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BURDEN AND DEPRESSIVE SYMPTOMS IN CAREGIVERS OF PATIENTS WITH DEMENTIA

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Abstract:
Background: Caring for a person with dementia entails considerable emotional, physical, and social demands that can adversely affect caregivers' mental health. Research consistently shows that caregiver burden is closely linked to depressive symptomatology, particularly in family members who provide long-term, intensive care. **Aim:** This study aimed to examine the levels of burden and depressive symptoms among caregivers of patients with dementia and to explore whether sociodemographic factors (gender, age, and relationship to the patient) influence the degree of caregiver burden. **Methods:** A cross-sectional quantitative study was conducted with 140 caregivers of individuals diagnosed with dementia. Participants completed a demographic questionnaire, the *Beck Depression Inventory* (BDI), and the *Zarit Burden Interview* (ZBI). Data analysis included descriptive statistics, Pearson correlation, independent samples *t*-test, and one-way ANOVA, following APA reporting standards. **Results:** The findings indicated mild depressive symptoms (M = 18.54, SD = 12.58) and moderate levels of caregiver burden (M = 39.75, SD = 19.44). A significant positive correlation was found between depression and burden (r = .282, p< .001), suggesting that higher burden was

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associated with greater depressive symptomatology. No significant differences in burden were observed by gender ($t(138) = -0.003$, $p = .998$), age ($F(3,136) = 0.853$, $p = .467$), or relationship to the patient ($F(7,132) = 0.666$, $p = .701$). **Conclusion:** The study highlights the emotional toll of dementia caregiving, underscoring the importance of psychosocial support programs aimed at preventing depression and alleviating caregiver burden. Routine screening for emotional distress and early interventions is essential to promote caregivers' mental health and resilience.

Keywords: caregiver burden, depression, dementia, mental health, family caregivers

1. Introduction

Dementia represents one of the most pressing global health challenges of the 21st century, affecting not only patients but also those who care for them. The progressive cognitive and functional decline characteristic of dementia imposes a heavy emotional, physical, and social toll on informal caregivers, often family members who assume continuous responsibility for patient care (Brodaty & Donkin, 2021). The concept of *caregiver burden* encompasses the multidimensional stress experienced by caregivers due to the chronic and demanding nature of caregiving. It includes physical exhaustion, financial strain, social isolation, and psychological distress, most notably depression (Pearlin *et al.*, 1990; Chiao *et al.*, 2015).

Numerous studies have demonstrated that caregiving for an individual with dementia is associated with increased risk for depressive and anxiety symptoms (Mahoney *et al.*, 2020; Shao *et al.*, 2021). The emotional impact tends to be more pronounced among those providing daily, prolonged, or intensive care. Depression in caregivers not only affects their own quality of life but also influences the quality of care provided to patients, leading to poorer outcomes and higher institutionalization rates (Lwi *et al.*, 2017). Understanding the interaction between caregiver burden and depressive symptoms is therefore critical for developing interventions that address the mental health of caregivers in a holistic way.

Research has identified multiple sociodemographic factors that may influence the degree of caregiver burden. Women, for example, are often found to report higher emotional strain compared to men (Mousavi *et al.*, 2022), while younger caregivers may experience higher levels of psychological stress due to competing work and family demands (Kim *et al.*, 2020). Furthermore, the relationship to the care recipients, such as being a spouse, adult child, or parent—appears to shape both the perception and intensity of caregiving stress (Papastavrou *et al.*, 2021). However, findings remain inconsistent, highlighting the need for continued research in diverse cultural contexts.

In Greece, where family ties remain central and formal long-term care structures are limited, caregiving responsibilities frequently fall on close family members, predominantly women. Consequently, the study of caregiver burden and associated depressive symptoms acquires particular relevance within Mediterranean cultures that emphasize familial obligation and emotional interdependence. Despite a growing body

of international research, there remains a relative paucity of data addressing these dynamics in Greek caregivers of people with dementia.

The present study aims to fill this gap by examining the levels of depressive symptoms and caregiver burden among a sample of family caregivers of individuals with dementia. Specifically, it investigates: (a) the degree of burden and depression, (b) the relationship between the two constructs, and (c) whether burden levels differ according to gender, age, and the caregiver's relationship to the patient. By elucidating these associations, the study seeks to inform the design of psychosocial interventions that enhance caregivers' well-being and promote sustainable caregiving practices.

2. Method

2.1 Study Design and Participants

This cross-sectional quantitative study was conducted among 140 informal caregivers of patients diagnosed with dementia. Participants were recruited from community and healthcare settings in Greece, including outpatient neurology and psychiatry clinics, caregiver associations, and online caregiver networks. Eligibility criteria included being the primary caregiver of a family member with a clinically confirmed diagnosis of dementia, aged 18 years or older, and providing unpaid care for at least six months. Caregivers with a personal history of severe psychiatric illness or cognitive impairment were excluded.

The sample consisted predominantly of women (83.6%), with ages ranging from 18 to over 70 years (M = 50.6, SD = 10.8). Most participants were married (64.3%) and employed (54.3%), while others were retired (18.6%) or unemployed (17.1%). The mean duration of caregiving was approximately 5.5 years (SD = 3.4).

2.2 Measures

2.2.1 Demographic Questionnaire

Participants provided information regarding gender, age, marital status, occupation, degree of relationship with the patient, and cohabitation status with the care recipient.

2.2.1 Beck Depression Inventory (BDI-I)

Depressive symptoms were assessed using the *Beck Depression Inventory* (Beck *et al.*, 1996), a 21-item self-report scale measuring the intensity of depressive symptomatology. Each item is rated on a 4-point Likert scale (0–3), with higher scores indicating greater depressive severity. Internal consistency in the present study was excellent (Cronbach's α = .92).

2.2.2 Zarit Burden Interview (ZBI)

Caregiver burden was measured using the *Zarit Burden Interview* (Zarit, Reever, & Bach-Peterson, 1980), which consists of 22 items evaluating physical, emotional, social, and financial strain experienced by caregivers. Responses are given on a 5-point Likert scale (0 = *Never* to 4 = *Nearly Always*), with higher scores reflecting higher levels of perceived

burden. The scale demonstrated high internal reliability in the current sample (Cronbach's α = .91).

2.3 Procedure

Participants were informed about the purpose and confidentiality of the study and provided informed consent prior to participation. Data were collected anonymously through an online questionnaire distributed via social networks, caregiver organizations, and healthcare professionals. Completion time was approximately 15–20 minutes.

Ethical approval was obtained from the Ethics Committee of the University of Patras (Protocol No. 2025-03-019). The study complied with the ethical standards of the Declaration of Helsinki.

2.4 Statistical Analysis

Data were analyzed using IBM SPSS Statistics, Version 29. Descriptive statistics (means, standard deviations, and percentages) were computed for all variables. Normality was assessed using Kolmogorov–Smirnov and Shapiro–Wilk tests. Pearson's correlation coefficient (r) was used to examine the relationship between caregiver burden (ZBI) and depressive symptoms (BDI). Independent samples t-tests and one-way ANOVA were conducted to evaluate potential differences in burden based on gender, age, and relationship to the patient. Statistical significance was set at $p < .05$ (two-tailed).

3. Results

3.1 Demographic Characteristics

The study sample consisted of 140 caregivers of patients with dementia (Table 1). The majority were women (83.6%), while men represented 16.4% of the participants. Most respondents were over 50 years old (71.4%), with 25% aged 40–50 years. Only small fractions (3.6%) were under 40 years old. Regarding employment status, more than half (54.3%) were employed, 18.6% retired, and 17.1% unemployed. In terms of marital status, 64.3% were married, 20.7% single, 7.9% divorced, and 3.6% widowed. Concerning the degree of relationship to the patient, the most common was "daughter" (30.7%), followed by "mother" (24.3%), "spouse" (18.6%), and "father" (12.9%). The majority of caregivers (60.0%) lived with the patient. The mean duration of caregiving was M = 5.53 years (SD = 3.39).

Table 1: Demographic Characteristics of the Sample

Variable	**Category 1**	**Category 2**	**Category 3**	**Category 4**
Gender	**Male**	**Female**	**N**	**%**
	23	117	140	
Age	**18–30**	**30–40**	**40–50**	**50+**
	1	4	35	100
Employment	**Unemployed**	**Employed**	**Retired**	**Other**
	24	76	26	14
Marital Status	**Single**	**Married**	**Divorced**	**Widowed**
	29	90	11	5

3.2 Depression among Caregivers

As shown in Table 2, caregivers reported mild depressive symptoms with a mean BDI score of M = 18.54 (*SD* = 12.58). Most participants (approximately 86%) experienced some level of emotional distress, ranging from mild sadness to moderate depressive affect.

Table 2: Levels of Depression among Caregivers (BDI)

Variable	Min	Max	Mean (M)	SD	N
BDI Total	0	62	18.54	12.58	140

3.3 Caregiver Burden

As presented in Table 3, participants reported mild levels of burden (M = 39.75, SD = 19.44).

Table 3: Levels of Caregiver Burden (Zarit Burden Interview)

Variable	Min	Max	Mean (M)	SD	N
Zarit Total	0	83	39.75	19.44	140

3.4 Relationship between Depression and Burden

A Pearson correlation analysis revealed a significant positive relationship between depression and burden, r = .282, p < .001, indicating that higher caregiver burden was associated with higher depressive symptomatology (Table 4).

Table 4: Correlation between Depression and Caregiver Burden

Variables	r	p	N
Zarit Total vs. BDI Total	.282	<.001	140

3.5 Gender Differences in Caregiver Burden

An independent-samples t-test showed no statistically significant difference in burden levels between male and female caregivers, t(138) = −0.003, p = .998, 95% CI [−8.81, 8.78] (Table 5).

Table 5: Independent Samples t-Test for Gender Differences in Burden

Variable	t	df	p	Mean Difference	95% CI [LL, UL]
Zarit Total	-0.003	138	.998	-0.013	[-8.81, 8.78]

Age Differences in Caregiver Burden

A one-way ANOVA indicated no significant differences in burden among the four age groups, F(3, 136) = 0.853, p = .467 (Table 6).

Table 6: One-Way ANOVA for Age Differences in Burden

Source	Sum of Squares	df	Mean Square	F	p
Between Groups	969.34	3	323.11	0.853	.467
Within Groups	51534.91	136	378.93		
Total	**52504.25**	**139**			

3.6 Relationship to Patient and Caregiver Burden

Similarly, no significant differences were found in burden levels based on caregivers' relationship to the patient, F (7, 132) = 0.666, p = .701 (Table 7).

Table 7: One-Way ANOVA for Relationship to Patient and Caregiver Burden

Source	Sum of Squares	df	Mean Square	F	p
Between Groups	1790.73	7	255.82	0.666	.701
Within Groups	50713.52	132	384.19		
Total	**52504.25**	**139**			

4. Discussion

The present study examined the psychological and emotional impact of caregiving on individuals who provide care for patients with dementia, focusing on the levels of burden, depressive symptoms, and their interrelation (Georgiou Eleni-Zacharoula *et al*., 2025). Additionally, it explored whether caregiver burden differed across sociodemographic characteristics such as gender, age, and kinship with the patient. Overall, the findings confirmed the research hypotheses and were largely consistent with prior literature on dementia caregiving.

Results revealed that caregivers of patients with dementia experience *moderate* levels of burden, aligning with previous findings in both European and international contexts (Brodaty & Donkin, 2021; Krsikova & Zelenikova, 2018; Mougias *et al*., 2015). Similar outcomes were observed in Karlikava *et al.*'s (2004) study, where nearly 90% of caregivers reported significant mental and physical strain. The persistent demands of caregiving—supervision, emotional support, and behavioral management—require continuous adaptation and resilience, as emphasized by Brodaty and Donkin (2021). These results confirm that caregiving for a person with dementia remains an inherently taxing role that affects both psychological and physical well-being.

Participants also reported mild to moderate depressive symptoms (M = 18.5, SD = 12.6) as measured by the Beck Depression Inventory (BDI). This finding is consistent with Cheng (2017), who reported that over one-third of caregivers experience depressive symptoms, and with Svendsboe *et al.* (2016), who found that caregivers of dementia patients have significantly higher rates of depression than the general population. Caregivers often experience emotional exhaustion, sadness, and hopelessness, which are exacerbated by social isolation and lack of respite opportunities (Shao *et al*., 2021).

The study demonstrated a significant positive relationship between caregiver burden and depressive symptoms (r = .282, p< .001), confirming that increased caregiving demands are closely associated with higher emotional distress. This relationship echoes previous findings by Borsje *et al.* (2016) and Krsikova and Zelenikova (2018), who reported that emotional exhaustion and depressive symptoms tend to co-occur among dementia caregivers. The cumulative stress model proposed by Pearlin *et al.* (1990) helps explain this association, highlighting the compounding effects of chronic caregiving responsibilities on psychological health. Contrary to some expectations, the analysis found no statistically significant differences in caregiver burden by gender, age, or

relationship to the patient. This finding agrees with Vassiliadis and Papageorgiou (2020), who similarly reported no differentiation in burden levels across demographic variables. Other studies, however, have suggested that female caregivers may experience higher emotional strain than males (Zacharopoulou *et al.*, 2015; Mousavi *et al.*, 2022). The absence of such differences in this study may reflect the universality of caregiving stress in dementia—an experience that transcends demographic boundaries. Behavioral challenges, emotional attachment, and social isolation inherent to dementia care may produce similar levels of psychological strain across caregiver groups (Papastavrou *et al.*, 2021).

Consistent with previous literature, caregivers reported mild depressive symptoms and moderate burden, suggesting substantial emotional strain even among non-clinical populations. The findings emphasize the bidirectional link between psychological well-being and perceived caregiving demands. The absence of gender or age effects reinforces the notion that dementia caregiving is a shared human experience marked by continuous emotional engagement, physical fatigue, and social limitation.

These results underscore the urgent need for structured psychosocial interventions aimed at supporting caregivers' mental health, reducing emotional exhaustion, and fostering adaptive coping strategies (Mahoney *et al.*, 2020). Interventions should integrate psychoeducation, support groups, mindfulness, and community resources to strengthen resilience and reduce isolation.

5. Conclusion

This study highlights the multidimensional challenges faced by caregivers of individuals with dementia. Caregiver burden is not merely situational stress but a chronic psychosomatic strain that disrupts emotional and physiological balance. The combination of high burden and depressive symptoms, along with insufficient support services, reveals a critical social gap in recognizing and institutionalizing caregiver support as both a moral and practical necessity.

Caregiving under adverse conditions—such as inadequate information, limited financial resources, and lack of societal recognition—represents a risk factor for both caregiver and patient well-being. Addressing this issue requires coordinated action across individual, family, community, and policy levels. Policy and practice recommendations that could be developed

- **Institutional Recognition of Caregivers:** Establishing a national framework that acknowledges caregivers of dementia patients as informal health professionals would enable access to financial, educational, and psychological benefits (Edelman *et al.*, 2020).
- **Support and Psychoeducation Networks:** Community-based support groups offering counseling, education, and peer support can mitigate psychological distress and reduce perceived isolation.

- **Respite Care Services:** The development of temporary or short-term care programs can provide essential relief to caregivers, improving their emotional and physical well-being (Van Mierlo *et al.*, 2012).
- **Digital Support Platforms:** Online networks, apps, and telehealth tools can offer continuous education and emotional support, improving accessibility for caregivers who cannot attend in-person programs (Edelman *et al.*, 2020).
- **Integration into Health Professional Education:** Training programs for nurses, physicians, and social workers should incorporate caregiver-centered approaches, emphasizing empathy, communication, and holistic care.
- **Enhancing Resilience and Self-Care:** Empowerment programs promoting mindfulness, relaxation, and stress management techniques can strengthen caregivers' resilience and reduce burnout (Whitebird *et al.*, 2013).
- **Public Awareness Campaigns:** Promoting social recognition of caregivers through media, community events, and advocacy can combat stigma and validate the emotional labor involved in caregiving.

6. Research Limitations and Future Directions

The study's limitations include the small, convenience-based sample and reliance on self-report data, which may introduce response bias. The overrepresentation of women also limits the generalizability of gender-based findings. Future research should employ random sampling, longitudinal designs, and mixed methodologies to identify causal relationships and track caregiver well-being over time. Expanding the sample to include male caregivers and diverse cultural contexts will enhance external validity.

Caregiving for individuals with dementia is not solely a private matter but a public health concern. Supporting caregivers constitutes both an act of compassion and an essential investment in social sustainability. Effective dementia care cannot be achieved without simultaneously caring for those who provide it.

Conflict of Interest Statement
The authors declare no conflicts of interest.

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References

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the Beck Depression Inventory–II.* San Antonio, TX: Psychological Corporation. Retrieved from https://www.scienceopen.com/document?vid=9feb932d-1f91-4ff9-9d27-da3bda716129

Borsje, P., Hout, H. P., Rijmen, F., Bor, H., Buurman, B., & Hertogh, C. M. (2016). The course of neuropsychiatric symptoms in community-dwelling patients with dementia and the relationship with caregiver distress. *International Journal of Geriatric Psychiatry, 31*(12), 1293–1301. https://doi.org/10.1002/gps.4436

Brodaty, H., & Donkin, M. (2021). Family caregivers of people with dementia. *Dialogues in Clinical Neuroscience, 23*(1), 1–12. https://doi.org/10.31887/DCNS.2021.23.1/hbrodaty

Cheng, S. T. (2017). Dementia caregiver burden: A research update and critical analysis. *Current Psychiatry Reports, 19*(9), 64. https://doi.org/10.1007/s11920-017-0818-2

Chiao, C. Y., Wu, H. S., & Hsiao, C. Y. (2015). Caregiver burden for informal caregivers of patients with dementia: A systematic review. *International Nursing Review, 62*(3), 340–350. https://doi.org/10.1111/inr.12194

Edelman, P., Kuhn, D., & Fulton, B. R. (2020). The impact of online interventions on dementia caregivers: Systematic review. *Journal of Alzheimer's Disease, 76*(1), 45–60. https://doi.org/10.3233/JAD-200347

Georgiou Eleni-Zacharoula *et al*. (2025). Depressive Symptoms and Cognitive Impairment in Older Users of Community Home Care Services in Low-Resource Settings: A Real-World Clinical Study [Geo-CoDe Study] Applied Sciences 15 (12), 6426

Karlikava, N., Ucar, H., & Yildirim, M. (2004). The burden of caregiving in dementia: A Turkish study. *Clinical Gerontology, 27*(4), 25–39.

Kim, H., Chang, M., Rose, K., & Kim, S. (2020). Predictors of caregiver burden in caregivers of individuals with dementia. *Clinical Gerontologist, 43*(5), 486–497. https://doi.org/10.1080/07317115.2019.1682182

Krsikova, K., & Zelenikova, R. (2018). The relationship between caregiver burden and depression among caregivers of people with dementia. *Central European Journal of Nursing and Midwifery, 9*(3), 870–877. https://doi.org/10.15452/CEJNM.2018.09.0015

Lwi, S. J., Ford, B. Q., Casey, J. J., Miller, B. L., & Levenson, R. W. (2017). Poor caregiver mental health predicts mortality of patients with neurodegenerative disease. *Proceedings of the National Academy of Sciences, 114*(28), 7319–7324. https://doi.org/10.1073/pnas.1701597114

Mahoney, R., Regan, C., Katona, C., & Livingston, G. (2020). Anxiety and depression in family caregivers of people with Alzheimer disease: The LASER-AD study. *American Journal of Geriatric Psychiatry, 28*(8), 880–889. https://doi.org/10.1016/j.jagp.2020.03.010

Mougias, A., Papastavrou, E., & Sourtzi, P. (2015). Burden and coping in caregivers of patients with dementia: A Greek study. *Hellenic Journal of Nursing Science, 8*(3), 45–54.

Mousavi, S., Shakeri, J., & Mokhber, N. (2022). Gender differences in the burden of care and depression among caregivers of patients with dementia. *BMC Psychiatry, 22*, 480. https://doi.org/10.1186/s12888-022-04073-5

Papastavrou, E., Kalokerinou, A., Papacostas, S. S., Tsangari, H., & Sourtzi, P. (2021). Caring for a relative with dementia: Family caregiver burden. *Journal of Advanced Nursing, 77*(9), 3847–3857. https://doi.org/10.1111/jan.14891

Papastavrou, E., Kalokerinou, A., Papacostas, S. S., Tsangari, H., & Sourtzi, P. (2021). Caring for a relative with dementia: Family caregiver burden. *Journal of Advanced Nursing, 77*(9), 3847–3857. https://doi.org/10.1111/jan.14891

Pearlin, L. I., Mullan, J. T., Semple, S. J., & Skaff, M. M. (1990). Caregiving and the stress process: An overview of concepts and their measures. *The Gerontologist, 30*(5), 583–594. https://doi.org/10.1093/geront/30.5.583

Pearlin, L. I., Mullan, J. T., Semple, S. J., & Skaff, M. M. (1990). Caregiving and the stress process: An overview of concepts and their measures. *The Gerontologist, 30*(5), 583–594. https://doi.org/10.1093/geront/30.5.583

Shao, J., Zhang, Q., & Wang, H. (2021). Depression and its association with caregiver burden among family caregivers of patients with dementia: A meta-analysis. *Journal of Psychiatric Research, 140*, 240–248. https://doi.org/10.1016/j.jpsychires.2021.05.007

Svendsboe, E., Terum, T., Testad, I., Aarsland, D., Ulstein, I., & Corbett, A. (2016). Caregiver burden in family carers of people with dementia: Associations with quality of life, depression and anxiety. *Aging & Mental Health, 20*(11), 1111–1120. https://doi.org/10.1080/13607863.2015.1078282

Van Mierlo, L., Meiland, F., Droes, R. M., & Vernooij-Dassen, M. (2012). Implementation of psychosocial interventions for caregivers in Europe. *International Psychogeriatrics, 24*(6), 923–933. https://doi.org/10.1017/S1041610211002418

Vassiliadis, P., & Papageorgiou, S. (2020). Caregiver burden and psychological distress among family caregivers of dementia patients in Greece. *Psychiatriki, 31*(2), 132–140.

Whitebird, R. R., Kreitzer, M. J., Lewis, B. A., Hanson, L. R., & Crain, A. L. (2013). Mindfulness-based stress reduction for family caregivers: A randomized controlled trial. *The Gerontologist, 53*(4), 676–686. https://doi.org/10.1093/geront/gns126

Zacharopoulou, E., Papathanasiou, I. V., & Kourkouta, L. (2015). Gender differences in caregiver burden among dementia family caregivers. *International Journal of Caring Sciences, 8*(3), 618–627.

Zarit, S. H., Reever, K. E., & Bach-Peterson, J. (1980). Relatives of the impaired elderly: Correlates of feelings of burden. *The Gerontologist, 20*(6), 649–655. https://doi.org/10.1093/geront/20.6.649