Chronic Diseases Journal

DOI: 10.22122/cdj.v3i2.65 Published by Vesnu Publications

Stress and its related factors in families of patients with cancer

Seyedeh Moloud Rasouli-Ghahfarkhi[1], Shahla Molahosseini[2]

1 Department of Nursing and Midwifery, Islamic Azad University, Masjed-Soleiman Branch, Masjed-Soleiman, Iran
2 Department of Maternal and Child Health Care, School of Public Health, Islamic Azad University, Tehran Medical Branch, Tehran, Iran

Original Article

Abstract

BACKGROUND: Cancer is one of the most common kinds of chronic diseases. In addition, it is a cause of stress in the family members of the patient. Therefore, the aim of this study was to determine the amount of stress and its related factors in families of patients with cancer.

METHODS: In this descriptive study, 96 family members of cancer patients admitted to 3 hospitals in Ahvaz, Iran, were recruited in the study. Data gathering tools consisted of the Perceived Stress Scale (PSS-14), and a researcher-made questionnaire for demographic data and factors associated with caregiver stress. Collected data were analyzed using SPSS software.

RESULTS: A total of 55 (57.3%) subjects showed moderate stress levels and 20 subjects (20.8%) showed severe stress levels. There was a significant relationship between the levels of stress and age of less than 30 years and female gender. Moreover, a significant relationship was observed between the level of stress and factors such as uncomfortable treatment environment, feeling dissatisfied with staff, fear of recurrence, difficulties in everyday life, no spiritual practice, negative attitudes toward treatment outcome, refusing to participate in favorite activities, changes in interactions with others, lack of leisure time, imbalance between daily responsibilities and care, inadequate income, and lack of appropriate facilities ($P < 0.05$).

CONCLUSION: There were several factors causing stress in patients' families. It is recommended that nurses and the medical team be informed of these factors in order to manage stress in patients and their families.

KEYWORDS: Traumatic Stress Disorders, Family, Cancer, Chronic Disease

Date of submission: 18 Nov 2014, *Date of acceptance:* 25 Jan 2015

Citation: Rasouli-Ghahfarkhi SM, Molahosseini Sh. **Stress and its related factors in families of patients with cancer.** Chron Dis J 2015; 3(2): 45-54.

Introduction

Unlike 100 years ago, today, the main cause of death in the United States is not communicable diseases, but chronic diseases.[1] Chronic disease is attributed to any condition of prolonged illness such as cancer.[2] They include diseases that occur in every age group or every economic, social, and cultural group. It is anticipated that by 2050, about 167 million people will suffer from chronic diseases worldwide and the estimated cost for this number is about $797 billion.[3] Cancer does not only involve the patient, but it is a cause of stress in family members as well.[4] The annual incidence of cancer and mortality due to cancer in Iran is about 70,000 and 30,000 cases, respectively.

In view of the increase in life expectancy and increasing percentage of elderly population in Iran, a considerable increase in the incidence of cancer is expected in coming decades.[5] Due to the interdependence among family members, the health of each family member is affected by the health and wellbeing of other members. Family caregivers are an essential component of health services in the community.[6] The role of patient care in

Corresponding Author:
Seyedeh Moloud Rasouli-Ghahfarkhi
Email: rasoulinurse88@yahoo.com

the family can cause burnout and psychiatric disorders for caregivers.[7]

Families with a patient could be considered as vulnerable families.[8] Vulnerable families should be examined in terms of stress, driving force, and the dynamics of health or functional impairment.[2] Several studies have shown that families of cancer patients have high levels of stress, bearing in mind that various factors may play a role in its incidence and severity. Tang et al. conducted a study in Taiwan in 2007 to determine the factors associated with stress among families of patients with cancer.[9] Their results showed that more than three quarters (75.9%) of the caregivers were at high risk of stress. Caregivers who were also the patient's spouse had negative views on the costs, lifestyle, and financial position, and were more prone to stress. Other researchers believed that stress is significantly related to age, gender and, care of patients with chronic diseases.[9-13]

Therefore, care and support for family members of patients is of great importance. However, the study by Takman and Severinsson indicated that not enough attention is paid to these individuals and they are not supported well.[14] Regardless of the type of cancer treatment or prediction of the disease course, patients and their families are prone to various problems. An important role of nurse is to examine the patient and his/her family to determine their problems and to resolve them.[15] In Iran, there are a limited number of studies that have examined the impact of cancer on family members; thus, further investigation is required. Therefore, this study was performed to determine the level of stress and its related factors in families of patients with cancer.

Materials and Methods

The research population of this descriptive study consisted of family members of cancer patients (including spouse, father, mother, sister, and brother who were the main care provider and patient's companion in the hospital) who were referred to Golestan and Shafa Hospitals of Ahvaz, Iran, in 2011. The sample size was determined as 96 people through convenience sampling and consideration of 5% error (P = 0.5 and d = 0.1). The inclusion criteria were consenting to participate in the study and being an immediate family member of the patient, being responsible for the patient's home care, and accompanying the patient in the hospital. Exclusion criteria were being relatives of patients who expired after admission to the clinic, 2-not being a fixed care provider of the patient (confirmed by the researcher), and having a diagnosed mental problem.

Selected subjects for the present study were examined in terms of having the necessary criteria through interviews. Moreover, the objectives of the study were explained to the study subjects and their informed consent to participate in the study was obtained within 4 months. Data gathering tools consisted of the Perceived Stress Scale (PSS-14) and a researcher-made questionnaire for demographic data and factors associated with caregiver stress on personal, psychological, social, economic, and cultural aspects. The PSS-14 contains 14 items that measure general stress based on a 5-point Likert scale. Total level of stress was classified, based on the acquired score, as low (5-19), medium (20-35), and high stress (> 35). The PSS-14 was prepared in 1983 by Cohen et al.[16] The validity of the scale was confirmed in a study conducted by Fliege et al. in Germany.[17] This questionnaire has been used frequently in the Iranian society and its validity has been confirmed.[18,19]

In this study, the reliability of the tool was determined as 0.85 using test-retest. The second tool was a researcher-made questionnaire with 59 questions. Content validity and test-retest were used to determine

its validity and reliability. A questionnaire was prepared after a study of up to date books and articles related to the topic and views of professors and counselors.[3,10,20-31] Then, opinions of 10 nursing and midwifery specialists of the Islamic Azad University, Tehran Medical Branch, Iran, and 2 physicians of the oncology wards were obtained. After gathering their comments and revisions, the final version of the questionnaire was adjusted. Its Cronbach's alpha was calculated as 0.84 that indicates its appropriate reliability. The questionnaires were completed through face-to-face interviews with participants in privacy in order to avoid the influence of other factors. Data were analyzed using SPSS software (version 16, SPSS Inc., Chicago, IL, USA) and applied and descriptive statistical analysis including t-test, ANOVA, and regression analysis.

Results

In the present study, 63 cancer patients were female (65.6%), their mean age was 43.27 ± 20.38, and 60 cases were married (62.5%). The majority of them had a high school diploma (24%). Among the patients, 58 cases were unemployed (67.7%), 65 cases had insurance (67.7%), and 33 cases suffered from breast cancer (34.3%). Most cases were under therapy for less than 6 months (42.7%) (Table 1). Among the subjects, 64 cases (67%) were female and 32 cases (33%) were male, and their average age was 38 years. In relation to stress level, 55 of the subjects (57.3%) had a moderate stress level and 20 (20.8%) of them had a high stress level (Table 2). In relation to stress related factors of family members, results of t-test and ANOVA indicated that there was a statistically significant relationship between stress and the mentioned factors.

Table 1. Demographic characteristics of cancer patients

Variables		n (%)
Age (year)	<_19	20 (20.80)
	20-39	9 (9.40)
	40-59	48 (50.00)
	≥ 60	19 (19.80)
Gender	Male	33 (34.40)
	Female	63 (65.60)
Marital status	Married	60 (62.50)
	Single	27 (28.10)
	Separated	0
	Expired spouse	9 (9.40)
Employment status	Unemployed	58 (60.40)
	Employee and workers	11 (11.40)
	Retired	18 (18.80)
	Housekeeper	5 (5.20)
	Student	4 (4.20)
Insurance status	Yes	65 (67.70)
	NO	31 (32.30)
Type of cancer	Blood	14 (14.50)
	Lung	10 (10.40)
	Breast	33 (34.30)
	Colon	5 (5.20)
	Prostate	2 (2.08)
	Others	32 (33.30)

Table 2. Distribution of absolute and relative frequency of subjects in terms of stress level

Stress level	n (%)
Low	21.9 (21)
Moderate	57.3 (55)
Severe	20.8 (20)
Sum	100 (96)

There was a statistically significant relationship between stress and age of less than 30 years (P = 0.002), being female (P = 0.030), lack of comfort in the working environment (P = 0.010), dissatisfaction with the staff of health centers (P = 0.010), and fear of recurrence (P = 0.002). There was also a statistically significant relationship between stress and occurrence of health care problems (P = 0.003), lack of spiritual belief (P = 0.040), and negative attitude towards success of the treatment (P = 0.010). Moreover, a statistically significant relationship was observed between stress and non-participation in favorite activities (P = 0.001), a change in interaction with others (P = 0.005), not having time for fun (P = 0.03). There was a statistically significant relationship between stress and not establishing a balance between the responsibilities of everyday patient care (P = 0.001), low economic status (P = 0.04), and lack of appropriate facilities (P = 0.030) (Table 3).

There was no statistically significant relationship between stress and demographic variables, including education level (P =0.240), marital status (P = 0.280), caregiver relation to the patient (P = 0.06), parental responsibility (P = 0.150), employment status (P = 0.330), duration and hours of patient care (P = 0.260), hours of care per day (P = 0.290), history of patient care (P = 0.440), physical disease (P = 0.810), and history of drug abuse (P = 0.720). Furthermore, no statistically significant relationship was observed between stress and other psychological variables, including right to decision making in respect to care (P = 0.620), and concerns about themselves (P = 0.620). There was no statistically significant relationship between stress and cultural variables, including type of religion (P = 0.900), knowledge about the disease and patient care (P = 0.310), source of information (P = 0.600), and supporting and encouraging other family members to care for the patient (P = 0.670). There was also no statistically significant relationship between stress and economic variables, including housing status (P = 0.080).

In addition, the result of regression analysis indicated a statistically significant correlation between stress and many factors, and a significant association between stress and problems in life, comfort in the working environment, and fear of recurrence of the disease (Table 4).

Discussion

Results of this study showed that the majority of family members of patients with cancer had a moderate stress level (57.3%). The results indicate that many factors affected perceived stress in family members of patients. In relation to personal factors, the results of t-test and ANOVA indicated that family members of less than 30 years of age, and female family members were more prone to stress. However, regression analysis results did not show this. Kim et al., in their study, concluded that demographic and psychosocial characteristics, such as being young, were associated with caregiver distress.[32] Moreover, Yousafzai et al., in their study, concluded that there was a statistically significant relationship between stress levels and gender.[11]

Nevertheless, the results of the study by Kim and Schulz showed that there was a significant relationship between stress and higher ages.[10] The reason for this difference could be the fact that the participants in the present study

Table 3. Distribution of mean stress and its related factors in families of patients with cancer

Variable			Mean ± SD	Result
Personal factors	Age	> 30	3.33 ± 8.60	F = 5.45
		30-39	27.85 ± 7.13	P = 0.002
		40-49	31.28 ± 9.11	
		≥ 50	25.45 ± 7.71	
	Sex	Male	24.34 ± 8.56	t = 2.18
		Female	28.40 ± 8.90	P = 0.030
Psychological factors	Convenience in the medical environment	Never	31.72 ± 8.81	F = 6.21
		Rarely	30.46 ± 7.60	P = 0.010
		Often	27.87 ± 7.54	
		Frequently	22.39 ± 8.90	
		Always	19.75 ± 8.77	
	Satisfaction with health care workers	Never	33.00 ± 9.89	F = 3.54
		Rarely	34.28 ± 5.73	P = 0.010
		Often	29.41 ± 9.00	
		Frequently	25.85 ± 7.72	
		Always	23.75 ± 8.70	
	Fear of Recurrence	Never	20.66 ± 11.09	F = 4.69
		Rarely	16.16 ± 6.52	P = 0.020
		Often	25.00 ± 7.87	
		Frequently	27.73 ±5. 72	
		Always	29.26 ± 8.92	
	Creating problems in life	Never	22.25 ± 7.71	F = 4.41
		Rarely	22.15 ± 8.82	P = 0.003
		Often	26.50 ± 8.40	
		Frequently	28.45 ± 8.25	
		Always	31.34 ± 8.14	
Social factors	Participating in favorite activities	Yes	23.15 ± 9.10	t = 3.38
		No	29.05 ± 7.83	P = 0.001
	Changes in interactions with others	Yes	28.72 ±7.63	t=2.86
		No	23.65 ± 9.60	P =0.005
	Having a fun time	Yes	24.25 ± 9.30	t=2.17
		No	28.20 ± 8.21	P =0.030
	balance between the responsibilities of everyday life and patient care	Yes	25.17 ± 8.44	t=3.43
		No	32.23 ± 7.94	P =0.001
Cultural factors	Prayer	never	24.00 ± 7.93	F = 2.48
		rarely	34.18 ± 8.47	P = 0.040
		often	26.03 ± 8.30	
		frequently	25.23 ± 7.83	
		always	26.47 ± 9.93	
	Belief in the success of treatment	yes	25.86 ± 8.41	t = 2.57
		no	32.66 ± 9.54	P = 0.010
Economic factors	Adequacy of income	yes	24.20 ± 8.68	t = 2.43
		no	28.51 ± 8.51	P = 0.010
	Appropriate facilities	yes	25.51 ± 8.47	t = 2.12
		no	29.64 ± 9.05	P = 0.030

SD: Standard deviation

Table 4. Distribution of mean stress and its correlation with many factors

	Unstandardized Coefficients		Standardized Coefficients	P	95.0% CI for B	
	B	StandardError	Beta		Lower Bound	Upper Bound
Constant	27.222	4.912		< 0.001	17.454	36.989
Age	-0.015	0.040	-0.036	0.699	-0.095	0.064
Gender	0.588	1.668	0.032	0.725	-2.730	3.906
Difficulties in daily life program	1.332	0.667	0.205	0.049	0.006	2.658
Being comfortable in treatment environment	-2.515	0.680	-0.334	< 0.001	-3.868	-1.162
Fear of recurrence	1.722	0.674	0.240	0.012	0.382	3.061
Belief in the result of treatment	-1.441	2.399	-0.054	0.550	-6.212	3.329
Participate in favorite activities	-2.257	1.773	-0.126	0.207	-5.782	1.269
Changes in interactions with others	0.501	1.735	0.028	0.774	-2.950	3.951
Having leisure time	1.472	2.001	0.081	0.464	-2.508	5.452
Balance between daily responsibilities and patient car	-2.583	2.048	-0.122	0.211	-6.655	1.490
Adequacy of income	-1.440	1.742	-.0810	0.411	-4.904	2.024

CI: Confidence interval

were relatively young and their average age was low. They often cared for someone who was older than themselves. Furthermore, in our country, the majority of parents and children live together and due to their patients' disease, children may be faced with a change in roles or decision making in critical condition. A significant relationship was not found between stress and other personal factors.

Yousafzai et al., in their study in Pakistan, concluded that there was a significant relationship between stress and caregiver relationship.[11] Bainbridge et al. found a significant relationship between the amount of stress experienced by the family members and the amount of time caring for the patient during the day.[33] However, the by Park also showed that there was a significant relationship between the level of stress in the family caregivers and the availability of second caregiver.[13]

All these cases may be related to cultural issues governing the study population and the dependency among family members in the society. In relation to psychological factors, people who were uncomfortable with medical care facilities, were not satisfied with medical staff, and were always concerned about their patients' recurrence, and who were faced with problems were more stressed than others. The results of a survey conducted by Mellon et al. showed that fear of recurrence and lack of social support was related to the amount of stress experienced by patients and their families during the course of the disease.[34]

According to these results, family members needed direct support from the medical staff. Paying more attention to family members of patients, answering their questions, and educating them on diseases and their process could have a significant impact on stress reduction. It is recommended to consider strategies by which family members of these patients who are often their caregivers can be provided with better conditions to perform their duties. No significant relationship was found between stress and decision making right in respect to care and concerns about self-suffering. Winter et al. found that in subjects who did not have the right of decision making for care, the amount of stress was three times that of those who did.[35] This may be because of the high interdependence among family members in our society, and that, in critical cases, caring for an individual and performing health care tasks is a major family role. Many

researchers have emphasized this issue, especially in Asian countries.[2,7,36,37]

In relation to cultural factors, no significant relationship was found. However, Sayegh and Knight, in their study, concluded that family and cultural background have an indirect role in mental health.[38] No significant correlation was found between stress levels and type of religion, awareness about the disease and patient care, source of information, supporting and encouraging other family members to care for the patient. The results of this study are not consistent with the results of the study by Tang et al.[9] They concluded that families who have confidence in their knowledge of patient home care or have adequate awareness about the patients' experience and signs of disease rarely suffer from stress and distress.[9] This issue may be associated with subjects' education or cultural factors governing the statistical population and requires more investigation. Based on the study by Gaugler et al., caregiver optimism toward the result of treatment has a powerful impact on various aspects of stress.[39] In a study conducted in 2009 by Hasson-Ohayon et al., it was found that religious beliefs and practices play an important role in the outcomes of psychological adaptation to cancer.[40]

Nevertheless, results of t-test and ANOVA indicate that people who rarely performed spiritual practices and did not believe in the results of treatment were more likely to suffer from stress. A large number of studies on the relationship between spirituality and health are rooted in measurement of beliefs and religious activities. Some benefits of spirituality are increased sense of well-being and reduced stress.[22] In relation to social factors, those family members who could not participate in their favorite activities were suffering more from stress than others.

The results of this study were consistent with that of previous findings. Chimeh et al. stated that caregivers had no time to spend with friends, for social life, holidays, retreats, and fun, and this restriction of social life can threaten the mental state of a person.[7] Furthermore, in the research by Kim and Given, family members identified many problems of their care giving experience including conflict in the social role.[21]

No significant correlation was found between stress levels and family members who could not participate in their favorite activities, whose relationship with others had changed, and who had no time for leisure and had failed to establish a balance between daily responsibilities and patient care. However, the results of t-test and ANOVA were consistent with this finding. These results imply that family members of patients need time for rest and personal activities and continuing this process can jeopardize an individual's mental health. Thus, extensive planning is necessary to perform appropriate care.

No significant correlation was found between stress and economic factors. Nevertheless, in many studies, low income family members who did not have appropriate facilities experienced more stress than others. In their study, Kim et al. noted that psycho-social and demographic characteristics, including lower socioeconomic status, are associated with distress in caregivers.[32] In addition, the results of studies by Taylor et al.[41] and Craven and Hirnle[42] and results of t-test and ANOVA are consistent with this finding; therefore, this topic requires further investigation. Particular attention should be paid to the economic problems of family members of cancer patients and careful planning in this respect is required.

Today, social workers and insurance departments are present in most of our hospitals, but given the high cost of chronic disease treatment, a particular program should be adopted for all of them. From this study, it can be concluded that several factors are associated with perceived stress levels of

family members of patients with cancer. Therefore, the results of this study can be used in the clinical field by clinical, community, and mental health nurses to identify vulnerable families, provide more appropriate services, play a supporting role in stress management, and to consider this important issue in their nursing care planning. Moreover, in terms of education, the findings of this study and similar studies can be used by educational planners to train nursing students (theoretical and practical training) to recognize factors associated with stress in patients' family members and perform appropriate care. The findings of this study can be considered by nursing service managers in the provision of in-service training courses for nurses, particularly those in oncology wards, to provide them with required, new, and accurate information in the field of care and stress management of family members of patients with cancer. In the field of research, the results of this study can help researchers identify psychosocial problems more precisely and in terms of stress management of patients' family members. Further researches on the relationship between stress-related factors in families of patients with a particular type of cancer are also recommended. In addition, comparative studies should be undertaken to understand the problems and stressors of family members.

Conflict of Interests

Authors have no conflict of interests.

Acknowledgments

This article was sponsored by the nursing and Midwifery School of Islamic Azad University, Tehran Medical Branch. We would like to thank the Deputy of Research of the School of Nursing and Midwifery and staff of Golestan, Naft, and Shafa Hospitals of Ahvaz for their cooperation.

We would also like thank all families who participated in this study despite their problems related to patient care.

References

1. Maurer FA, Smith CM, Leake P. Community/Public Health Nursing Practice: Health for Families and Populations. 4th ed. Philadelphia, PA: Elsevier Science Health Science Division; 2008. p. 274.
2. Stanhope M, Lancaster J, Leake P. Public Health Nursing. 7th ed. Philadelphia, PA: Elsevier Science Health Science Division; 2008. p. 573-5,720
3. O'Connell Smeltzer SC. Brunner & Suddarth's textbook of medical-surgical nursing: north American edition. Philadelphia, PA: Lippincott Williams & Wilkins; 2008. p. 109-10, 192.
4. Sherman DW, Haber J, Hoskins CN, Budin WC, Maislin G, Cater J, et al. Differences in physical, emotional, and social adjustment of intimate, family, and nonfamily patient-partner dyads based on a breast cancer intervention study. Oncol Nurs Forum 2009; 36(4): E185-E197.
5. Mahram M. Cancer epidemiology in the world. Iran and Qazvin province. Proceedings of the Cancer from Prevention to Rehabilitation Congress; 2008 Oct 9-13 Qazvin, Iran; 2008. p. 26-8.
6. Mohammadi Shahbalaghi F. Efficacy and pressure carers in family cargivers of elders with Alzheimer patients in Tehran. Salmand Iran J Ageing 2006; 1(1): 26-33. [In Persian].
7. Chimeh N, Malakouti SK, Panaghi L, Ahmad Abadi Z, Nojomi M, Tonkaboni A. Care givers burden and mental health in Schizophrenia. Journal of Family Research: 2008; 4(15): 277-92.
8. Family Health Nursing. Trans. Hoseini V, Jafari N. Tehran, Iran: Jame-Negar Publication; 2008. p. 108. [In Persian].
9. Tang ST, Li CY, Liao YC. Factors associated with depressive distress among Taiwanese family caregivers of cancer patients at the end of life. Palliat Med 2007; 21(3): 249-57.
10. Kim Y, Schulz R. Family caregivers' strains: comparative analysis of cancer caregiving with dementia, diabetes, and frail elderly caregiving. J Aging Health 2008; 20(5): 483-503.
11. Yousafzai AW, Bhutto N, Ahmar S, Siddiqui

MN, Salamat S. Caregivers' stress of cancer patients in a tertiary care hospital. Journal of Postgraguate Medical Institue 2008; 22(1): 62-5.
12. Gaugler JE, Given WC, Linder J, Kataria R, Tucker G, Regine WF. Work, gender, and stress in family cancer caregiving. Support Care Cancer 2008; 16(4): 347-57.
13. Park JY. Relationship between stress and quality of life of family caregivers of patient with lung cancer. J Korean Oncol Nurs 2010; 10(2): 129-36.
14. Takman C, Severinsson E. A description of healthcare providers' perceptions of the needs of significant others in intensive care units in Norway and Sweden. Intensive Crit Care Nurs 2006; 22(4): 228-38.
15. Brenner BM, Suddarth. Medical Surgical Nursing, Pain, Cancer. Trans, Ibrahimi N. Tehran, Iran: Salemi Publication; 2008. p. 118-20. [In Persian].
16. Cohen S, Kamarck T, Mermelstein R. Global measure of perceived stress. J Health Soc Behav1983; 24(4): 385-96.
17. Fliege H, Rose M, Arck P, Walter OB, Kocalevent RD, Weber C, et al. The Perceived Stress Questionnaire (PSQ) reconsidered: validation and reference values from different clinical and healthy adult samples. Psychosom Med 2005; 67(1): 78-88.
18. Behroozi N, Shahni Yelaq M, Pourseyed SM. Relationship between perfectionism, perceived stress and social support with academic burnout. Strategy for Culture 2013; 5(20): 83-102.
19. Pasha GH, Bozorgiyan R. Relationship between upper cognition, idealism and self-efficacy with Perceive Stress among student of Islamic Azad university of Ahvaz. Journal of New Findings in Psychology 2011; 6(18): 91-102.
20. Glozman JM. Quality of life of caregivers. Neuropsychol Rev 2004; 14(4): 183-96.
21. Kim Y, Given BA. Quality of life of family caregivers of cancer survivors: across the trajectory of the illness. Cancer 2008; 112(11 Suppl): 2556-68.
22. Kitrungroter L, Cohen MZ. Quality of life of family caregivers of patients with cancer: a literature review. Oncol Nurs Forum 2006; 33(3): 625-32.
23. Mohr WK. Psychiatric-mental health nursing: evidence-based concepts, skills, and practices. 7th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2008. p. 118-9.
24. Monahan FD, Phipps WJ. Phipps' medical-surgical nursing: health and illness perspectives-EMEA edition. 8th ed. Philadelphia, PA: Mosby Elsevier; 2006. p. 1416.
25. Pederson LM, Valanis BG. The Effects of Breast Cancer on the FamilyA Review of the Literature. Journal of Psychosocial Oncology 1989; 6(1-2): 95-118.
26. Phipps S, Long A, Hudson M, Rai SN. Symptoms of post-traumatic stress in children with cancer and their parents: effects of informant and time from diagnosis. Pediatr Blood Cancer 2005; 45(7): 952-9.
27. Robison J, Fortinsky R, Kleppinger A, Shugrue N, Porter M. A broader view of family caregiving: effects of caregiving and caregiver conditions on depressive symptoms, health, work, and social isolation. J Gerontol B Psychol Sci Soc Sci 2009; 64(6): 788-98.
28. Schulz R, Sherwood PR. Physical and mental health effects of family caregiving. Am J Nurs 2008; 108(9 Suppl): 23-7.
29. Moore S. Facilitating oral chemotherapy treatment and compliance through patient/family-focused education. Cancer Nurs 2007; 30(2): 112-22.
30. Llewelyn S, Kennedy P. Handbook of Clinical Health Psychology. New Jersey, NJ: Wiley; 2003. p. 65-71.
31. Timby BK, Smith NE. Essentials of Nursing: Care of Adults and Children. Philadelphia, PA: Lippincott Williams & Wilkins; 2005. p. 120.
32. Kim Y, Baker F, Spillers RL. Cancer caregivers' quality of life: effects of gender, relationship, and appraisal. J Pain Symptom Manage 2007; 34(3): 294-304.
33. Bainbridge D, Krueger P, Lohfeld L, Brazil K. Stress processes in caring for an end-of-life family member: application of a theoretical model. Aging Ment Health 2009; 13(4): 537-45.
34. Mellon S, Northouse LL, Weiss LK. A population-based study of the quality of life of cancer survivors and their family caregivers. Cancer Nurs 2006; 29(2): 120-31.
35. Winter KH, Bouldin ED, Andresen EM. Lack of

choice in caregiving decision and caregiver risk of stress, North Carolina, 2005. Prev Chronic Dis 2010; 7(2): A41.
36. Basavanthappa BT. Community health nursing. Trans. Hoseini M, Arbabi zadeh H. Tehran, Iran: Boshra Publication; 2003. p. 75-85. [In Persian].
37. Kim KS, Kwon SH. Comfort and quality of life of cancer patients. Asian Nurs Res (Korean Soc Nurs Sci) 2007; 1(2): 125-35.
38. Sayegh P, Knight BG. The effects of familism and cultural justification on the mental and physical health of family caregivers. J Gerontol B Psychol Sci Soc Sci 2011; 66(1): 3-14.
39. Gaugler JE, Hanna N, Linder J, Given CW, Tolbert V, Kataria R, et al. Cancer caregiving and subjective stress: a multi-site, multi-dimensional analysis. Psychooncology 2005; 14(9): 771-85.
40. Hasson-Ohayon I, Braun M, Galinsky D, Baider L. Religiosity and hope: a path for women coping with a diagnosis of breast cancer. Psychosomatics 2009; 50(5): 525-33.
41. Taylor C, Lillis C, LeMone P. Fundamentals of nursing: the art and science of nursing care. Philadelphia, PA: Lippincott Williams & Wilkins p. 63; 2005.
42. Craven RF, Hirnle CJ. fundamentals of Nursing: Human Health and Function. Philadelphia, PA: Lippincott Williams & Wilkins; 2003. p. 53.