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Mothers and Sisters are the Most Effective Sources of Support in Coping with Disease in Patients with Breast Cancer

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Abstract

Introduction: Breast cancer could adversely affect the self-esteem of women, family performance, sexual role, and quality of life. Sources of support are considered as one of the most effective coping strategies against problems and consequences of breast cancer. The current study aimed at evaluating different supportive sources and their impact on coping behavior of patients with breast cancer.

Methods: The current descriptive, analytic, cross-sectional study included 100 patients with breast cancer. The instruments consisted of a questionnaire designed to measure the sources of support and another questionnaire on coping behavior with the disease. The data were analyzed by the Pearson correlation, linear regression, and descriptive statistics (mean and standard deviation) with SPSS version 14.

Results: The mean age of the patients was 45.59 ± 9.1 years. Overall, 69% of the study subjects were married and 77% were housewives. There was a positive and significant correlation between the received supportive sources and the disease coping behavior (P=0.049). In addition, the mean score of supportive source received from mothers and sisters was the highest in women with breast cancer (3.86).

Conclusions: Results of the current study indicated that women with breast cancer had the highest rate of coping behavior when their mothers and sisters supported them. This emphasizes the importance of required advice for all sources of support available for patients; therefore, the patients with breast cancer could deal with their disease more desirably.

INTRODUCTION

Breast cancer is considered a major problem in the developed and developing countries, and it is the most leading cause of death from cancer in women worldwide. More than 500000 new cases of breast cancer are diagnosed per year worldwide. The most common age for developing breast cancer in Iran is 1 decade before that of the developed countries [1]. Breast cancer is a chronic disease that creates many socioeconomic and psychological problems in all dimensions of personal, familial, and social life of the patient, and leads to an increase in supportive needs and dependence of patients, and reduction of self-esteem and self-control [2]. In addition to changing the normal function of a person, breast cancer changes the relationship between the patient and the people around her. These patients become more dependent than the others, and some become isolated in their community; therefore, they need more social support [3]. Moreover, the disease could adversely affect self-esteem, family performance, sexual role, and quality of life in the patients [4]. Bandura considered social support as one of the self-adjusting strategies in a person [5].

Social support is the interpersonal exchanges among members of the social network, which is bidirectional

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and usually spontaneous. Social support is the major oppositional force which combats success at the time of decision-making and crisis. Understanding sufficiency, availability, and pleasure to receive social support are the important issues in this regard [6]. Moreover, social support is defined as the subjective feeling of belonging, acceptance, recognition, being loved, and getting help when in need [7]. Family structure, relationships with friends and members of the community are the factors that deeply affect the type and severity of problems that people face [8]. Social support is one of the functions and effects of social relationships and social networks, and it can play a satisfactory and emotional moderating role in the lives of patients [9].

Furthermore, according to the increased number of patients with cancer and high health care expenses in this group, the effort to promote quality of life and social support is of great importance [10]. In other words, according to results of different studies, people and social supports play a detrimental role in timely and accurate diagnosis of the disease in order to prevent, control, and make compatibility with life crises to make vital decisions [11, 12]. However, ample social support for women with breast cancer play an important role in the psychological maintenance and integrity, consistency, and coping with the disease, and has significant effects on quality of life [13]; therefore, lack of social support for patients leads to problems that affects all aspects of patients' lives [7]. Therefore, one of the roles of the community, health care providers, and families is creating a suitable supportive environment for critical decisions [11].

Studies showed that people who receive a high level of perceived social support, actual social support, and social integrity and consistency, have more suitable health behavior and greater tendency toward desirable health behaviors [9]. A study conducted on the role of social support to treat women with mono-polar depression showed that the highest rate of social support was provided by husbands, colleagues, and families [14].

In the current study, social support was adapted from the Taylor theory of social control. This theory stresses how social support (including information attainment, conventional help, health design or advice, and emotional support from important people such as spouse, relatives, friends, contacts, and social connections with the church or mosque) could lead to health promotion [15].

Numerous studies emphasized that females are an important part of the society and their health is deeply linked with the health of other family members. In addition, women, as wives and mothers, are considered as pillars of the family and breast cancer seriously influences their family [16].

Given the importance of supportive resource as an important and practical factor in the process of desirable coping of patients with their disease and given that the existing studies did not investigate various sources of support and the influence of overlapping of the source on the person, the current study was conducted to address this issue. Therefore, the present study aimed at emphasizing various sources of social support including spouse, family members, friends, nurses, physicians, as well as participation in entertainment events and religious ceremonies and coping behaviors in women with breast cancer. Accurate identification of the supportive sources and their effect on coping behavior of patients could be significantly influential in presenting supportive strategies and promoting quality of life in women with breast cancer to deal with anxieties, tension, and problems of the disease.

METHODS

The study was initiated after approving by the Academic Council and obtaining the necessary permissions from the Breast Cancer Research Ethics Committee of ACECR. The current descriptive, analytical, cross-sectional study employed the simple random sampling method to select one hundred patients with breast cancer, within the age range of 23 to 75 years referred to breast diseases clinic of ACECR for treatment and follow-up from August to November 2011, underwent one or all the treatments of breast cancer (surgery, chemotherapy, radiotherapy, hormone therapy, and reception of Herceptin®) from the time of diagnosis until the initiation of the study, and met the inclusion criteria. First, a list of all eligible people was prepared and samples were randomly selected.

The Cochran formula was used to determine the sample size. Therefore, using the mean and standard deviation (SD) of overall coping and confidence level of 0.95 in a pilot group (α =00.05 and σ = 13.8 and d =0.02(σ)), the sample size was calculated as 96 subjects; the sample size was increased to 100 for ease, and considering 0.5% possibility of dropout. The following tools were used to collect data.

A) Demographic questionnaire including age, marital status, number of children, level of education, duration of diagnosis of the disease, and the treatments received by the patient at the time of questionnaire completion.

B) The questionnaire designed to measure social support: To measure social support from various sources, according to a survey by several experts in this regard, a questionnaire was designed with 8 questions based on the definition of social support retrieved from the Taylor theory of social control. The reliability of the questionnaire was determined using Cronbach's alpha internal consistency and validity was assessed by a pilot study on 20 patients with cancer not included in the sample size. Cronbach's alpha coefficient was 0.86 for the social support sources questionnaire. Content validity of the questionnaire was determined by 8 faculty members from sociology, medical sociology, epidemiology, and

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health education departments. To test the content validity of the questionnaire, content validity index (CVI) and content validity ratio (CVR) were used, and the required amendments were applied to the questionnaire. Finally, CVI and CVR were measured as 0.83 and 0.85, respectively. Face validity of the questionnaire was calculated based on a pilot study on 20 patients with breast cancer not included in the study; the impact score for each item was calculated and the required changes were applied to the questionnaire. The average impact score of the questionnaire was 4.5. Questions were designed on receiving support from the spouse, children, mother and sister, as well as friends and relatives and the impact of visiting by nurses and physicians, and attending public places such as mosques, cinemas, and parks.

The questionnaire was rated based on a 5-point Likert scale from very weak support to very good support. Hence, each question had at least 1 and up to 5 points with a total score of 8 questions; range of social support score varied from 8 to 40.

C) Coping behavior with disease questionnaire (modified scale of coping strategies): To measure coping strategies, the 42-item modified scale of coping strategies was used. Masoudnia translated the scale into Persian in Iran and the reliability of the scale was calculated 83%, using Cronbach's alpha [22]. In the current study, after extraction of responses, and analysis of the principal component with the varimax rotation method on the 42 items, 12 items that were not correlated with any factors were removed. Overall, the 30 remaining items included 7 sub-groups of social support seeking (86%), re-evaluation/compliance (77%), avoidant coping (77%), problem-focused coping (76%), emotion-focused coping (78%), active coping (72%), and continence (42%). All scale items were rated based on a 5-point Likert scale ranging from very high to very low. Hence, each question had minimum 1 and maximum 5 points; with a total score of 30 questions, the social support scores tanged from 30 to 150.

To comply with ethical issues, the information questionnaire was completed by the patient herself without registration of file number or patient name. Then, to explain the purpose and importance of research and preserve patients' confidence in the confidentiality of data, and to persuade answering all questions and probably addressing the existing ambiguities, the researcher was present at the bedside. Before completing the questionnaires, the researcher explained the objectives of the study and to the way of completing the questionnaire; study subjects signed the written informed consents.

Table 1: Distribution of Demographic Characteristics of Subjects

Personal Information	Number (%)
Age, year	
< 40	32(32)
≥ 40	68(68)
Time Since Diagnosis, month	
< 3	62(62)
≥ 3	38(38)
Education	
Illiterate/ Undergraduate	25(25)
Diploma/ Graduated	75(75)
Marital Status	
Single	14(14)
Married	69(69)
Widow/ Divorced	17(17)
Number of Children	
< 2	56(56)
≥ 2	31(31)
Type of Treatments so Far	
Surgery	42(42)
Surgery/ Chemotherapy	19(9)
Surgery/ Chemotherapy/ Radiotherapy	25(25)
Surgery/ Chemotherapy/ Radiotherapy/ Hormone Therapy	6(6)
Surgery/ Chemotherapy/ Hormone Therapy	3(3)
Surgery/ Radiotherapy	1(1)
Chemotherapy	3(3)
Hormone Therapy	1(1)

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Data gathered from patients were analyzed with SPSS version 14, using descriptive and inferential statistics. All data were normally distributed. Therefore, to evaluate the correlation between the study variables, the Pearson correlation test was used, and correlation of the social support condition of patients was evaluated based on different supportive sources and coping behavior with the disease. To compare different sources of support, the mean ± SD of the sources of support were compared. Using linear regression, the linear relationship between demographic variables and coping behavior with disease in women with breast cancer was studied.

RESULTS

Distribution of demographic data is shown in Table 1. The mean age of the subjects was 45.59 ± 9.1 years, ranging from 23 to 75 years. The majority of participants (69%) were married and 56% of them had less than 2 children. Less than 3 months had passed since the diagnosis of the disease in 62% of the patients. Overall, 75% of the patients had college education and high school diploma.

Descriptive statistics of the scores of patients' coping behaviors, received social support, and various sources of social support are given in Table 2.

According to Table 2, among the social supports provided by various sources, the most were received from mothers and sisters (3.86), and then spouses (3.34), children (3.20), relatives and friends (3.017), attending religious places (2.74), nurses (2.61), physicians (2.60), and attending entertainment events (2.50), respectively.

Table 2: Mean and Standard Deviation of Patients' Coping Behavior, Received Social Support and Various Sources of Receiving Social Support

	Mean (SD)	Min-Max
Coping Behavior	57.39(11.98)	38.29-86.72
Social Support	24.7(4.64)	17-38
Supported by Mother and Sister	3.86(1.31)	1-5
Supported by Spouse	3.34(1.57)	1-5
Supported by Children	3.20(1.4)	1-5
Supported by Friends and Relatives	3.17(1.54)	1-5
Supported by Religious Places	2.74(1.46)	1-5
Supported by Nurses	2.61(1.33)	1-5
Supported by Physicians	2.60(1.29)	1-5
Supported by Attending Entertainment Events	2.50(1.38)	1-5

Table 3: Matrix Correlation Between Social Support and Its Sources and Coping Behavior

	Mothers and Sisters	Spouse	Children	Friends and Relatives	Nurses	Physicians	Attendance at Religious Sites	Attendance at Entertainment Sites	Social Support	Coping Behavior
Mothers and Sisters	1									
Spouse	0.98*	1								
Children	-0.012	-0.018	1							
Friends and Relatives	0.98*	0.997*	-0.013	1						
Nurses	0.179	0.182	0.321	0.185	1					
Physicians	-0.001	-0.027	0.062	-0.019	-0.893	1				
Attendaning Religious Places	0.203*	0.199*	0.157	0.208*	0.013	-0.066	1			
Attending Entertainment Events	0.059	0.037	0.024	0.048	-0.01	0.225*	-0.052	1		
Social Support	0.28*	0.28*	0.19*	0.29*	0.31*	0.225*	0.163	0.27*	1	
Coping Behavior	0.207*	0.200*	-0.129	0.191*	-0.003	-0.056	0.068	-0.075	0.198*	1

* Correlatin is significant at the 0.05 level

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Table 4: Regression Analysis of Social Support and Demographic Characteristics with Coping Behavior with the Disease

	Coping Behavior	
	ß	**P value**
Age > 40 Years	0.045	0.65
Graduated	0.071	0.48
Married	0.16	0.104
Having More Than 2 Children	-0.153	0.127
Receiving Good and Very Good Social Support	0.198	0.04
High Socio-economic Status	0.69	0.000

Table 3 shows the correlation between different sources of support and its variables and coping behavior. According to Table 3, in some cases, the presence of a source near the other sources of support could promote support; e.g. spousal support along with support from mother and sister or friends and relatives increased. However, in some cases, in the presence of a source of support, other sources of support faded, such as receiving support from physician, which is decreased by getting support from a nurse.

In the final analysis of the findings, according to Table 4, the relationship between demographic factors, the rate of received social support, and socio-economic base (in which the most common used indicators were education, income, and employment of women) and coping with the disease was evaluated using the linear regression test. In this review, a significant linear relationship was found between social support and socioeconomic base, and coping behavior.

DISCUSSION

Since the identification of various sources of social support and its impact on coping behavior of patients with breast cancer play a decisive role in the disease process and improvement of the quality of life in patients with breast cancer, the current study examined the relationship between sources of social support and coping behavior with the disease in women with breast cancer referring to the breast cancer clinic of ACECR.

According to the findings of the current study, social support including information attainment, conventional help, health design or advice, and emotional support from important people, such as spouse, relatives, friends, contacts, and social connections with the church or mosque, could lead to improved health care. The study showed that people with high levels of social support from various sources, had better coping behavior, and coped better with the crises caused by the disease. Accurate identification of the supportive sources and their impact on the disease process could be significantly influential in presenting suitable supportive strategies and promoting patients' quality of life to deal with emotions and tensions resulted from breast cancer. Total social support from various sources showed a significant association between coping behavior with the disease (P =0.049). The mean score of supportive sources that people with breast cancer obtained from different sources showed that support had the highest rate when it was from mother or sister (3.86), followed by support from spouse (3.34), children (3.20), relatives and friends (3.017), attending religious places (2.74), nurses (2.61), physicians (2.60) and attending entertainment events (2.50).

The results of the current study were similar to those of the study by Morris. He believed that perceived social support by the family (mother, sister, spouse, and children) helps desirable coping with the disease [17]. In addition, in the study conducted by Janet et al., in Washington University, women with a background of chronic disease were evaluated, and 4 main sources of social support from partner, family, friends, and others were studied. The results showed that women received the highest rate of support from their partner. Relatives, friends, or others followed, respectively [18]. In a review study, family was emphasized as an important source of emotional support needed by the patients [19]. Therefore, comparison of the current study in Iran and other areas showed that family was the mainstay of people when facing diseases and coping with important crisis of life such as pain and disease. However, some studies introduced health care providers as the most important supportive sources for young women with cancer [20-22].

In fact, the priority of supportive care sources that patients received from the mentioned caregivers were somehow different in various studies, and perhaps the differences were due to socioeconomic position, different mentality of people to deal with illness, gender of individuals, as well as mental and physical sensitivity in the process of receiving support from various sources. Attending public places (recreational and religious) could also be an important source for spiritual wellness of patients [23]. In a study conducted in this regard in Philadelphia, USA, the role of spiritual support and religious sources were mentioned directly as important and effective factors for compatibility with disease in patients with cancer [24]. In fact, patients who relied more on divine sources passed the difficult stages of disease easier [25].

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The current study showed that social support and some of its sources had a positive and significant correlation with coping behavior in patients with breast cancer, and increasing the received social support of patients from some of the support sources caused an increase in coping behavior of the patients. However, some other sources of support showed a diverse effect on coping behavior of the patients. The current study results were confirmed by the results of other studies [26-29].

Moreover, a review of correlation matrix among various sources showed that in some cases, social support from various sources could double the effect of other sources, and in some cases, it could lead to weakening of the support from other sources. It means that the support received from mother and sister had a very strong positive and significant correlation with the support received from spouse, friends, and relatives. In addition, receiving simultaneous support from the relatives and friends showed a very strong, positive and significant correlation with the support received from spouse. This showed that a variety of supportive sources together could double the effect of other sources. While in some cases, it was observed that support received from some sources had adverse effects on other sources. For example, social support received from the physician had a very strong and significant negative correlation with social support from nurses. This means that the physicians do not support a patient supported by the nurses. Similar studies in this regard showed that a sufficient double support could improve the potential of the person to deal with the disease and insufficient support from double support sources could destroy her performance [30].

Another result of the current study was a significant linear relationship between socioeconomic base and the supports received by the patient on coping behavior of patients with breast cancer. Accordingly, the patients with support provided by various sources could cope better with their disease and improve their situation. In addition, methods of coping with the disease were better in people with higher socioeconomic levels. Other studies showed that people with lower socioeconomic levels, acted differently in coping strategy, and they also experienced weaker health, and shorter survival, compared with the ones with higher socioeconomic levels. Conversely, people with higher socioeconomic levels showed a better coping behavior during the process of treatment, and had more appropriate compatibilities [31-33].

Finally, as family relationships and links have deep roots among Iranians, families are always considered as the primary source of support and care for the patients. Even if the person receiving support is damaged and is not able to compensate the support, families try to continue their support. Therefore, according to the results of the current study, they are required to be examined and emphasized during the patients' counseling sessions.

According to the results of the current study, social support was one of the factors that influenced coping behavior of the patients. Social support from nurses, physicians, as well as attending public places in the current study was low. Given the important role of nurses in caring for the patients with breast cancer, and the high mental and physical effect of attending public places (religious and entertainment events) on patients, it is required to review the supportive needs of patients and take a step to increase the coping behavior of patients by assembling available recourses in the society and health-care providers, leading to enhancement of the patients' quality of life.

The current descriptive, analytical, cross-sectional study used a questionnaire to collect data; thus, future researchers could use other methods and techniques, such as interview, case study, or longitudinal study, to review this social phenomenon. In addition, the current study was conducted in the breast disease clinic of ACECR, and the results cannot be generalized to other diseases, because people with different diseases may react differently to social support, and show different coping behaviors. Therefore, to assess a wider perspective, future researchers could perform complementary studies in other regions and at a country level, then compare their results with the results of the current study.

Patient's reluctance and their weak cooperation in responding to the questions due to remembering memories of their disease period, and feeling tension and mental conflict when re-facing disease condition and situation could be mentioned as some of the limitations and problems of the study.

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CONFLICT OF INTEREST

The authors declared no conflict of interest.

ETHICS APPROVAL

This study approved by the ethics committee of Breast Cancer Research Center of ACECR.

REFERENCES

1. Sargazi M, Mohseni M, Safar-Navade M, Iran-Pour A, Mirzaee M, Jahani Y. [ffect of an Educational Intervention Based on the Theory of Planned Behavior on behaviors leading to early diagnosis of Breast Cancer among women referred to health care centers in Zahedan in 2013]. Iranian Q J Breast Dis. 2014;7(2):45-55.
2. Hisham AN, Lukman MR. Recurrent laryngeal nerve in thyroid surgery: a critical appraisal. ANZ J Surg. 2002;72(12):887-9. PMID: 12485227
3. Chan CW, Molassiotis A, Yam BM, Chan SJ, Lam CS. Traveling through the cancer trajectory: social support perceived by women with gynecologic cancer in Hong Kong. Cancer Nurs. 2001;24(5):387-94. PMID: 11605709
4. Hayati F, Shahsavari A, Mahmoodi M. [Relationship to sub-

[DOI: 10.21859/mci-01034]

jective well being and demographic variables in women with breast cancer refered to hospitals affiliated to medical sciences universities of Tehran city, 1386]. Iranian Q J Breast Dis. 2009;2(1):23-8.
5. Sivandani A, Koohbanani SE, Vahidi T. The Relation Between Social Support and Self-efficacy with Academic Achievement and School Satisfaction among Female Junior High School Students in Birjand. Procedia - Soc Behav Sci. 2013;84:668-73. DOI: 10.1016/j.sbspro.2013.06.623
6. Heiydari S, Salahshorian A, Rafie F, Hoseini F. [Correlation of perceived social support and size of social network with quality of life dimension in cancer patients]. Feyz J Kashan Univ Med Sci. 2008;12(2):15-22.
7. Burton HJ, Kline SA, Lindsay RM, Heidenheim P. The role of support in influencing outcome of end-stage renal disease. Gen Hosp Psychiatry. 1988;10(4):260-6. PMID: 3417126
8. Lee EH, Yae Chung B, Boog Park H, Hong Chun K. Relationships of mood disturbance and social support to symptom experience in Korean women with breast cancer. J Pain Symptom Manage. 2004;27(5):425-33. DOI: 10.1016/j.jpainsymman.2003.10.007 PMID: 15120771
9. Masoudnia E. [Medical sociology]. Tehran: University of Tehran Press; 2010.
10. Helgeson VS, Cohen S. Social support and adjustment to cancer: reconciling descriptive, correlational, and intervention research. Health Psychol. 1996;15(2):135-48. PMID: 8681922
11. Ebrahimi M, Olfatbalhsh A, Ansari M, Habibi M. [Comprehensive guides for breast disease]. Tehran: Iranian Student Book Agency; 2010.
12. Masoudnia E, Oraizi F, Rabani R, Zamani A, AHMADI S. Impact of Social Class on Rheumatoid Arthritis Patient's Perception of Illness Symptoms & Pain. Clin Psychol Pers. 2005;1(13):37-46.
13. Courtens AM, Stevens FC, Crebolder HF, Philipsen H. Longitudinal study on quality of life and social support in cancer patients. Cancer Nurs. 1996;19(3):162-9. PMID: 8674024
14. Heydari S, Salahshourian-fard A, Rafii F, Hoseini F. Correlation of perceived social support from different supportive sources and the size of social network with quality of life in cancer patients. Iran J Nurs. 2009;22(61):8-18.
15. Njoku DB, Mellerson JL, Talor MV, Kerr DR, Faraday NR, Outschoorn I, et al. Role of CYP2E1 immunoglobulin G4 subclass antibodies and complement in pathogenesis of idiosyncratic drug-induced hepatitis. Clin Vaccine Immunol. 2006;13(2):258-65. DOI: 10.1128/CVI.13.2.258-265.2006 PMID: 16467335
16. Nasseh M, Ghazinour M, Joghataei M, Nojomi M, Richter J. A Persian Version of the Social Support Questionnaire (SSQ). Soc Welfare Q. 2011;11(41):251-66.
17. Pitula CR, Daugherty SR. Sources of social support and conflict in hospitalized depressed women. Res Nurs Health. 1995;18(4):325-32. PMID: 7624526
18. Morris BA, Chambers SK, Campbell M, Dwyer M, Dunn J. Motorcycles and breast cancer: the influence of peer support and challenge on distress and posttraumatic growth. Support Care Cancer. 2012;20(8):1849-58. DOI: 10.1007/s00520-011-1287-5 PMID: 21983863
19. Primomo J, Yates BC, Woods NF. Social support for women during chronic illness: the relationship among sources and types to adjustment. Res Nurs Health. 1990;13(3):153-61. PMID: 2343156
20. Sammarco A. Perceived social support, uncertainty, and quality of life of younger breast cancer survivors. Cancer Nurs. 2001;24(3):212-9. PMID: 11409065
21. Remmers H, Holtgrawe M, Pinkert C. Stress and nursing care needs of women with breast cancer during primary treatment: a qualitative study. Eur J Oncol Nurs. 2010;14(1):11-6. DOI: 10.1016/j.ejon.2009.07.002 PMID: 19748314
22. Schroevers MJ, Ranchor AV, Sanderman R. The role of social support and self-esteem in the presence and course of depressive symptoms: a comparison of cancer patients and individuals from the general population. Soc Sci Med. 2003;57(2):375-85. PMID: 12765715
23. Kroenke CH, Kubzansky LD, Schernhammer ES, Holmes MD, Kawachi I. Social networks, social support, and survival after breast cancer diagnosis. J Clin Oncol. 2006;24(7):1105-11. DOI: 10.1200/JCO.2005.04.2846 PMID: 16505430
24. Tatsumura Y, Maskarinec G, Shumay DM, Kakai H. Religious and spiritual resources, CAM, and conventional treatment in the lives of cancer patients. Altern Ther Health Med. 2003;9(3):64-71. PMID: 12776477
25. Sajadian A, Montazeri A. Exploring the experiences of Iranian women with breast cancer: A qualitative study. Iranian J Epidemiol. 2011;7(2):8-16.
26. Silva SM, Crespo C, Canavarro MC. Pathways for psychological adjustment in breast cancer: a longitudinal study on coping strategies and posttraumatic growth. Psychol Health. 2012;27(11):1323-41. DOI: 10.1080/08870446.2012.676644 PMID: 22490001
27. Nosarti C, Roberts JV, Crayford T, McKenzie K, David AS. Early psychological adjustment in breast cancer patients: a prospective study. J Psychosom Res. 2002;53(6):1123-30. PMID: 12479995
28. Henderson PD, Gore SV, Davis BL, Condon EH. African American women coping with breast cancer: a qualitative analysis. Oncol Nurs Forum. 2003;30(4):641-7. DOI: 10.1188/03.ONF.641-647 PMID: 12861324
29. Kim J, Han JY, Shaw B, McTavish F, Gustafson D. The roles of social support and coping strategies in predicting breast cancer patients' emotional well-being: testing mediation and moderation models. J Health Psychol. 2010;15(4):543-52. DOI: 10.1177/1359105309355338 PMID: 20460411
30. Traa MJ, De Vries J, Bodenmann G, Den Oudsten BL. Dyadic coping and relationship functioning in couples coping with cancer: a systematic review. Br J Health Psychol. 2015;20(1):85-114. DOI: 10.1111/bjhp.12094 PMID: 24628822
31. Kunst AE, Groenhof F, Andersen O, Borgan JK, Costa G, Desplanques G, et al. Occupational class and ischemic heart disease mortality in the United States and 11 European countries. Am J Public Health. 1999;89(1):47-53. PMID: 9987464
32. House JS, Lantz PM, Herd P. Continuity and change in the social stratification of aging and health over the life course: evidence from a nationally representative longitudinal study from 1986 to 2001/2002 (Americans' Changing Lives Study). J Gerontol Series B Psychol Sci Soc Sci. 2005;60(Special_Issue_2):S15-S26.
33. Herd P, House JS, Schoeni RF. Income support policies and health among the elderly. Making Americans healthier: Social and economic policy as health policy2010. p. 97-121.

[DOI: 10.21859/mci-01034]