of our study was to assess the prevalence and intensity of anxious and depressive symptoms in caregivers of AD patients treated at Vrapče University Psychiatric Hospital in Zagreb, Croatia.

Patients and Methods

Thirty caregivers of AD patients admitted to Vrapče University Psychiatric Hospital were included in the study. AD was diagnosed using the Diagnostic and Statistical Manual of Mental Disorders IV (DSM IV) criteria¹¹. Participants were included consecutively, during July and August 2010. The study was approved by the Hospital Ethics Committee. All par-

ticipants or their caregivers had signed the informed consent before inclusion in the study.

In this study, we used a specially structured questionnaire consisting of two parts. In the first part, general data of the participants were collected: age, gender, relation with the patient, level of education, living with the patient, number of inmates, number of months/years living with the patient, socioeconomic status, and number of hours *per* day the caregiver was spending with the AD patient. In the second part, the Croatian version of the Hospital Anxiety and Depression Scale (HADS) was used to evaluate the level of anxiety and depression of the participants. HADS is a rating scale that measures the level of anxiety and depression¹². The scale has been validated and proved useful in detecting clinically significant level of anxiety and depression in various groups of participants. The questionnaire consists of 14 questions, 7 on depression and 7 on anxiety, and it takes 3-5 minutes to take the test. Results for both groups (anxiety and depression) are expressed on the 0-21 scale. Results of 8-10 denote a borderline value, while results of ≥ 11 indicate a clinically significant value. It is considered that, in an attempt to reach optimal balance between sensitivity and specificity, values above 8 should be considered clinically significant on both scales¹³⁻¹⁵. Results were processed by use of descriptive statistics.

Results

We included 30 participants, 22 (73.3%) females and eight (26.7%) males, mean age 57.6. Medium or high level of education (high school and university) had 83.4% of caregivers, 63.3% lived in the same place with the patient, 53.3% had medium social status, and 56.6% lived in a house. The mean number of people living in the same household with the patient was 1.56 ± 1.16 . The majority of caregivers were children living with parents suffering from AD (63.3%). The time of living with AD patient ranged from 3.34 to 51.7 years (27.56 ± 24.22), while the time elapsed from AD diagnosis was 0.67 to 5.43 years. Caregivers spent a mean of 16.43 ± 9.93 hours a day with the patient. Demographic and general data are shown in Table 1.

The mean level of anxiety as measured by HADS was 10.46 ± 4.26 and the mean level of depression was 8.03 ± 4.08 . A pathologic level of anxiety was found in

Table 1. Demographic and general data of study subjects (N=30)

Sex:	
male	8 (26.7%)
female	22 (73.3%)
Mean age (yrs)	57.66±11.12
Relation to patient:	
child	19 (63.3%)
spouse	11 (26.7%)
Education:	
elementary school	5 (16.6%)
high school	11 (36.7%)
college degree	7 (23.4%)
academic degree	6 (20.0%)
PhD	1 (3.3%)
Living with the patient:	
yes	19 (63.3%)
no	11 (36.7%)
Mean number of people living with the patient	1.56±1.16
Living with the patient (yrs)	27.56±24.22
Time from AD diagnosis (yrs)	3.05±2.38
Socioeconomic status:	
good	11 (36.7%)
medium	16 (53.3%)
bad	3 (10.0%)
Living in:	
house	17 (56.6%)
apartment	8 (26.7%)
no answer	5 (16.7%)
Hours of caring for patient/day	16.43±9.93

AD = Alzheimer's dementia

Table 2. Hospital Anxiety and Depression Scale (HADS) score median values for anxiety and depression and number of subjects according to HADS groups

	Anxiety	Depression
HADS score (median ± standard deviation)	10.46±4.26	8.03±4.08
HADS group:		
normal (0-7)	7 (23.3%)	13 (43.3%)
borderline (8-10)	9 (30%)	9 (30%)
pathologic (≥11)	14 (46.7%)	8 (26.7%)

14 (46.7%) caregivers, while eight (26.7%) caregivers had pathologic levels of depression as measured by HADS. If caregivers with borderline values as measured by HADS (8-11) had been included, then pathologic values on anxiety scale would have been present in more than 76.7% and pathologic values on depression scale in 56.7% of caregivers (Table 2).

Discussion

As expected, study results revealed a high level of anxiety and depressive symptoms in persons caring for AD patients. Previous reports have shown the prevalence of anxiety in persons caring for AD patients to range from 3.7% to 76.5%. These differences in the results are caused by using different scales, time of observation and methodology on making the diagnosis of AD¹⁶. Almost every depression is associated with anxiety, while anxiety is not necessarily associated with depression¹⁷. This was the reason for the lower incidence of depressive symptoms in our participants, which is consistent with literature data. The prevalence of depressive disorder in caregivers of AD patients varies from 15% to 32%¹⁸. It should be noted that these data include patients with the diagnosis of depressive disorder, not depressive symptoms.

According to the literature, the risk factors for anxiety symptoms in persons caring for AD patients are female sex, lower subjective feeling of physical health, living with the patient, incommensurate relationship with the patient, and higher level of physical disability¹⁹. The risk factors for depressive symptoms in people taking care for AD patients are female sex, younger age, aggression of the patient, and more time spent with the patient.

The limitations of our study were a relatively small number of subjects and inclusion of participants from a single hospital. It is also important to note that we included only one person *per* patient. There is a possibility that people with different levels of anxiety and depression are included in care for one AD patient.

It is known that AD affects not only the patient but also changes the life of the whole family. Complexity of treatment, constant care for the patient, insufficiency of social and health system, and high expenses have great impact on the caregivers of AD patients. The high levels of anxiety and depression in caregivers

recorded in our study pointed to the need of providing care to the caregivers. This study has shown that caring for AD patient has an unfavorable impact on the health of a caregiver. Except for treatment and care for the patient, it is important to develop programs for prevention and treatment of mental disorders of the caregivers.

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Sažetak

UČESTALOST ANKSIOZNOSTI I DEPRESIJE KOD OSOBA KOJE NJEGUJU BOLESNIKE S ALZHEIMEROVOM DEMENCIJOM

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Alzheimerova demencija (AD) je najčešći neurodegenerativni poremećaj koji zahvaća više od 30 milijuna ljudi u svijetu, a starenjem populacije postaje rastući problem i u Hrvatskoj. Alzheimerova demencija ne predstavlja problem samo oboljelima, već i njegovateljima također. Briga o bolesnicima s AD predstavlja značajan fizički, socioekonomski i psihološki teret. Prethodna istraživanja su pokazala povećan rizik od fizičkih i psihičkih bolesti. Cij našega istraživanja bio je procijeniti učestalost i težinu anksioznih i depresivnih simptoma kod njegovatelja bolesnika s AD u Klinici za psihijatriju Vrapče u Zagrebu. Istraživanje je uključilo 30 njegovatelja bolesnika s AD. Sudionici istraživanja su uključeni tijekom srpnja i kolovoza 2010. g. Hrvatska verzija *Hospital and Depression Scale* (HADS) je korištena za procjenu anksioznosti i depresije. Prosječne razine anksioznosti i depresije bile su $10,46 \pm 4,26$ i $8,03 \pm 4,08$. Patološka razina anksioznosti je nađena kod 14 (46,7%) njegovatelja, a patološka razina depresije kod 8 (26,7%) njegovatelja. Ova studija pokazuje da je uz odgovarajuću terapiju bolesnika s AD potrebna i primjerena briga i potpora njegovateljima.

Ključne riječi: Alzheimerova bolest; Demencija; Anksioznost – epidemiologija; Anksioznost – dijagnostika; Depresivni poremećaji – epidemiologija; Depresivni poremećaji – dijagnostika; Njegovatelji; Psihijatrijski status, procjena stupnja