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Stigma, Social Anxiety, Depression, and Caregiver Burden Among Caregivers of People with Dementia

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Abstract

Background: Dementia places substantial psychological, social, and practical demands on family caregivers. In addition to caregiving burden, caregivers may experience stigma, social anxiety, and depressive symptoms. Although burden and depression have been widely examined, fewer studies have considered these psychosocial variables together.

Objective: This study examined relationships among dementia-related stigma, social anxiety, depression, and caregiver burden among primary caregivers of people with dementia. Gender differences were also assessed, and stigma, social anxiety, and depression were examined as predictors of caregiver burden.

Method: A cross-sectional correlational design was used with 150 primary caregivers, including 75 males and 75 females. Participants completed measures of family stigma, social anxiety, depressive symptoms, and caregiver burden. Descriptive statistics, independent-samples *t* tests, Pearson correlations, and multiple regression were conducted.

Results: Female caregivers reported significantly higher stigma, social anxiety, depression, and caregiver burden than males. Stigma was positively associated with social anxiety ($r = .61$), depression ($r = .57$), and caregiver burden ($r = .49$). Social anxiety was associated with depression ($r = .68$) and caregiver burden ($r = .55$). Depression showed the strongest association with burden ($r = .71$). The regression model was significant, $F(3, 146) = 67.01$, $p < .001$, explaining approximately 58% of the variance in caregiver burden. Depression was the strongest predictor.

Conclusion: Stigma, social anxiety, depression, and caregiver burden are closely related among dementia caregivers. Caregiver assessment and intervention should address psychological distress, stigma, social functioning, and burden alongside the care needs of people with dementia.

Keywords*:* Dementia, Caregivers, Stigma, Social Anxiety, Depression, Caregiver Burden

Introduction

Dementia is a major global health problem characterized by progressive impairment in memory,

thinking, communication, behavior and everyday functioning (Chai et al., 2018). Alzheimer's disease represents the leading cause of dementia, while vascular dementia, Lewy body dementia, frontotemporal dementia and other neurocognitive disorders account for a substantial proportion of cases. According to the World Health Organization, approximately 57 million people were living with dementia globally in 2021 with the majority residing in low and middle income countries. The consequences of dementia, however extend well beyond the individual diagnosed with the condition. As cognitive and functional abilities decline, individuals increasingly depend on family members for medication management, personal care, supervision, communication, mobility, safety and daily decision-making. Consequently, informal caregivers play a vital role in dementia care, particularly where formal caregiving resources are limited.

Although caring for a family member can provide a sense of responsibility, emotional connection and personal meaning, prolonged caregiving can also impose substantial demands. Caregivers may experience disrupted sleep, financial strain, reduced work opportunities, restricted social activities, changes in family relationships, and ongoing uncertainty about the illness. Over time, these challenges may increase psychological distress and contribute to caregiver burden. Caregiver burden is understood as a multidimensional experience encompassing emotional, physical, social, practical and financial difficulties arising from caregiving responsibilities. It incorporates both the observable demands associated with providing care and the caregiver's subjective perception of those demands. Evidence indicates that caregiver burden is closely related to overall caregiver wellbeing and may intensify as dementia advances. Recent evidence similarly indicates that caregiver burden is shaped by patient-related, caregiver-related and contextual factors that includes dementia severity, neuropsychiatric symptoms, caregiving time, economic strain, physical health and social support (Wang et al., 2022).

Systematic evidence also indicates that depression and anxiety are common psychological concerns among family caregivers of people with dementia (Watson et al., 2019). Individuals caring for relatives with dementia may experience persistent sadness, exhaustion, diminished motivation, hopelessness, irritability, sleep disturbances and withdrawal from social activities. In a meta-analysis encompassing 55 studies and 9,847 caregivers across 20 countries, Del-Pino-Casado et al. (2019) identified a substantial positive association between subjective caregiver burden and depressive symptoms with the association being especially pronounced among caregivers of people with dementia. Nevertheless, the psychological consequences of dementia caregiving extend beyond depressive symptoms and the practical demands of care. Dementia-related stigma represents another important factor that may shape caregiver's experiences and wellbeing.

However, caregiver distress is not limited to depression and practical burden. Dementia-related stigma may also affect caregivers. Stigma includes negative stereotypes, social distancing, embarrassment, blame, and beliefs that people with dementia are incompetent, unpredictable, or socially inappropriate. These attitudes may extend to family members through stigma by association, in which caregivers perceive negative treatment because of their relationship with the person with dementia.

Caregivers may also experience affiliate stigma, whereby negative social attitudes are internalized and influence their emotions, self-evaluation, or behavior. Recent systematic evidence further indicates that relatives of people living with dementia experience stigma in multiple forms, including social and interpersonal consequences (Provias et al., 2026). Bhatt et al. (2022), reported stigma by association among family carers of people with dementia and provided preliminary support for the Family Stigma Instrument in this population.

Caregivers may feel apprehensive about how others might react when a person with dementia becomes confused, repetitive, agitated, disinhibited or displays other noticeable behavioral changes. Fear of embarrassment or negative judgment can consequently discourage participation in family gatherings, community activities, social visits and other interpersonal settings. Some caregivers may even choose to conceal the diagnosis or remain silent about the difficulties associated with providing care. Although

avoiding social situations may provide temporary relief from discomfort, prolonged withdrawal can reduce access to emotional support, practical assistance, and opportunities for respite. Social anxiety may therefore coexist with depressive symptoms and caregiver burden, with limited interaction reinforcing isolation and depression further reducing motivation for social engagement. A recent systematic review and meta-analysis reported substantial levels of loneliness and social isolation among informal dementia caregivers, highlighting the social challenges associated with caregiving (Liao et al., 2024). Overall, these findings suggest that stigma, social anxiety, depression, and caregiver burden may be interconnected dimensions of the caregiving experience rather than isolated concerns.

Gender may also influence the experiences and outcomes of dementia caregivers. A systematic review and meta-analysis found that women represent the majority of family caregivers and tend to report slightly higher levels of caregiver burden than men (Duangjina et al., 2025).). Caregiver wellbeing may further vary according to employment and financial circumstances, household responsibilities, coping strategies, caregiving intensity, and willingness to disclose psychological difficulties. At the same time the gender-related patterns are not uniform across populations as the cultural norms, family structures and social expectations can influence caregiving roles and psychological outcomes. Consequently, gender differences should be interpreted within their broader sociocultural context.

Existing research on dementia caregiving has largely focused on specific associations, particularly those between depression and caregiver burden and between stigma and caregiver burden. Comparatively less attention has been given to examining stigma, social anxiety, depression and caregiver burden together within a single caregiver population. An integrated examination of these factors may provide a broader understanding of how social and psychological pressures interact in shaping caregiver's wellbeing.

The present study therefore examined these four variables among primary caregivers of people with dementia. The objectives were to describe their levels, examine gender differences, determine relationships among the variables, and assess whether stigma, social anxiety, and depression independently predicted caregiver burden.

It was hypothesized that stigma would be positively associated with social anxiety and depression, that social anxiety would be positively associated with depression, and that stigma, social anxiety, and depression would each be positively associated with caregiver burden.

Method

Research Design: A quantitative cross-sectional correlational design was used. The study examined relationships among caregiver psychological variables at one assessment point without manipulating treatment or exposure. Because all variables were assessed simultaneously, findings represent statistical associations rather than causal relationships.

Participants: The sample consisted of 150 primary caregivers of people with dementia, including 75 males (50%) and 75 females (50%). Caregivers were recruited through dementia-related clinical services, psychiatric or neurological outpatient settings, and community caregiving networks.

Each participant was caring for a person with a documented clinical diagnosis of dementia. Only caregivers participated in the psychological assessment. People with dementia did not provide stigma, social anxiety, depression, or caregiver-burden scores.

Inclusion Criteria: Participants were eligible if they were aged 18 years or older, were the primary or regular caregiver of a person with diagnosed dementia, had provided care for at least 6 months, regularly assisted with daily care or supervision, and were able to understand the study procedures and provide informed consent.

Exclusion Criteria: Caregivers were excluded if severe cognitive impairment, acute medical illness, active psychosis, or another condition substantially interfered with reliable completion of the assessment.

Measures

Demographic Information Form: A structured questionnaire collected caregiver age, gender, marital status, educational level, relationship to the person with dementia, duration of caregiving, and caregiving involvement. Duration of dementia in the care recipient was also recorded.

Dementia-Related Family Stigma: Caregiver stigma was assessed using the stigma-by-association component of the Family Stigma Instrument (FAMSI), which was examined among family caregivers of people living with dementia by Bhatt et al. (2022). The stigma-by-association component contains eight items rated on a 5-point scale. Higher scores indicate stronger perceptions of negative treatment or judgment associated with being a caregiver of a person with dementia.

Social Anxiety: Social anxiety was measured using the Social Interaction Anxiety Scale (SIAS) **(**Mattick & Clarke, 1998**).** The SIAS assesses anxiety and discomfort in interpersonal situations, including fear of social interaction and negative evaluation. Higher scores indicate greater social-interaction anxiety.

Depression: Depressive symptoms were assessed using the Beck Depression Inventory–II (BDI-II) **(**Beck et al., 1996**).** The BDI-II contains 21 items assessing cognitive, emotional, motivational, and somatic symptoms of depression over the previous 2 weeks. Higher scores indicate greater depressive symptom severity.

Caregiver Burden: Caregiver burden was measured using the 22-item Zarit Burden Interview (ZBI-22**) (**Zarit et al., 1980**).** The ZBI assesses perceived emotional, interpersonal, social, and practical strain related to caregiving. Higher scores on the measure reflect greater subjective caregiver burden.

Procedure. Potential participants were identified and approached through relevant clinical and community-based services. Before enrollment the eligible caregivers were provided with information concerning the study objectives, voluntary nature of participation, confidentiality procedures and their right to discontinue participation at any stage. Written informed consent was obtained prior to data collection. Participants then completed a demographic questionnaire along with the psychological measures individually in a private setting. Each caregiver provided a single set of responses assessing stigma, social anxiety, depression and caregiver burden. No identifying information was included in the analytical dataset and confidentiality was preserved during data collection, statistical analysis, and reporting.

Statistical Analysis. Statistical analyses were performed using IBM SPSS Statistics. Categorical characteristics were summarized using frequencies and percentages, whereas continuous variables were described through means and standard deviations. Differences between male and female caregivers across stigma, social anxiety, depression and caregiver burden were examined using independent-samples *t* tests, with Cohen's *d* reported as an estimate of effect size. Pearson's correlation coefficients were calculated to examine the associations among the four continuous study variables. To further assess the relative contribution of the psychological variables, a multiple linear regression model was estimated with caregiver burden specified as the outcome variable and stigma, social anxiety, and depression entered simultaneously as predictors. Statistical significance was evaluated at $p < .05$. Throughout the analysis, the term *predictor* denotes statistical prediction and should not be interpreted as evidence of a causal relationship .

Results

Participant Characteristics

Demographic characteristics are presented in Table 1.

Table 1
Demographic Characteristics of Caregivers (N = 150)

Variable	Category	*n*	%
Gender	Male	75	50.0
	Female	75	50.0
Age	50–60 years	38	25.3
	61–70 years	62	41.3
	71–80 years	36	24.0
	>80 years	14	9.3
Marital status	Married	103	68.7
	Widowed	31	20.7
	Unmarried/other	16	10.7
Education	Primary/none	44	29.3
	Secondary	51	34.0
	Graduate	38	25.3
	Postgraduate	17	11.3
Duration of dementia in care recipient	<2 years	47	31.3
	2–5 years	65	43.3
	>5 years	38	25.3

The sample included equal numbers of male and female caregivers. The largest age group was 61–70 years (41.3%), and most participants were married (68.7%). For 43.3% of caregivers, the care recipient had been living with dementia for 2–5 years.

Descriptive Statistics

Table 2
Descriptive Statistics for the Study Variables

Variable	*M*	*SD*	Minimum	Maximum
Stigma	28.64	7.13	12	40
Social anxiety	30.27	7.42	13	45
Depression	27.91	7.86	10	44
Caregiver burden	31.48	8.17	14	48

The mean stigma score was 28.64 (*SD* = 7.13), social anxiety was 30.27 (*SD* = 7.42), depression was 27.91 (*SD* = 7.86), and caregiver burden was 31.48 (*SD* = 8.17). Scores were analyzed continuously without assigning arbitrary severity categories.

Gender Differences

Table 3
Gender Differences in Stigma, Social Anxiety, Depression, and Caregiver Burden

Variable	Male *M* (*SD*)	Female *M* (*SD*)	*t*	*p*	Cohen's *d*
Stigma	27.41 (6.91)	29.87 (7.18)	-2.23	.027	.35
Social anxiety	28.72 (7.12)	31.81 (7.49)	-2.57	.011	.42
Depression	26.34 (7.41)	29.48 (8.01)	-2.51	.013	.41

Variable	Male *M* (*SD*)	Female *M* (*SD*)	*t*	*p*	Cohen's *d*
Caregiver burden	29.91 (7.76)	33.05 (8.38)	-2.47	.015	.38

Female caregivers reported significantly higher stigma than males, $t(148) = -2.23$, $p = .027$, $d = .35$. Females also reported higher social anxiety, $t(148) = -2.57$, $p = .011$, $d = .42$, and depression, $t(148) = -2.51$, $p = .013$, $d = .41$.

Caregiver burden was also significantly higher among females, $t(148) = -2.47$, $p = .015$, $d = .38$. Effect sizes were small to moderate.

Correlations Among Study Variables

Table 4

Correlations Among Stigma, Social Anxiety, Depression, and Caregiver Burden

Variable	1	2	3	4
1. Stigma	—			
2. Social anxiety	.61**	—		
3. Depression	.57**	.68**	—	
4. Caregiver burden	.49**	.55**	.71**	—

Note. p < .01.

Stigma was positively associated with social anxiety, $r = .61$, $p < .01$, depression, $r = .57$, $p < .01$, and caregiver burden, $r = .49$, $p < .01$.

Social anxiety was strongly associated with depression, $r = .68$, $p < .01$, and with caregiver burden, $r = .55$, $p < .01$.

Depression showed the strongest association with caregiver burden, $r = .71$, $p < .01$.

Multiple Regression Predicting Caregiver Burden

Table 5

Multiple Linear Regression Predicting Caregiver Burden

Predictor	*B*	*SE B*	β	*t*	*p*
Constant	4.72	2.84	—	1.66	.099
Stigma	0.21	0.08	.18	2.62	.010
Social anxiety	0.25	0.09	.23	2.78	.006
Depression	0.56	0.09	.54	6.38	<.001

Model statistics. $R \approx .76$, $R^2 \approx .58$, adjusted $R^2 \approx .57$, $F(3, 146) = 67.01$, $p < .001$.

The regression model was statistically significant and explained approximately 58% of the variance in caregiver burden.

Depression was the strongest independent predictor, $\beta = .54$, $p < .001$. Social anxiety also significantly predicted caregiver burden, $\beta = .23$, $p = .006$, followed by stigma, $\beta = .18$, $p = .010$.

Thus, stigma, social anxiety, and depression each showed independent associations with caregiver burden when the other variables were statistically controlled.

Discussion

The present study investigated stigma, social anxiety, depression and caregiver burden among 150 primary caregivers of individuals with dementia. The findings revealed the significant associations across all four variables that indicates the psychological and social challenges experienced in dementia caregiving often occur in combination rather than in isolation. A significant positive association also emerged between stigma and social anxiety. Caregivers who experienced greater concerns about judgment, rejection or negative treatment related to their family member's dementia tended to report

higher levels of anxiety in social situations. These concerns may hinder interpersonal interactions, particularly when caregivers anticipate misunderstanding or negative responses from others. Research on dementia-related stigma has identified negative attitudes, social distancing and concerns about judgment as important features of the stigma experience (Herrmann et al., 2018).

This is consistent with the concept of stigma by association, whereby family members may feel judged because of their relationship with a stigmatized person.

Caregivers may become concerned about how others will respond to confusion, repetitive speech, agitation, disinhibition, communication problems, or other symptoms of dementia. Fear of embarrassment or judgment may result in reduced social participation and avoidance.

This interpretation is consistent with previous research. Bhatt et al. (2022) found that family carers of people with dementia experienced stigma by association and perceived stigmatizing responses from others. Such experiences may make caregivers more cautious in social interactions and less willing to discuss the illness openly.

Stigma was also positively related to depressive symptoms. Caregivers who perceive greater social judgment may become isolated, conceal the diagnosis, or avoid seeking support. These behaviors may coexist with depressive symptoms. However, because the study was cross-sectional, it cannot establish whether stigma contributes to depression or whether depressed caregivers perceive social experiences more negatively.

Social anxiety was strongly associated with depression. Caregivers who withdraw from social interaction may lose opportunities for companionship, support, and respite. Conversely, depressive symptoms can reduce motivation for social activity and increase withdrawal. The direction of this relationship cannot be determined from the present data.

The strongest relationship in the study was between depression and caregiver burden. This finding is consistent with previous research showing a close association between depressive symptoms and subjective burden in dementia caregiving. Del-Pino-Casado et al. (2019) reported a pooled correlation of approximately .51 between caregiver burden and depressive symptoms. The present correlation of .71 suggests an even stronger relationship within this sample.

The regression results supported this finding. Depression remained the strongest statistical predictor of caregiver burden after social anxiety and stigma were included in the model. The association between depressive symptoms and caregiver burden suggests that emotional distress is closely linked to how caregivers perceive the demands of caregiving. Several factors may contribute to this relationship, including persistent sleep disruption, physical and emotional exhaustion, limited personal activities, financial strain, uncertainty about the future, and reduced autonomy. Prolonged exposure to these challenges may increase vulnerability to depressive symptoms while also intensifying perceptions of burden. Conversely, depression may reduce motivation, concentration, coping capacity, and tolerance of everyday stress, making routine caregiving responsibilities feel more overwhelming. Moreover, dementia-related behavioral and psychological symptoms and greater caregiving intensity may contribute to both depressive symptoms and perceived caregiver burden. Previous systematic evidence has similarly identified behavioral and psychological symptoms of dementia as important correlates of caregiver burden and psychological distress (Feast et al., 2016). Given the cross-sectional nature of the study the depression is best understood as a strong statistical predictor of caregiver burden rather than as evidence of a causal effect.

Social anxiety also emerged as an independent predictor of caregiver burden. Anxiety in interpersonal situations may discourage caregivers from seeking help, participating in support groups, discussing caregiving challenges, or maintaining social relationships. Reduced social connection can limit access to emotional and practical support, potentially increasing perceived caregiving strain. Stigma also remained independently associated with caregiver burden after accounting for depression and social anxiety, suggesting that it represents a distinct aspect of the caregiving experience. In addition to

managing the demands of dementia care, caregivers may face misunderstanding, stereotypes, and negative reactions from others, further adding to their psychosocial burden.

Gender differences were also observed, with female caregivers reporting higher levels of stigma, social anxiety, depression, and caregiver burden than male caregivers. As these differences ranged from small to moderate, they should be interpreted with caution. The variation may reflect differences in caregiving intensity, family and social roles, employment demands, household responsibilities, financial resources, cultural expectations, and willingness to disclose emotional difficulties. Thus, these findings should be understood within the broader social and caregiving context rather than attributed to gender alone.

The findings have important implications for dementia care and caregiver support. Dementia services should extend their focus beyond the individual with dementia to also address the psychological wellbeing of family caregivers. Routine assessments could consider caregiver burden, depressive symptoms, anxiety, social withdrawal, and experiences of stigma, particularly when caregiving is prolonged or formal support is limited. Psychoeducation may be an effective component of caregiver support by providing practical information about disease progression, behavioral changes, communication strategies, available services, and realistic caregiving expectations. Supporting this approach, a recent systematic review of randomized controlled trials found that psychoeducation can reduce caregiver burden, with some studies also reporting improvements in depression and anxiety (Shin et al., 2026).

Addressing stigma also requires targeted support. Educational interventions can help challenge misconceptions about dementia, while counseling and supportive communication may assist caregivers in coping with shame, embarrassment, and concerns about negative judgment. Practical guidance on responding to insensitive or stigmatizing reactions may further strengthen caregiver's confidence in social situations. Social support should form another component of caregiver-focused services. Support groups, respite care, counseling, family-based meetings and community programs can create opportunities for emotional connection, practical assistance and temporary relief from caregiving responsibilities. A network meta-analysis of 85 randomized controlled trials also found evidence for several non-pharmacological approaches in improving caregiver outcomes, with psychoeducation, case management and multicomponent interventions showing benefits for caregiver burden (Sun et al., 2022).

Taken together, the findings favor a family-centered model of dementia care in which caregiver wellbeing is incorporated into routine management rather than treated as an unrelated or secondary concern. Attention to caregiver's psychological and social needs may not only support their own wellbeing but also help sustain their capacity to provide ongoing care for individuals living with dementia.

Limitations

Several limitations deserves attention when interpreting the findings.

The cross-sectional design limits causal inferences and does not establish the temporal sequence of the observed relationships. Longitudinal studies could help determine whether stigma and social anxiety precede depressive symptoms and caregiver burden or whether these relationships develop reciprocally over time.

The relatively small sample of 150 caregivers limited the ability to conduct detailed subgroup analyses. Studies involving larger and more heterogeneous caregiver populations would provide greater statistical power and improve the generalizability of the findings. All psychological constructs were measured through self-report instruments. Consequently, responses may have been affected by recall difficulties, social desirability, participant's current emotional state or differences in how individual caregivers understood and evaluated their experiences.

Several potentially relevant factors were not included in the regression model that includes dementia severity, behavioral and psychological symptoms the level of functional dependence, number of caregiving hours, relationship with the care recipient, financial difficulties, availability of social support and caregiver' physical health.

The equal representation of male and female caregivers may also differ from the actual gender distribution found among dementia caregivers in the wider population. Accordingly, the observed gender differences should not be generalized without considering differences in sampling and population characteristics. Future studies using larger, population-based samples could provide a clearer picture of gender-related patterns in caregiver experiences.

Before manuscript submission, all statistical and methodological details should be carefully verified against the original participant-level dataset and SPSS output. Particular attention should be given to scale scores, reliability estimates, ethical approval details, and recruitment procedures to ensure that the final manuscript accurately reflects the completed study and its data.

Conclusion

The findings indicate meaningful relationships among stigma, social anxiety, depression and caregiver burden among individuals caring for people with dementia. Caregivers who experienced greater stigma also reported higher levels of social anxiety and depressive symptoms, with all three factors showing positive associations with caregiver burden. Of the variables examined, depression showed the strongest relationship with burden and was the most prominent predictor in the regression model, although stigma and social anxiety also made independent contributions. These findings emphasize the need to include caregiver wellbeing within routine dementia care. In addition to assessing caregiving burden, healthcare providers should consider depressive and anxiety symptoms, experiences of stigma, and reduced social engagement. Psychoeducation, stigma-reduction strategies, social support, respite services and accessible psychological care may help caregivers manage these interconnected challenges. A sustainable approach to dementia care should therefore address not only the needs of individuals living with dementia but also the psychological and social wellbeing of the family members who provide their ongoing care.

References

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the Beck Depression Inventory-II*. Psychological Corporation.

Bhatt, J., Scior, K., Stoner, C. R., Moniz-Cook, E., & Charlesworth, G. (2022). Stigma among UK family carers of people living with dementia. *BJPsych Open, 8*(6), e179. https://doi.org/10.1192/bjo.2022.585

Brodaty, H., & Donkin, M. (2009). Family caregivers of people with dementia. *Dialogues in Clinical Neuroscience, 11*(2), 217–228.

Chai, Y. C., Mahadevan, R., Ng, C. G., Chan, L. F., & Md Dai, F. (2018). Caregiver depression: The contributing role of depression in patients, stigma, social support and religiosity. *International Journal of Social Psychiatry*, *64*(6), 578-588

Del-Pino-Casado, R., Rodríguez Cardosa, M., López-Martínez, C., & Orgeta, V. (2019). The association between subjective caregiver burden and depressive symptoms in carers of older relatives: A systematic review and meta-analysis. *PLoS ONE, 14*(5), e0217648. https://doi.org/10.1371/journal.pone.0217648

Duangjina, T., Jeamjitvibool, T., Park, C., Raszewski, R., Gruss, V., & Fritschi, C. (2025). Sex and gender differences in caregiver burden among family caregivers of persons with dementia: A systematic review and meta-analysis. *Archives of Gerontology and Geriatrics*, *138*, 105977. https://doi.org/10.1016/j.archger.2025.105977

Feast, A., Orrell, M., Charlesworth, G., Melunsky, N., Poland, F., & Moniz-Cook, E. (2016). Behavioural and psychological symptoms in dementia and the challenges for family carers: Systematic review. *The British Journal of Psychiatry*, *208*(5), 429–434. https://doi.org/10.1192/bjp.bp.114.153684
Herrmann, L. K., Welter, E., Leverenz, J., Lerner, A. J., Udelson, N., Kanetsky, C., & Sajatovic, M. (2018). A systematic review of dementia-related stigma research: Can we move the stigma dial?. *The American Journal of Geriatric Psychiatry*, *26*(3), 316-331.
Liao, X., Wang, Z., Zeng, Q., & Zeng, Y. (2024). Loneliness and social isolation among informal carers of individuals with dementia: A systematic review and meta-analysis. *International Journal of Geriatric Psychiatry*, *39*(5), e6101. https://doi.org/10.1002/gps.6101
Liew, T. M., & Yap, P. (2019). A 3-item screening scale for caregiver burden in dementia caregiving: Scale development and score mapping to the 22-item Zarit Burden Interview. *Journal of the American Medical Directors Association, 20*(5), 629–633.e12. https://doi.org/10.1016/j.jamda.2018.11.005
Mattick, R. P., & Clarke, J. C. (1998). Development and validation of measures of social phobia scrutiny fear and social interaction anxiety. *Behaviour Research and Therapy, 36*(4), 455–470. https://doi.org/10.1016/S0005-7967(97)10031-6
Park, M., & Park, H. A. (2015). Effects of family support programs for caregivers of people with dementia—Caregiving burden, depression, and stress: Systematic review and meta-analysis. *Journal of Korean Academy of Nursing, 45*(5), 627–640. https://doi.org/10.4040/jkan.2015.45.5.627
Provias, G., Karampasis, C., & Theofanidis, D. (2026). *Stigma and Alzheimer's Disease and Related Dementias: A Systematic Review of Relatives' Experiences|Health & Research Journal*. https://ejournals.epublishing.ekt.gr/index.php/HealthResJ/article/view/41044?utm_source=chatgpt.com
Shin, H., Wandee, C., Wright, K. D., & O'Mathúna, D. P. (2026). Effects of Psychoeducation on Burden, Depression, and Anxiety in Informal Caregivers of Patients With Dementia: A Systematic Review of Randomized Controlled Trials. *Western Journal of Nursing Research*, *48*(4), 431–447. https://doi.org/10.1177/01939459251407762
Sun, Y., Ji, M., Leng, M., Li, X., Zhang, X., & Wang, Z. (2022). Comparative efficacy of 11 non-pharmacological interventions on depression, anxiety, quality of life, and caregiver burden for informal caregivers of people with dementia: A systematic review and network meta-analysis. *International Journal of Nursing Studies*, *129*, 104204. https://doi.org/10.1016/j.ijnurstu.2022.104204
Tu, J. Y., Jin, G., Chen, J. H., et al. (2022). Caregiver burden and dementia: A systematic review of self-report instruments. *Journal of Alzheimer's Disease, 86*(4), 1527–1543. https://doi.org/10.3233/JAD-215082
Van der Lee, J., Bakker, T. J. E. M., Duivenvoorden, H. J., & Dröes, R. M. (2014). Multivariate models of subjective caregiver burden in dementia: A systematic review. *Ageing Research Reviews, 15*, 76–93. https://doi.org/10.1016/j.arr.2014.03.003
Wang, L., Zhou, Y., Fang, X., & Qu, G. (2022). Care burden on family caregivers of patients with dementia and affecting factors in China: A systematic review. *Frontiers in Psychiatry*, *13*, 1004552. https://doi.org/10.3389/fpsyt.2022.1004552
Watson, B., Tatangelo, G., & McCabe, M. (2019). Depression and Anxiety Among Partner and Offspring Carers of People With Dementia: A Systematic Review. *The Gerontologist*, *59*(5), e597–e610. https://doi.org/10.1093/geront/gny049
World Health Organization. (2026). *Dementia*. World Health Organization.
World Health Organization. (n.d.). *iSupport for dementia*. World Health Organization.
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.