Journals Pub

International Journal of
Cardiovascular Nursing

ISSN: 2581-7051
Volume 9, Issue 2, 2023
DOI (Journal): 10.37628/IJCN

http://nursing.journalspub.info/index.php?journal=IJCN&page=index

Research IJCN

Burden and Coping Strategies Among Caregivers of Patient Suffering with Cardiovascular Diseases

Rashmipriya Rath[1], Rashmimala Pradhan[2], Mamata Swain[3], Puspanjali Senapati[4,*], Bishnupriya Mohapatra[5], Bandita Sahoo[6], Subhasmita Behera[7]

Abstract

Introduction: *The term burden refers to the emotional and physical strain experienced by caregivers when providing care for a client. This burden is considered a form of agony. Caregivers, usually family members, have various responsibilities such as personal care, financial support, medical assistance, and transportation arrangements. Coping strategies are utilized to manage stress, with effectiveness varying based on the situation and individual preferences. A study aimed to evaluate coping strategies and burden among caregivers of cardiovascular patients.* ***Methodology:*** *In a study conducted at IMS & SUM Hospital in Bhubaneswar, Odisha, a descriptive correlational research design was used, purposive sampling was employed to select 200 participants who completed a self-structured socio-demographic questionnaire. The researchers also utilized two standardized scales, the caregiver burden inventory scale and the coping inventory for stressful situations scale, to collect comprehensive data on caregiver burden and coping strategies.* ***Results:*** *The study findings showed a significant positive correlation ($r = 0.456$, $p < 0.01$) between burden and coping strategies, as indicated by Karl Pearson's correlation coefficient. This suggests that as the burden experienced by caregivers, their utilization of coping strategies also tends to increase. Additionally, the study employed ANOVA and t-tests to examine the differences between burden and coping strategies.* ***Conclusion:*** *The study revealed that a significant number of caregivers in 30-40 age group faced a high burden of care, leading them to employ diverse coping strategies. Counselling can offer emotional support, guidance, and practical advice to caregivers, enabling them to effectively manage challenges and maintain their well-being while caring for cardiovascular patients.*

***Author for Correspondence**
Puspanjali Senapati
E-mail: puspanjalisenapati@soa.ac.in

[1]Tutor, Department of Medical Surgical Nursing (neuroscience), Sum Nursing College, Siksha 'O' Anusandhan (Deemed University), Bhubaneswar, Odisha
[2]Associate Professor, Department of Medical Surgical Nursing, Sum Nursing College, Siksha 'O' Anusandhan (Deemed University), Bhubaneswar, Odisha
[3]Assistant Professor, Department of MSN, Sum Nursing College, Siksha 'O' Anusandhan (Deemed University), Bhubaneswar, Odisha
[4]Tutor, Department of Child Health Nursing, Sum Nursing College, Siksha 'O' Anusandhan (Deemed University), Bhubaneswar, Odisha
[5]Tutor, Department of MSN, Sum Nursing College, Siksha 'O' Anusandhan (Deemed University), Bhubaneswar, Odisha
[6]Tutor, Department of Community Health Nursing, Sum Nursing College, Siksha 'O' Anusandhan (Deemed University), Bhubaneswar, Odisha
[7]Tutor, Department of Obstetrics and Gynaecology, Sum Nursing College, Siksha 'O' Anusandhan (Deemed University), Bhubaneswar, Odisha

Received Date: September 20, 2023
Accepted Date: October 04, 2023
Published Date: October 17, 2023

Citation: Rashmipriya Rath, Rashmimala Pradhan, Mamata Swain, Puspanjali Senapati, Bishnupriya Mohapatra, Bandita Sahoo, Subhasmita Behera. Burden and Coping Strategies Among Caregivers of Patient Suffering with Cardiovascular Diseases. International Journal of Cardiovascular Nursing. 2023; 9(2): 1–8p.

Keywords: Caregiver burden, cardiovascular disease patient, coping strategies

INTRODUCTION

Health refers to the overall well-being and proper functioning of an individual's physical, mental and social aspects. It is influenced by various factors

such as genetics, environment, lifestyle choices and access to healthcare. Cardiovascular disorders are a major global health issue, and they are responsible for a significant burden of illness and mortality worldwide. Caregivers play a multifaceted role that goes beyond physical care, as stated by the World Health Organization (WHO). In India, where over 10 million deaths are reported annually, cardiovascular diseases (CVDs) contribute significantly to the mortality rate. Among males, CVDs account for approximately 20.3% of all deaths, while among females, it accounts for around 16.9% of all deaths [1]. They also offer companionship, emotional support, and advocacy for their clients. Caregivers often become the primary source of comfort and guidance for individuals with long-term disease, helping them navigate the challenges associated with their conditions. The long-term nature of cardiovascular disease can bring about various difficulties and significant changes in the lifestyle of the clients. The responsibilities of caregivers encompass tasks such as medication management, symptom monitoring, daily activity assistance, and emotional support. These duties can impose a significant burden on caregivers, impacting them both physically and emotionally [2].

The demands of caregiving can have detrimental effects on the caregiver's physical, emotional, and mental, causing stress, burnout, and potential depression. Caregivers often prioritize their loved one's needs, neglecting their own-being and putting their own lives on hold. The overwhelming responsibilities of caregiving leave little room for self-care and personal fulfilment. It is important for caregivers to seek support, both practical and emotional, to alleviate the burden and prevent caregiver fatigue. It is worth nothing that coping strategies can vary from person to person, and caregivers may use a combination of problem-focused, emotion-focused and avoidance-oriented coping strategies depending on the situation. To maintain their own-being while caring for loved ones, caregivers need to discover healthy coping mechanisms. Problem-focused involves actively addressing and resolving stressors through practical solutions. Emotion-focused coping focuses on managing and regulating emotional responses to the stressor. Rather than focusing on problem-solving, this coping strategy aims to reduce emotional distress and find ways to cope with the emotions associated with the stressor. Avoidance-oriented coping refers behaviors or strategies aimed at avoiding or minimizing contact with the stressor. This can involve ignoring the problem, denying its existence, or seeking distractions to temporarily escape from the stressor [3]. Abbasi et al. and Ardashirzade et al. suggest that the use of emotion-focused coping strategies by caregivers may indeed contribute to increased burden. This could be due to the fact that emotion-focused coping strategies may not directly address the practical challenges and stressors associated with caregiving, leading to a higher burden on the caregiver [4–8].

METHODS AND MATERIALS

A pilot study was conducted for 1 week with 20 samples to test the research design. Descriptive co-relational research design was used. Based on the results, 200 caregivers were chosen using purposive sampling for the main study. This approach helped identify any issues and select a representative sample. The pilot study and purposive sampling were crucial for ensuring the validity and effectiveness of the main study [9–17]. The study was conducted in the cardiovascular IPD & OPD of IMS & SUM hospital, Bhubaneswar. The inclusion criteria for participants were as follows: age group between 20–60 years, Willing to participate in the study, The care giver of patients of both OPD/IPD are included in the research. The exclusion criteria is: The caregiver those are providing care with paid service are excluded in this study. The data was collected using a socio-demographic questionnaire, standardized caregiver burden inventory scale to assess caregiver burden, standardized Coping Inventory for stressful situation scale to assess the coping strategies. These tools were chosen for their reliability and validity in measuring the relevant variables.

RESULTS

After collecting the data through the socio-demographic profile, descriptive statistics were used to determine the level of burden and assess the coping strategies of caregivers. The correlation between burden and coping strategies was examined using Karl Pearson's correlation coefficient [18–24]. Additionally, the comparison between burden and coping strategies with socio-demographic variables was conducted through ANOVA tests and t- test. These statistical analyses aimed to explore the

relationships and associations between caregiver burden, coping strategies and socio-demographic factors.

Section I

Table 1 revealed that the descriptive statistics of caregiver burden indicate that the mean caregiver burden score for time dependency items was 61.5 ± 16.0, with a median of 60.0. For development items, the corresponding values were 54.3 ± 10.3, with a median of 55.0. Physical health items had a mean score of 56.1 ± 10.7, with a median of 10.3, with a median of 56.3. Emotional health items had a mean score of 50.1 ± 11.5, with a median of 50.0. Social relationship items had a mean score of 48.8± 10.1, with a median of 50.0. The results of the study indicate that caregivers of cardiovascular patients indeed experience a significant level of burden.

Table 1. Descriptive statistics of burden of caregiver.

n = 200

Descriptive statistics of Burden of caregiver					
Descriptive Statistics	***Score in percentage***				
	Time dependency items	*Development items*	*Physical health items*	*Emotional health items*	*Social relationship items*
Mean	61.5	54.3	56.1	50.1	48.8
SD	16.0	10.3	10.7	11.5	10.1
Median	60.0	55.0	56.3	50.0	50.0

Table 2 shows that descriptive statistics of coping strategies in percentage scale. The mean coping strategies score for Task-Oriented coping was 50.7± 10.6 with median 51.4, for Emotion-Oriented coping was 47.2 ± 7.7 with median 45.7 & for Avoidance-Oriented coping was 53.2 ± 8.6 with median 54.3. This implied that the care givers are adopting different coping strategies to manage the burden of care giving. Nevertheless the coping strategies score indicated the care givers need more counseling to cope-up with the burden of care giving.

Table 2. Descriptive statistics of coping strategies.

n = 200

Descriptive statistics of coping strategies Score in percentage			
Descriptive Statistics	***Task- oriented coping***	***Emotion-oriented coping***	***Avoidance- coping***
Mean	50.7%	47.2%	53.2%
SD	10.6%	7.7%	8.6%
Median	51.4%	45.7%	54.3%

Section- II

According to Table-3, there is a significant positive correlation between burden and coping strategies, as indicated by Karl Pearson's correlation coefficient 0.456 with a P-value greater that 0.01. This means that as burden increases, coping strategies also tend to increase. The co-relation is statistically significant, indicating a genuine relationship between these variables. In summary, higher burden is associated with higher utilization of coping strategies.

Table 3. Co-relation between level of burden & coping strategies of caregiver.

n = 200

Co-relation of burden & coping strategies		
Score in percentage		
Variables	*Burden*	*Coping strategies*

Burden	1	.456**
Coping strategies		1
***Correlation is significant at the 0.01 level (2-tailed).*		

Section-III

Table 4 presents the comparison of mean scores of burden and coping strategies based on different socio-demographic profiles of caregivers. The findings indicate that there was no significant variation in the mean scores across different age groups, suggesting that age does not play a significant role in determining the level of burden and coping strategies among caregivers. Factors such as gender, income per month, duration of disease condition, dependency of patients with ADLs, and relationship with the patient also did not significantly impact the burden and coping strategies of caregivers. However, educational status did have a significant effect on burden, as caregivers with higher education levels had lower mean burden scores. Occupation type showed a significant effect on burden, with government employees and business people having higher burden scores [25–27]. Marital status did not significantly affect burden or coping strategies, and divorce did not have a significant impact on either. Family size was associated with higher burden scores, while it did not significantly affect coping strategies.

Table 4. Comparison of burden & coping strategies of caregiver of patients by socio-demographic variables

n = 200

Comparison of burden & coping strategies of caregiver						
Variables	***Classification***	***n(%)***	***Score in Percentage***			
			Burden		*Coping strategies*	
			Mean ± SD	*F' / 't' value*	*Mean ± SD*	*F' / 't' value*
Age group in years	20–30	25(12.5%)	52.7 ± 6.0	0.761*	48.5 ± 6.6	1.331*
	30–40	87(43.5%)	53.8 ± 7.9		51.0 ± 6.7	
	40–50	70(35%)	54.4 ± 6.8		49.9 ± 5.9	
	50–60	18(9%)	55.8 ± 5.8		51.8 ± 7.6	
ANOVA 'p' value			0.517		0.265	
Gender	Male	129(64.5%)	54.4 ± 7.3	0.854#	50.6 ± 6.3	0.688#
	Female	71(35.5%)	53.5 ± 6.8		50.0 ± 6.9	
Independent sample 't' test 'p' value			0.394		0.492	
Education status	Primary	24(12%)	55.3 ± 5.5	3.036*	50.4 ± 6.0	0.678*
	High school	68(34%)	55.6 ± 5.9		51.2 ± 6.5	
	UG	65(32.5%)	53.6 ± 7.5		50.2 ± 6.5	
	PG	43(21.5%)	51.7 ± 8.6		49.4 ± 6.8	
ANOVA 'p' value			0.030		0.566	
Occupation	Government employee	10(5%)	57.9 ± 7.5	4.468*	52.5 ± 7.2	0.764*
	Private employee	51(25.5%)	51.5 ± 8.8		49.4 ± 7.0	
	Business	54(27%)	55.8 ± 7.3		50.6 ± 6.7	
	Un employee	85(42.5%)	54.0 ± 5.2		50.6 ± 6.1	
ANOVA 'p' value			0.005		0.516	
Income per month	<10,000	21(10.5%)	54.9 ± 5.5	0.427*	51.4 ± 6.7	0.365*
	10,000–30,000	127(63.5%)	54.2 ± 6.3		50.1 ± 6.0	
	31,000–50,000	52(26%)	53.4 ± 9.4		50.6 ± 7.6	
ANOVA 'p' value			0.653		0.695	

Marital status	Unmarried	65(32.5%)	52.7 ± 7.2	1.406*	49.9 ± 6.0	1.609*
	Married	112(56%)	54.6 ± 7.5		50.2 ± 6.5	
	Widow	21(10.5%)	55.8 ± 4.7		53.1 ± 7.9	
	Divorce	2(1%)	54.2 ± 0.0		46.2 ± 3.4	
ANOVA 'p' value			0.242		0.188	
Duration of disease condition	< 5 year	52(26%)	54.2 ± 7.0	0.193*	49.6 ± 5.5	0.560*
	6-8 year	122(61%)	54.2 ± 7.5		50.7 ± 7.1	
	9–20 year	18(9%)	53.6 ± 6.4		51.2 ± 5.6	
	> 20 year	8(4%)	52.3 ± 2.7		48.9 ± 5.2	
ANOVA 'p' value			0.901		0.642	
Dependency of patient in ADLs	No	59(29.5%)	54.1 ± 8.3	0.075#	49.7 ± 6.4	-0.999#
	Yes	141(70.5%)	54.0 ± 6.6		50.7 ± 6.6	
Independent sample 't' test 'p' value			0.940		0.319	
Relationship with patient	Father	27(13.5%)	56.6 ± 7.5	1.922*	51.7 ± 5.5	0.587*
	Son	67(33.5%)	52.4 ± 7.6		50.5 ± 6.8	
	Daughter	21(10.5%)	53.9 ± 7.2		48.8 ± 6.4	
	Other relatives	84(42%)	54.6 ± 6.4		50.3 ± 6.7	
	Friend	1(0.5%)	58.3 ±		49.5 ±	
ANOVA 'p' value			0.108		0.672	
Number of family member in patient family	2–4	87(43.5%)	52.8 ± 7.6	–2.255#	49.8 ± 5.9	–1.195#
	4–7	113(56.5%)	55.1 ± 6.6		50.9 ± 6.9	
Independent sample 't' test 'p' value			0.025		0.233	
** 'F'- value, # - 't' value*						

DISCUSSION

In the current study conducted at Valiasr hospital in Zanjan, Iran, a total od 200 caregivers participated, with the largest proportion (43.5%) belonging to the 30–40 years age group, followed by 35% in the 40–50 years age group. Of the caregivers, 64.5% were male and 35.5% were female. The study specifically focused on 110 caregivers. Among this group, the majority were females (70%) while males accounted for 30%. The findings of the study indicated that caregivers of cardiovascular patients faced a significant burden, highlighting the challenges they encounter in fulfilling their caregiving responsibilities [28–31].

In the present research study the results shows that **,** the mean coping strategies score was 50.4 ± 6.5 with median 49.5. Half of the care givers have score more than 49.5 .This implied that the care givers are adopting different coping strategies to manage the burden of care giving. Nevertheless the coping strategies score indicated the care givers need more counseling to cope-up with the burden of care giving. Evridiki Papastavrou and Andreas Charalambous conducted a study on coping strategies employed by informal caregivers of cancer patients. A convenience sample of 130 dyads was used, where patients identified their primary family caregiver for participation. The majority of caregivers utilized emotionally focused coping methods, such as hoping time would bring change and finding solace in their faith. However, assertive coping strategies and taking risks were less commonly employed by caregivers [32–37].

Golnar Ghane and Mansoureh Ashghali Farahani conducted a randomized controlled clinical triel to assess the effectiveness of problem-focused coping strategies on the burden experienced by caregivers of hemodialysis patients. The study included 76 family caregivers in Tehran, Iran, who were divided equally into an intervention group and a control group. The majority of caregivers were married females. At the baseline, there was no significant difference in the mean caregiver burden scores between the

two groups. The study aimed to evaluate how problem-focused coping strategies could impact caregiver burden [38].

Limitation

Data were gathered from caregivers who were physically present at the hospital's outpatient department, excluding those who were at home. The sample size was reduced due to a limited data collection period caused by the closure of the outpatient department. The findings may not be applicable to caregivers who were not present at the hospital, and the study's external validity may be affected by its restriction to single setting. However, the data collection tools used in the study were standardized and self-structured, ensuring reliability and consistency.

CONCLUSION

The present study concluded that caregivers in the 30–40 years age group experienced a high burden. They utilized different coping strategies and sought counseling to manage the burden of caregiving for cardiovascular patients. There was a significant positive correlation between burden score and coping strategies, indicating that as the burden increased, caregivers employed more coping strategies. This highlights the proactive approach of caregivers in addressing the challenges they face.

Conflict of Interest

Nil

Source of funding

Self

Ethical Clearance

Ethical considerations were followed in the current study, which involved obtaining approval from the research committee of Sum Nursing College and the institutional Ethics Committee of SOA Deemed University, along with written permission from the medical superintendent of IMS & SUM Hospital. Furthermore, the study obtained informed consent from all participants, ensuring their voluntary participation and protection of their rights and privacy.

REFERENCES

1. Abbasi A, Rahmani H, Shariati A, Asayesh H, Ashrafrezaee N, Mollaei E, et al. The relationship between caring burden and coping strategies in hemodialysis patients caregivers. J Urmila Nurs Midwifery Faculty. 2012;10(4):533–9.
2. Abbasi A, Asayesh H, Rahmani H, Sharita A, Hosseini S, Rough G. The burden on caregivers from hemodialysis patients and related factors. J Res Develop Nursing Midwifery. 2011;8:26–33.
3. Kuyken, W., Orley, J., Hudelson, P. and Sartorius, N. (1994). Qality of life assessment across cultures. International Jouranal of Mental Health, 23(2), 5–27.
4. Szabo, S. (1996). The world Health Organization Quality of life (WHOQOL) Assessment Instrument. In Quality of Life and pharmaeconomics in Clinical Trials (2nd edition, Edited by Spilker B.). Lippincott-Raven Publishers, Philadelphia, New York.
5. The WHOQOL Group. The World Health Organization Quality of Life assessment (WHOQOL): position paper from the World Heath Organization. Soc.Sci. Med., 41, 1403,1995.
6. Sartorius, N. and Helmchen, H. (1981). Aims and implementation of multi-centre studies. Modern Problems of Pharmacopsychiatry, 16, 1–8.
7. Olweny, C.L.M. (1992). Quality of life in developing countries. Journal of palliative Care, 8, 25–30.
8. The WHOQOL Group. (1994a). Development of the WHOQOL: Rationale and current status. International Journal of Mental Health, 23 (3), 24–56.
9. Sharif F, Vedad F. The relationship between mental health and quality of life of hemodialysis patients referred to hospitals affiliated to Shiraz University of Medical Sciences. Iran J Nursing. 2007;20 (51):61–9.

10. Novak M, Guest C. Application of a multidimensional caregiver burden inventory. Gerontologist.1989;29(6):798–803.
11. Ghane G, Farahani MA, Seyedfatemi N, Haghani H. Effectiveness of problem-focused coping strategies on the burden on caregivers of hemodialysis patients. Nurs Midwifery Stud. 2016;
12. Chadda RK, Singh TB, Ganguly KK. Caregiver burden and coping. Soc psychiatry Epidemiol. 2007;42 (11):923–930.
13. Simon A., Deo M., Selvam V., Babu R. An overview of machine learning and its applications. International Journal of Electrical Sciences & Engineering. 2016;1:22–24.
14. Aitkenhead M.J.A co-evolving decision tree classification method. Expert Systems with Applications.2008;34(1):18–25.
15. Boateng E. Y.,Abaye D.A.A review of the logistic regression model with emphasis on medical research.Journal of Data Analysis and information processing.2019;7(4):190–207.
16. Jadhav BS, Dhavale HS, Dere SS, Dadarwala DD. Psychiatric morbidity, quality of life and caregiver burden in patients undergoing hemodialysis.Med J DY Patil Vidyapeeth. 2014;7(6):722.
17. Nikmanesh Z, Shahinfar M. The role of caregiver burden in quality of life and perception of patients with chronic kidney failure on Hemodialysis. Ann Mil Health Sci Res.2016;14(3):e11465.
18. Mashayekhi F, Mohammadi-Sardo M, Soltaninejad M. Relations between depressive symptoms and quality of life with caregivers burden in hemodialysis patients.Int J Adv Res Biol Sci. 2015;2(11):225–33.
19. Gill AS, Singh A, Matreja PS, Gupta AK, Singh N, Khosla PP,et al. Assessment of the quality of life of caregiver's patients suffering from chronic kidney disease. BANTAO. J. 2011;9(1):31–5.
20. Alnazly EK. Burden and coping strategies among Jordanian caregivers of patients undergoing hemodialysis. Hemodial Int. 2016;20(1):84–93.
21. Etters L., Goodall D., Harrison B. Caregiver burden among dementia patient caregivers: a review of literature.Journal of the American Academy of Nurse Practitioners.2008;20(8):423–428.
22. Roy N., Hassan A.M., Alom R., Rajib M.H.R., Mamun K.A.A. The situation of Alzheimer's disease in Bangladesh: facilities, expertise, and awareness among general people. Journal opf Neurological Disorders. 2020;8(7)
23. Draper, BM, Poulos, CJ, Cole, AM, Poulos, RG, Ehrlich, F.A comparision of caregivers for elderly stroke and dementia victims. J AM Geriatric Soc 1992; 40:896–901.
24. McCullagh, E, Brigstocke, G, Donaldson, N, Kalra, L. Determinants of caregiving burden and quality of life in caregivers of stroke patients. Stroke 2005;36:2181–6.
25. Montgomery, RV, Stull, DE, Borgatta, EF. Measurement and the analysis of burden. Res Aging1985; 7: 137–52.
26. Tooth, L, Mckenna, K, Barnett, A, Prescott, C, Murphy,S. Caregiver burden, time spent caring and health status in the first 12 monthhs following stroke.Brain Inj2005;19:963–74.
27. Chumbler, NR, Rittman, M, Van Puymbroeck, M, Vogel, WB, Qin,H. The sense of coherence, burden, and depressive symptoms in informal caregivers during the first month after stroke. Int J Geriatr Psychiatry 2004;19:944–53.
28. Choi-Kwon, S, Kim, HS, Kwon, SU, Kim, JS. Factors affecting the burden on caregivers of stroke survivors in South Korea. Arch Rhys Med Rehabil 2005;86:1043–8.
29. Martinez-Martin, P, Rodriguez-Blazquez, C, Forjaz, MJ. Quality of life and burden in caregivers for patients with parkinson's disease.2012;12(2):221–230.
30. Martinez-Martin, Forjaz, MJ, Frades-Payo, B. Caregiver burden in parkinson's disease.Mov Disord.2007;22(7): 924–931.
31. Caap-Ahlgren, M, Dehlin, O. Factors of importance to the caregiver burden experienced by family caregivers of parkinson's disease patients.Aging Clin Exp Res. 2002;14(5):371–377.
32. Martinez-Martin, P, Benito-Leon, J, Alonso, F. Quality of life of caregivers in parkinson's disease. Quality Life Res.2005;14(2):463–472.
33. Beckham, J.C., Lytle, B.L., & Feldman, M.E.(1996). Caregiver burden in partners of Vietnam War veterans with posttraumatic stress disorder. Journal of consulting and clinical psychology, 64,1068–1072.

34. Hirono N, Lobayashi H, Mori E. Caregiver burden in dementia: evaluation with a Japanese version of the Zarit Caregiver burden interview. No To Shinkei 1998; 50:561–7.
35. Bethoux F, Calmels P, Gautheron V,Minaire P. Quality of life of the spouses of stroke patients: a preliminary study.Int J Rehabil Res 1996; 19:291–9.
36. Clyburn, L., Stones, M., Hadjistavropoulos, T., & Tuokko, H.(2000). Predicting caregiver burden and depression in Alzheimes's disease.Journals of Gerontology Series B Psychological Sciences and Social Sciences, 55(1),s2–s13.
37. Annerstedt, L., Elmstahl, S., Ingvad, B., & Samuelsson,S.(2000).Family caregiving in dementia: An analysis of the caregiver's burden and the breaking point when home care becomes inadequate.Scandinavian Journal of Public Health,28(1),23–31.
38. Saunders MM. Factors associated with caregiver burden in heart failure family caregivers. Western J Nurs Res. 2008;30(8):943–59.

