

The Impact of Caregiving on Anxiety and Depression Symptoms in Caregivers of Hospitalized Geriatric Patients

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Abstract

Objective: Research focusing on anxiety and depression among caregivers of hospitalized geriatric patients is lacking. The objective of this study was to determine the prevalence of anxiety and depression among caregivers of hospitalized geriatric patients for 1 week. **Subjects and Methods:** A prospective cohort study of caregivers of geriatric patients who were hospitalized at Cipto Mangunkusumo Hospital was conducted from February to May of 2018; levels of anxiety and depression symptoms were assessed on the 1st day of hospitalization compared with those from the 7th day using the Hospital Anxiety and Depression Scale questionnaire. The analysis was conducted using SPSS Statistics for bivariate and multivariate logistic regression. **Results:** On the 1st day of hospitalization, 29.1% of the caregivers had mild anxiety symptoms, 5.1% had moderate anxiety symptoms, and 2.6% had mild depression symptoms. On the 7th day, 44.4% of the caregivers had mild anxiety symptoms, 23.1% had moderate anxiety symptoms, and 3.4% had severe anxiety symptoms, whereas 49.6% had mild and 12.8% had moderate depression symptoms. The duration of caregiving ≥ 8 h/day ($P = 0.041$; odds ratio [OR]: 4.228; 95% confidence interval [CI]: 1.060–16.860 for anxiety and $P = 0.008$; OR: 8.392; 95% CI: 1.723–40.880 for depression) and ≥ 6 days/week ($P = 0.019$; OR: 2.500; 95% CI: 1.163–5.375 for anxiety and $P < 0.001$; OR: 4.184; 95% CI: 1.982–9.256 for depression) significantly increased symptoms of anxiety and depression. **Conclusion:** Caregiving for hospitalized geriatric patients can aggravate anxiety and depression, and the duration of caregiving ≥ 8 h/day and ≥ 6 days/week significantly increased both symptoms.

Keywords: Anxiety, depression, geriatric patient caregivers, Hospital Anxiety and Depression Scale

INTRODUCTION

Any person who provides care to another person with physical or mental limitations, with or without income, is known as a caregiver and can experience physical, emotional, and economical burdens resulting from that caregiving. Inpatient care services that aim to treat patients can have a negative impact on caregivers by increasing their burdens. These burdens are even greater for geriatric patient caregivers and can lead to psychological symptoms such as anxiety and depression that impair their quality of life and the quality of caregiving they provide.^[1-5]

The psychological well-being of caregivers is not routinely assessed by health-care providers, and only a few existing studies focus on the impact of providing care for geriatric patients during hospitalization on anxiety and depression symptoms in caregivers. The objective of this study was to determine the prevalence of anxiety and depression

symptoms among caregivers of geriatric patients who were hospitalized for 1 week using the Hospital Anxiety and Depression Scale (HADS) Questionnaire [Table 1]. The HADS questionnaire is an instrument used to detect symptoms of anxiety and depression in the past week and has already been translated into and validated for several languages, including Indonesian.^[6-8]

SUBJECTS AND METHODS

A prospective cohort study approved by the Ethics Committee of the Faculty of Medicine, University of Indonesia, with

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Table 1: Hospital Anxiety and Depression Scale questionnaire

Anxiety	I feel tense or “wound up”		Depression	I feel as I am slowed down	
	Most of the time	3		Nearly all the time	3
	A lot of the time	2		Very often	2
	From time to time (occasionally)	1		Sometimes	1
	Not at all	0		Not at all	0
Depression	I still enjoy the things I used to enjoy		Anxiety	I get a sort of frightened feeling like “butterflies” in the stomach	
	Definitely as much	0		Not at all	0
	Not quite as much	1		Occasionally	1
	Only a little	2		Quite often	2
	Hardly at all	3		Very often	3
Anxiety	I get a sort of frightened feelings as if something awful is about to happen		Depression	I have lost interest in my appearance	
	Very definitely and quite badly	3		Definitely	3
	Yes, but not too badly	2		I don’t take as much care as I should	2
	A little, but it doesn’t worry me	1		I may not take quite as much care	1
	Not at all	0		I take just as much care	0
Depression	I can laugh and see the funny side of things		Anxiety	I feel restless as I have to be on the move	
	As much as I always could	0		Very much indeed	3
	Not quite so much now	1		Quite a lot	2
	Definitely not so much now	2		Not very much	1
	Not at all	3		Not at all	0
Anxiety	Worrying thoughts go through my mind:		Depression	I look forward with enjoyment to things	
	A great deal of the time	3		As much as I ever did	0
	A lot of the time	2		Rather less than I used to	1
	From time to time, but not often	1		Definitely less than I used to	2
	Only occasionally	0		Hardly at all	3
Depression	I feel cheerful		Anxiety	I get sudden feeling of panic	
	Not at all	3		Very often indeed	3
	Not often	2		Quite often	2
	Sometimes	1		Not very often	1
	Most of the time	0		Not at all	0
Anxiety	I can sit at ease and feel relaxed		Depression	I can enjoy a good book or radio/TV program	
	Definitely	0		Often	0
	Usually	1		Sometimes	1
	Not often	2		Not often	2
	Not at all	3		Very seldom	3

protocol number 18-01-0045 was conducted from February to May of 2018 at Cipto Mangunkusumo Hospital in Jakarta, Indonesia. Cipto Mangunkusumo Hospital is a national referral center hospital which provides primary, secondary, and tertiary cares. Participants in this study were caregivers of hospitalized geriatric patients. The inclusion criterion was being a caregiver of a hospitalized geriatric patient (a patient aged 60 years or older) who was willing to join the study. Data were collected using a consecutive sampling method, and the HADS questionnaire was used to assess both anxiety and depression symptoms among caregivers on the 1st day and the 7th day of hospitalization. Caregivers with severe anxiety or depressive symptoms on the 1st day of hospitalization according to the HADS questionnaire were excluded, and caregivers of geriatric patients who were hospitalized for <7 days were considered dropouts. HADS questionnaire assessed both anxiety and depression symptoms by reflecting how the respondent felt in the past week. Total

scores of 0–7 for either anxiety or depression symptoms were considered normal, scores of 8–10 indicated mild symptoms, scores of 11–14 indicated moderate symptoms, and scores of 15–21 indicated severe symptoms.^[7,9]

In addition to HADS, the participants completed a questionnaire containing items related to demographic data and the duration of caregiving they provided during hospitalizations per day and per week. Collected data were processed using the Statistical Package for the Social Sciences version 20.0 (IBM Corp. SPSS Statistics for Windows, Armonk, NY, USA). Variables consisting of caregiving duration during hospitalizations per day and per week were included in bivariate and multivariate analyses. Bivariate analysis was conducted using a 2 × 2 table to determine the odds ratio (OR), 95% confidence interval range (95% CI), and *P* value using a Chi-square test. Logistic regressions were done for multivariate analysis.

RESULTS

From February to May of 2018, 121 caregivers of hospitalized geriatric patients met the inclusion criteria. Four patients were hospitalized for <7 days, and their caregivers were considered dropouts. In the end, 117 participants were included in the data analysis.

The majority of the caregivers were women aged 26–49 years from the Javanese and Sundanese tribes who were high school graduates. Almost all of the caregivers were family members who were providing care for at least 8 h a day and 6 days a week in the hospital. The caregiver characteristics are shown in Table 2.

On the 1st day of hospitalization, 65.8% of the caregivers reported anxiety symptoms in the normal range, 29.1% reported mild anxiety symptoms, and 5.1% reported moderate symptoms. A total of 97.4% of the caregivers reported depression symptoms in the normal range and 2.6% of the caregivers reported mild depression symptoms. On the 7th day of hospitalization, only 29.1% of the caregivers were

categorized as being in the normal range for anxiety symptoms, whereas 44.4% of the caregivers reported mild anxiety symptoms, 23.1% reported moderate anxiety symptoms, and 3.4% reported severe anxiety symptoms. For depression symptoms, 37.6% of the caregivers were categorized as being in the normal range, 49.6% reported mild depression, and 12.8% had moderate depression symptoms. Overall, 58.1% of the caregivers of hospitalized geriatric patients experienced increased anxiety symptoms, and 60.7% of the caregivers experienced increased depression symptoms on the 7th day of hospitalization. The comparison of caregivers' symptoms of anxiety and depression on the 1st and 7th days of hospitalization is shown in Table 3.

From the multivariate analysis, we found that a duration of caregiving ≥ 8 h/day ($P = 0.041$; OR: 4.228; 95% CI: 1.060–16.860 for anxiety and $P = 0.008$; OR: 8.392; 95% CI: 1.723–40.880 for depression) and a duration of caregiving ≥ 6 days/week ($P = 0.019$; OR: 2.500; 95% CI: 1.163–5.375 for anxiety and $P < 0.001$; OR: 4.184; 95% CI: 1.982–9.256 for depression) during hospitalization significantly increased both anxiety and depression symptoms. The bivariate and multivariate analyses data are shown in Tables 4 and 5.

Table 2: Caregiver characteristics (n=117)

Characteristics	n (%)
Age (years old)	
<26	11 (9.4)
26-49	53 (45.3)
50-69	47 (40.2)
70-90	6 (5.1)
Gender	
Male	30 (25.6)
Female	87 (74.4)
Ethnicity	
Javanese	39 (33.3)
Sunda	27 (23.1)
Betawi	18 (15.4)
Batak	9 (7.7)
Tiong Hoa	7 (6.0)
Padang	6 (5.1)
Others	11 (9.4)
Education level	
Not a high school graduate	34 (29.1)
High school graduate	51 (43.6)
University graduate	32 (27.3)
Socioeconomic status	
Low	82 (70.1)
High	35 (29.9)
Family caregivers	
Yes	106 (90.6)
No	11 (9.4)
Duration of caregiving in a day (h)	
<8	11 (9.4)
≥ 8	106 (90.6)
Duration of caregiving in a week (days)	
<6	45 (38.5)
≥ 6	72 (61.5)

DISCUSSION

Before caregiving for hospitalized geriatric patients, caregivers are already faced with physical, emotional, and economic burdens which can lead to psychological symptoms such as anxiety and depression.^[1,2] In this study, we found that most caregivers were already having anxiety symptoms on the 1st day of hospitalization, and there was a significant increase in levels of anxiety and depression among caregivers over the course of a 7-day hospitalization. The increasing symptoms of anxiety and depression among caregivers during hospitalization of geriatric patients is understandable because, like the patients, caregivers must adapt to the new hospital environment. While caregiving in the hospital, caregivers tend to experience sleep disturbances and are required to provide more help than usual due to the increased dependency of hospitalized patients. Feeling ignored or lacking communication from the doctors taking care of the patient also can add weight to a caregiver's burden, leading to anxiety and depression.^[2,3,5]

Previous studies have reported that the duration of caregiving in a day was associated with anxiety and depression experienced by the caregivers; our study found that over a 7-day period, caregiving for 8 h or more per day and 6 days or more per week significantly increased anxiety and depression symptoms experienced by caregivers of hospitalized geriatric patients. Our findings regarding anxiety and depression symptoms experienced by caregivers of hospitalized geriatric patients were similar to those of Covinsky *et al.* and Longacre *et al.* Longer duration of caregiving means doing more work and providing more help to the patients they cared for in the

Table 3: Comparison of caregivers' anxiety and depression symptoms on the 1st and 7th days of hospitalization (n=117)

First day	Anxiety		Depression				
	n (%)	Seventh day	n (%)	First day	n (%)	Seventh day	n (%)
Normal	77 (65.8)	Normal	32 (27.4)	Normal	114 (97.4)	Normal	44 (37.6)
		Mild	37 (31.6)			Mild	56 (47.9)
		Moderate	8 (6.8)			Moderate	14 (11.9)
		Severe	0			Severe	0
Mild	34 (29.1)	Normal	2 (1.8)	Mild	3 (2.6)	Normal	0
		Mild	14 (12.0)			Mild	2 (1.8)
		Moderate	18 (15.4)			Moderate	1 (0.8)
		Severe	0			Severe	0
Moderate	6 (5.1)	Normal	0	Moderate	0	Normal	0
		Mild	1 (0.8)			Mild	0
		Moderate	1 (0.8)			Moderate	0
		Severe	4 (3.4)			Severe	0
Severe	0	Normal	0	Severe	0	Normal	0
		Mild	0			Mild	0
		Moderate	0			Moderate	0
		Severe	0			Severe	0

Table 4: Bivariate analysis of increased anxiety and depression symptoms

Variable	Anxiety		Depression	
	P	OR (95% CI)	P	OR (95% CI)
Duration of caregiving ≥ 8 h in a day	0.050	2.248 (0.847-5.971)	0.006	3.580 (1.014-12.639)
Duration of caregiving ≥ 6 days in a week	0.029	1.500 (1.041-2.161)	0.001	1.840 (1.254-2.701)

OR: Odds ratio, CI: Confidence interval

Table 5: Multivariate analysis of increased anxiety and depression symptoms

Variable	Anxiety		Depression	
	P	OR (95% CI)	P	OR (95% CI)
Duration of caregiving ≥ 8 h in a day	0.041	4.228 (1.060-16.860)	0.008	8.392 (1.723-40.880)
Duration of caregiving ≥ 6 days in a week	0.019	2.500 (1.163-5.375)	<0.001	4.184 (1.982-9.256)

OR: Odds ratio, CI: Confidence interval

hospital, and it increases caregivers' burdens, leading to symptoms of anxiety and depression.^[10-13]

The results of this study indicate that caregiving in the hospital should be provided in alternating shifts, with each shift less than 8 h/day and 6 days/week. Caregiving for hospitalized patients 8 h or more per day or 6 days or more per week significantly increased anxiety and depression symptoms among caregivers, and it can interfere with the quality of caregiving provided and adversely affect their quality of life. The poor quality of caregiving will certainly hinder the healing and recovery process of the geriatric patients for whom they cared.

As far as we know, our study is the first prospective cohort study to address increased symptoms of anxiety and depression among caregivers of geriatric patients during 1-week hospitalizations. However, most caregivers in this study were caring for geriatric patients in nonsurgical wards. The result of this study may be useful not only for health-care providers, including the physicians who treat geriatric patients, but also

for caregivers. Caregivers should receive more attention, and this study emphasizes the importance of awareness and early detection of anxiety and depression among caregivers.

CONCLUSION

Caregiver can experience physical, emotional, and economical burdens during caregiving. In this study, we found that caregiving for hospitalized geriatric patients can aggravate anxiety and depression among caregivers. Duration of caregiving ≥ 8 h/day and caregiving ≥ 6 days/week significantly increased symptoms of both anxiety and depression during hospitalization.

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Conflicts of interest

There are no conflicts of interest.

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