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Original Research Article

Prevalence of depression and associated factors in long-term caregivers in the primary care network of Phra Nakhon Si Ayutthaya hospital

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ABSTRACT

Background: Caregivers of Long-term care patients play a crucial role in caring for patients in various aspects. Prolonged caregiving can increase the burden of care and the risk of depression. The study was conducted to study the prevalence and associated factors of depression among caregivers of long-term patients within The NPCU of Phra Nakhon Si Ayutthaya Hospital, Thailand
Methods: A cross-sectional study conducted to examine the prevalence and associated factors of depression among 130 caregivers of long-term care patients between February to August 2024, A total of 96 volunteers were selected based on their consent to participate in this study. Data was collected through questionnaire that included Caregiver's general information, Caregiving details and characteristics of long-term care patients. Multiple logistic regression, odds ratio, 95%CI and chi-square test were used to examine which factors are associated to depression.
Results: The study found that the prevalence of depression among caregivers, based on a Thai PHQ-9 screening tool with a score of 7 or higher, was 23.96% of the caregiver population studied. Factor associated with depression included: a history of previous mental health in the caregiver (Adjusted OR 14.69, 95%CI 1.96-110.04, p<0.01), experiencing a moderate to severe caregiving burden (Adjusted OR 6.24, 95%CI 1.96-19.85, p<0.01), providing care for more than 8 hours per day (Adjusted OR 6.30, 95%CI 1.88-21.13, p<0.01), and the patient's basic ADL (activities of daily living) score of 4 or lower (Adjusted OR 6.42, 95%CI 2.16-19.10, p<0.01).
Conclusion: The screen depression among caregivers early in the caregiving process, and encourage cooperation between primary and secondary caregivers in caregiving activities. Additionally, promoting patient rehabilitation could help reduce long-term caregiving activities.

Keywords: Caregivers, Long-term patients, Long-term care, Depression, Caregiving burden

INTRODUCTION

A long-term care patient refers to a group of patients who have lost physical or mental capacity and require continuous care for daily living activities. In 2023, Thailand had 459,169 registered individuals with long-term dependency, with 104,854 registered caregivers.[1,2] Specifically, in Phra Nakhon Si Ayutthaya District, Phra Nakhon Si Ayutthaya Province, there were 829 registered long-term care patients and 206 registered formal caregivers in the database. In addition, there were 130 informal caregivers, such as family members, friends, or neighbors, registered in the primary care network database of Phra Nakhon Si Ayutthaya Hospital.[3]

These caregivers have the responsibility of providing continuous care to the patients in terms of health and daily living activities over an extended period, which

adds additional burdens to their regular tasks. The added burden has been found to correlate with depression in caregivers.[5] A review of the literature shows that depression is more common among caregivers who are family members of the patients (informal caregivers), particularly female caregivers, elderly caregivers, or those caring for patients with dementia, mental illnesses, cancer, or bedridden patients. Additionally, some caregiving factors have also been found to be associated with depression.[6-11]

Data on depression in Thailand indicates that in fiscal year 2023, there were 1,483,185 cumulative depression patients, with 224,089 new cases.[12] In Phra Nakhon Si Ayutthaya District, there were 6,597 cumulative depression patients, with 1,889 new cases. The impact of depression is related to the health of the Thai population in various aspects. Previous studies have found that depression affects quality of life, family relationships, and exacerbates existing medical conditions in depressed patient.[13,14]

Studies in community hospitals in Khun Tan District, Chiang et al and Mae Ai et al, found that certain caregiving factors were associated with depression.[5,15] However, the social context in Phra Nakhon Si Ayutthaya differs from that of these areas, as it is a semi-urban area.

Moreover, a study by Omar et al, 2021 in a larger population also had limitations, such as focusing only on caregivers of stroke patients in urban areas, which may not be representative of other long-term care patient groups or different social contexts.[16] Thus, the researcher is interested in conducting further research to study the various factors in the context of caregivers in Phra Nakhon Si Ayutthaya District and their relationship with depression. This study aims to explore multiple dimensions, including personal factors, caregiving factors, and the characteristics of the patient's aspect.

METHODS

Study design

This study is a cross-sectional study conducted from February 2024 to August 2024. Data collection will assess the prevalence of depression using the Thai PHQ-9 (Central Thai version), with a diagnostic cutoff score of ≥7 for depression. A questionnaire will be used to gather basic demographic data from the caregivers, caregiving-related factors, and patient-related factors, along with an assessment of caregiver burden using the Thai version of the Zarit Burden Interview.[17,18]

Population

The study will focus on primary caregivers of long-term care patients recorded in the long-term care database, caregivers who visit the outpatient department, and those visited at home by a multidisciplinary team within the primary care network of Phra Nakhon Si Ayutthaya Hospital.

Inclusion criteria

Inclusion criteria for study participants are the caregiver must be the primary caregiver actively providing care to the patient at the time of the study. The caregiver must be a family member of the patient. The caregiver must be ≥20 years old, and have been providing care for at least six months as per the definition of "long-term care patient" (4) from the National Health Security Office.

Exclusion criteria

Exclusion criteria for study participants are: criteria include: Caregivers who cannot communicate in Thai or have communication difficulties. Caregivers diagnosed with depression and currently undergoing treatment with antidepressants and non-family caregivers.

Study size

The sample size is calculated based on the study by Omar et al in 2021, which reported a depression prevalence of 20.3% in the population.[16] Comparing this with data from the long-term care database of Phra Nakhon Si Ayutthaya Hospital, which has recorded 130 long-term care patients (assuming a 1:1 caregiver-patient ratio), the sample size was calculated using an error margin of 0.05. Using the formula (19), the sample size required is 86 participants. An additional 10% is added to account for incomplete data, resulting in a final sample size of 96 participants for this study.

Study conducted with the help of pre-tested, semi-structured questionnaire. The investigators themselves have taken interviews of all study subjects.

$$n = \frac{Np(1-p)z^2_{1-\frac{\alpha}{2}}}{d^2(N-1)+p(1-p)z^2_{1-\frac{\alpha}{2}}}$$

n =Sample size, N= Total population of long-term care caregivers in the primary care network, p= Prevalence of depression in caregivers from the reference study (20.3% or 0.203), d= Margin of error (0.05).

Measurement and tools

The data used for the analysis in this study include caregiver-related factors such as age, gender, marital status, education level, occupation, income, relationship with the patient, perspective on the relationship, free time, sleep duration, history of alcohol consumption, history of smoking, chronic diseases, history of mental health issues, scores from the Thai PHQ-9 depression assessment (17), and caregiver burden level as assessed by the Zarit Burden Interview (ZBI) (18). Caregiving factors include the duration of

caregiving, the number of hours spent caregiving, types of caregiving activities, number of caregiving activities, and social support received. Patient-related factors include the patient's age, the nature of their long-term illness, the number of doctor visits per month, healthcare coverage, and the patient's ability to perform basic daily activities as assessed by the Basic ADL Index (20).

The objective of this study is to investigate the prevalence of depression and associated factors in caregivers of long-term care patients within the primary care network of Phra Nakhon Si Ayutthaya Hospital followed the study flow (Figure 1)

Statistical analysis

Data will be processed using statistical software, and the following data will be presented using descriptive statistical methods.

Caregiver-related data

Age, gender, marital status, education level, occupation, monthly income, relationship with the patient, quality of the relationship, free time in hours per day, sleep duration in hours per day, history of alcohol consumption, history of smoking, number of chronic diseases, past mental health issues, depression scores from the Thai PHQ-9 (0-27 points), where scores ≥7 indicate depression, caregiver burden scores from the Zarit Burden Interview (ZBI) (18) (0-48 points), categorized as no or mild burden (0-10 points), moderate burden (11-20 points), or severe burden (>20 points). [17]

Caregiving characteristics

Duration of caregiving, number of caregiving hours per day, number of caregiving activities per day (0-6 activities), and social support received.

Patient-related data

Age, type of long-term illness, number of doctor visits per month, healthcare coverage, and ability to perform daily activities, as assessed by the basic ADL index (20) (0-20 points), categorized as bedridden (0-4 points), homebound (5-11 points), or socially dependent (12-20 points).

Data will be presented as percentages for binomial or categorical data. Ordinal data will be summarized using median values, while continuous data will be summarized using mean values. The relationship between sociodemographic data of caregivers, caregiving characteristics, patient-related data, and depression in caregivers of long-term care patients will be analyzed using both crude and adjusted odds ratios (OR) via multivariable logistic regression, with 95% confidence intervals (CI) and p values <0.05 indicating statistical significance.

Ethical statement

All study participants will be informed about the research and will provide written informed consent prior to participation. The study has been approved by the Human Research Ethics Committee of Phra Nakhon Si Ayutthaya Hospital on February 28, 2024 (Research project number 120/2567).

RESULTS

Demographic characteristics

Among the total population of 130 long-term care patient caregivers in the primary care network of Phra Nakhon Si Ayutthaya Hospital, 96 volunteers participated in the study. The majority of caregivers were female (79.16%), with an average age of 55.5±14.5 years, and most had a monthly income of less than 15,000 baht (61.45%). Most caregivers had no or minimal burden, as assessed by the ZBI (77.08%). The median caregiving duration was 48 months (IQR 86.25 months), and the majority of caregiving activities involved assisting with toileting and hygiene (72.92%) and preparing medication and food (67.71%). The long-term care patients had an average age of 75.4±14.3 years, with most suffering from chronic non-communicable diseases (70.83%). Most patients visited a doctor at least once per month (77.08%), and 85.42% had received social support, with 42.71% receiving disability benefits or allowances.

Prevalence and factors associated with depression in caregivers

When caregivers were screened for depression with a score of ≥7 on the Thai PHQ-9 (17), the prevalence of depression among caregivers was found to be 23 cases (23.96%).

Factors related to depression with statistical significance were caregivers with a history of mental health issues: Adjusted OR 14.69 (95% CI 1.96-110.04, p<0.01). Moderate to severe caregiver burden: Adjusted OR 6.24 (95% CI 1.96-19.85, p<0.01). Caregivers who were unemployed. Adjusted OR 5.39 (95% CI 1.83-15.85, p<0.01). Caregivers with less than 6 hours of sleep adjusted OR 3.39 (95% CI 1.22-9.43, p=0.02)

Caregiving factors associated with depression included caregivers providing care for ≥8 hours per day. Adjusted OR 6.30 (95% CI 1.88-21.33, p<0.01). Caregivers performing ≥2 caregiving activities per day. Adjusted OR 4.06 (95% CI 1.32-12.51, p=0.02). Caregivers who reposition or assist with patient positioning adjusted OR 3.08 (95% CI 1.07-8.86, p=0.04). Factors related to the patient's condition that were associated with depression in caregivers included patients with basic ADL scores of ≤4 (severely dependent or bedridden patients) adjusted OR 6.42 (95% CI 2.16-19.10, p<0.01).

Table 1: The General information of Caregiver factors (n=96).

Variables	N (%)
Age (years old) (Mean±SD)	55.5±14.5
Time for Long-term care responsible (month) (Median, IQR)	48 (86.25)
Sex	
Male	20 (20.83)
Female	76 (79.17)
Status	
Single	63 (65.63)
Married	33 (34.37)
Education level	
Primary school or lower	42 (43.75)
Secondary school or upper	54 (56.25)
Occupation	
Unemployed	40 (41.67)
Employed	56 (58.33)
Incomes (Bath/Month)	
15,000 or Lower	59 (61.46)
More than 15,000	37 (38.54)
Relationship with patients	
Sponge or relative	48 (50.00)
Parent or kids	48 (50.00)
Perspective on relationships with patients	
Good	84 (87.50)
Moderate	12 (12.50)
Time per day	
Less than 4 hours	58 (60.42)
4 hours or more	38 (39.58)
Length of sleep at night	
Less than 6 hours	29 (30.21)
6 hours or more	67 (69.79)
Alcohol consumption	
No	94 (97.92)
Yes	2 (2.08)
Smoking	
No	86 (89.58)
Yes	10 (10.42)
Caregiver's underlying disease	
None	33 (34.38)
Yes	63 (65.62)
Past history of mental health	
Yes	7 (7.29)
None	89 (92.71)
Zarit Assessment	
None or Adequate (0-10)	74 (77.08)
Moderate or severe (11-20, >20)	22 (22.92)
Depress assessment by Thai PHQ-9	
None (0-6)	73 (76.04)
Yes (≥7)	23 (23.96)

Table 2: Factors related to caregiving.

Variables	N (%)
Care hours per day	
<8	46 (47.92)
≥8	50 (52.08)
Care activities characteristics	
Wound care	18 (18.75)
Medication and food preparing	65 (67.71)
Feeding	28 (29.17)
Movement	52 (54.17)
Turn sideways/Position	29 (30.21)
Defecation/Hygiene	70 (72.92)
Number of care activities per day	
<2	48 (50.00)
≥2	48 (50.00)
Social assistance (health services, donations, medical equipment)	
Yes	82 (85.42)
No	14 (14.58)

Table 3: Factors related to patient's characteristics.

Variables	N (%)
Age (years) (Mean±SD)	75.4±14.3
Underlying diseases caused of long-term care	
Dementia	18 (18.75)
Non-communicable diseases	68 (70.83)
Accident	9 (9.38)
Congenital	1 (1.04)
Number of doctor visits per month	
0	22 (22.92)
≥1	74 (77.08)
Basic ADL	
0-4	33 (34.38)
5-11	35 (36.46)
12-20	28 (29.16)
Characteristics of health insurance, N (%)	
Rights of the disabled/disability	41 (42.71)
Universal health insurance or others	55 (57.29)

Table 4: Factors related to caregivers.

Variables	Total (n=96)	Depression (n=23)	No depression (n=73)	Crude OR (95%CI)	P value	Adjusted* OR (95%CI)	P value
Marital status							
Single	63 (65.63)	16 (69.57)	47 (64.38)	0.79 (0.24-2.37)	0.65	1.07 (0.37-3.10)	0.91
Married	33 (34.37)	7 (30.43)	26 (35.62)				
Level of education							
Elementary school or lower	42 (43.75)	14 (60.87)	28 (38.36)	2.50 (0.87-7.43)	0.06	1.87 (0.68-5.15)	0.22
High school or higher	54 (56.25)	9 (39.13)	45 (61.64)				
Occupation							
No work	40 (41.67)	17 (73.91)	23 (31.51)	6.16 (1.95-21.2)	<0.01	5.39 (1.83-15.85)	<0.01*
Work	56 (58.33)	6 (26.09)	50 (68.49)				

Continued.

Variables	Total (n=96)	Depression (n=23)	No depression (n=73)	Crude OR (95%CI)	P value	Adjusted* OR (95%CI)	P value
Finance (Th-Bath/month)							
<15,000	59 (61.46)	17 (73.91)	42 (57.53)	2.09 (0.68-7.20)	0.16	1.54 (0.51-4.71)	0.45
≥15,000	37 (38.54)	6 (26.09)	31 (42.47)				
Relationship with patient							
Spouse or sibling	48 (50.50)	15 (65.22)	33 (45.20)	0.44 (0.14-1.28)	0.09	0.62 (0.22-1.79)	0.38
Parent or children	48 (50.50)	8 (34.78)	40 (54.80)				
Quality of relationship							
Good	84 (87.50)	17 (73.91)	67 (91.78)	3.94 (0.91-16.58)	0.02	3.34 (0.92-12.09)	0.07
Fair	12 (12.50)	6 (26.09)	6 (8.22)				
Leisure time (hours/day)							
<4	58 (60.42)	18 (78.26)	40 (54.79)	2.97 (0.92-11.23)	0.04	2.51 (0.81-7.76)	0.11
≥4	38 (39.58)	5 (21.74)	33 (45.21)				
Sleep time (hours/day)							
<6	29 (30.21)	12 (52.17)	17 (23.29)	3.59 (1.20-10.74)	<0.01	3.39 (1.22-9.43)	0.02
≥6	67 (69.79)	11 (47.83)	56 (76.71)				
Alcohol use							
Non-drinker	94 (97.92)	22 (95.65)	72 (98.63)	3.27 (0.04-260.37)	0.38	9.05 (0.45-181.44)	0.15
Drinker	2 (2.08)	1 (4.35)	1 (1.37)				
Smoking, N (%)							
Non-smoker	86 (89.58)	20 (86.96)	66 (90.41)	1.41 (0.22-6.93)	0.63	1.92 (0.39-9.51)	0.43
Smoker	10 (10.42)	3 (13.04)	7 (9.59)				
Comorbidities							
None	33 (34.38)	3 (13.04)	30 (41.10)	4.65 (1.20-26.24)	0.01	3.31 (0.84-12.98)	0.09
Present	63 (65.62)	20 (86.96)	43 (58.90)				
Previous mental disorder							
Yes	7 (7.29)	5 (21.74)	2 (2.74)	9.86 (1.42-107.97)	<0.01	14.69 (1.96-110.04)	<0.01*
No	89 (92.71)	18 (78.26)	71 (97.26)				
Zarit burden score							
No mild burden (0-10)	74 (77.08)	12 (52.17)	62 (84.93)	5.17 (1.59-16.49)	<0.01	6.24 (1.96-19.85)	<0.01*
Moderate to severe (11-19, ≥20)	22 (22.92)	9 (47.83)	9 (15.07)				

(Adjusted by Caregiver's age and sex

Table 5: Factors related to caregiving.

Variables	Total (n=96)	Depression (n=23)	No depression (n=73)	Crude OR (95%CI)	P value	Adjusted OR* (95%CI)	P value
Hours of care per day							
<8	46 (47.92)	4 (17.39)	42 (57.53)	6.44 (1.84-28.09)	<0.01	6.30 (1.88-21.13)	<0.01
≥8	50 (52.08)	19 (82.61)	31 (42.47)				
Caregiving activity							
Wound care	18 (18.75)	5 (21.74)	13 (17.80)	1.29 (0.31-4.51)	0.67	1.44 (0.43-4.85)	0.55
Drug and food preparation	65 (67.71)	19 (82.60)	46 (63.01)	2.79 (0.80-12.33)	0.08	2.62 (0.78-8.81)	0.12
Feeding	28 (29.17)	10 (43.48)	18 (24.66)	2.35 (0.77-6.94)	0.09	2.23 (0.76-6.55)	0.14
Ambulation	52 (54.17)	14 (60.87)	38 (52.05)	1.43 (0.50-4.25)	0.46	1.35 (0.51-3.65)	0.54
Rotation/reposition	29 (30.21)	11 (47.83)	18 (24.65)	2.60 (0.93-8.26)	0.03	3.08 (1.07-8.86)	0.04
Toileting/hygiene	70 (72.92)	18 (78.26)	52 (71.23)	1.45 (0.44-5.65)	0.51	1.45 (0.42-5.03)	0.56
Number of caregiving activity/day							
<2	48 (50.00)	6 (26.09)	42 (57.53)				
≥2	48 (50.00)	17 (73.91)	31 (42.47)	3.84 (1.24-13.14)	<0.01	4.06 (1.32-12.51)	0.02

Continued.

Variables	Total (n=96)	Depression (n=23)	No depression (n=73)	Crude OR (95%CI)	P value	Adjusted OR* (95%CI)	P value
Social support							
Yes	82 (85.42)	20 (86.96)	62 (84.93)				
No	14 (14.58)	3 (13.04)	11 (15.07)	0.85 (0.14-3.66)	0.81	0.84 (0.20-3.47)	0.81

(Adjusted by Caregiver's age and sex

Table 6: Factors related to patients.

Variable	Total (n=96)	Depression (n=23)	No depression (n=73)	Crude OR (95%CI)	P value	Adjusted OR* (95%CI)	P value
Patient age (years)							
<60	11 (11.46)	1 (4.35)	10 (13.70)				
≥60	85 (88.54)	22 (95.65)	63 (86.30)	3.49 (0.44-158.3)	0.22	2.07 (0.23-18.91)	0.52
Comorbidity							
Neuro-degenerative disease	18 (18.75)	4 (17.39)	14 (19.18)	0.89 (0.19-3.30)	0.85	1.06 (0.30-3.78)	0.93
Non-communicable disease	68 (70.83)	18 (78.26)	0 (0.00)	1.66 (0.50-6.39)	0.37	1.43 (0.46-4.48)	0.54
External cause of disabilities	9 (9.38)	0 (0.00)	9 (12.33)				
Congenital disease	1 (1.04)	1 (4.35)	0 (0.00)				
Number of doctor visit/month							
0 time	22 (22.92)	6 (26.09)	16 (21.91)	0.79 (0.24-2.88)	0.68	0.72 (0.23-2.22)	0.56
1 time or more	74 (77.08)	17 (73.91)	57 (78.09)				
Basic activity of daily living (ADL)							
0-4	33 (34.38)	15 (65.22)	18 (78.26)	5.73 (1.88-18.06)	<0.01	6.42 (2.16-19.10)	<0.01*
5-11	35 (36.46)	2 (8.70)	33 (45.20)	0.12 (0.01-0.54)	<0.01	0.13 (0.03-0.59)	<0.01
12-20	28 (29.16)	6 (26.08)	22 (30.14)	0.82 (0.23-2.56)	<0.72	0.70 (0.23-2.16)	0.53
Health care insurance							
Disable person card	41 (42.71)	9 (39.13)	32 (43.84)	0.82 (0.28-2.36)	0.69	0.76 (0.28-2.06)	0.59
UC or other	55 (57.29)	14 (60.87)	41 (56.16)	1.21 (0.42-3.61)	0.69	1.31 (0.49-3.55)	0.59

(Adjusted by Caregiver's age and sex

DISCUSSION

The study found that the prevalence of depression among long-term caregivers in the primary care network of Phra Nakhon Si Ayutthaya Hospital was 23.96%, which was higher than studies in Khun Tan District, Rai, and Mae, Mai et al, conducted in rural areas of Thailand, but similar to the prevalence of depression found in caregivers of stroke patients in Malaysia by Omar et al. Phra Nakhon Si Ayutthaya is classified as a semi-urban area, where social and economic factors contribute to a higher prevalence of depression.[5,15,16,21]

The average age of caregivers was 55.5±14.5 years, which is higher compared to other studies. This age group tends to have a higher prevalence of depression compared to the general population. Particularly, caregivers with a history of mental health problems are at a higher risk of depression, as they may have less effective coping mechanisms. Therefore, it is essential to screen for depression in caregivers early in the caregiving process and monitor it regularly.[16,22,23] The average age of patients being cared for was 75.4±14.3 years, with the majority being elderly, and they may have associated cognitive issues.[24] If elderly patients also experience behavioral and emotional issues, it may increase the caregiver's burden and contribute to depression.[25] However, this study did not examine the influence of cognitive, behavioral, or emotional disorders in the patients, which presents an opportunity for future research. The study also found that caregivers who were unemployed were more likely to experience depression. This is consistent with the study by Amiri et al, as employment provides financial support and a sense of self-worth, which can reduce the time spent caregiving. Other factors related to depression include insufficient sleep (less than 6 hours per day), which may be due to the caregiver spending nighttime hours caring for the patient or worrying about their

wellbeing. Caregivers should aim for adequate sleep, and a rotation of caregivers during nighttime hours is recommended to reduce caregiver burden.[26]

Moderate caregiver burden was also associated with depression, as seen in studies of caregivers of elderly patients with dementia.[27] Screening for caregiver burden periodically can help monitor and manage increased burden over time. Caregiving factors associated with depression, such as providing care for ≥8 hours per day, assisting with patient repositioning, and performing multiple caregiving activities, differ from previous studies in Khun Tan District by Rai et al.[15] The study suggests that prolonged caregiving activities requiring physical effort and time, such as repositioning, can lead to caregiver fatigue, contributing to depression. If patients have severe limitations in daily activities (Basic ADLs ≤4), caregivers are fully responsible for all aspects of the patient's care, increasing the likelihood of caregiver burden and depression. Promoting patient independence, such as allowing patients to reposition themselves in bed, and dividing caregiving tasks among family members can reduce caregiver burden. In addition to these factors, individual emotional coping mechanisms may influence the development of depression. Future studies could explore how caregivers manage stress and emotions and their relationship with depression.

This study has strengths, including focusing on primary caregivers from diverse communities and healthcare facilities in Phra Nakhon Si Ayutthaya, identifying factors associated with depression, and screening for depression in one session. One-on-one interviews provided in-depth data for personalized caregiving. However, the study's limitations include its cross-sectional design, which limits the ability to draw conclusions about causal relationships over time. Additionally, data collection relied on caregivers' memory, which may have led to recall bias or incomplete information.

CONCLUSION

This study found that the prevalence of depression among caregivers of long-term patients was higher than in the general population. Factors associated with depression included caregivers' history of mental health issues, inadequate sleep, caregiving duration exceeding 8 hours per day, moderate-to-severe caregiver burden, physically demanding caregiving activities such as repositioning, and patient dependency (Basic ADL ≤4). These factors contribute to caregiver fatigue, leading to depression.

Further research should investigate the impact of long-term caregiving on depression over time, and explore how coping mechanisms and stress management affect depression in caregivers. Comparative studies could examine the influence of cognitive, emotional, and behavioural issues in elderly patients on caregiver depression.

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