

RESEARCH ARTICLE

Comparative Analysis of the Perception of Family Functioning by Heads of Families with and without Cancer Members During Illness

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Abstract

Background: Cancer is a major health problem due to the aging population with increasing deaths. Family functioning is affected by cancer diagnosis and treatment. The aim of this study was to comparative analysis of the perception of family functioning by heads of families with and without cancer members during illness, focusing on changes or probable changes. **Materials and Methods:** This comparative study was conducted on two groups (families with a member of the cancer and controls without a family member with cancer). The families were of patients referred to the clinics and hospitals of Imam Khomeini, Taleghani and Omid of Urmia city, the number of samples being 148 for cases and 176 for the control group. To collect the data, valid and reliable family functioning (FAD) was applied, a 60-item questionnaire with seven dimensions, with heads of families. To analyze the data SPSS- 23 Software was used for descriptive and analytical statistics. Significance level was defined $p < 0.05$. **Results:** Among the seven items : problem solving, communication, roles, emotional response, emotional involvement, behavior control and overall functioning, only differences for average scores of problem-solving were statistically significant. **Discussion:** Contrary to common perception of severe damage for family functioning in families with cancer members, results of this study indicate that functioning in terms of family caregivers is more or less similar to that of the families with other diseases. Only in problem-solving item do these families experience more difficulty. **Conclusion:** According to the research findings, in nursing from families with cancer patient, it is recommended to focus more on the problem-solving item of the families.

Keywords: Cancer - family functioning - perception - head of household - Iran

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Introduction

Cancer is the major health problem and is the second leading cause of death in America and is expected in the next few years will surpass heart disease as the first leading cause of death in the world (Siegel et al., 2015). According to the World Health Organization in 2012, eight million two hundred thousand people worldwide have died of cancer (Ferlay et al., 2014). Expected the number of new patients in 2020 will reach to 15 million, of which about 60% of new cases will happen in developing countries (Amin et al., 2015). In Iran, after cardiovascular diseases and accidents, cancer is the third leading cause of death and more than 30,000 deaths annually of cancer have been reported in Iran (Amin et al., 2015). Although the disease

occurs in patient, but in fact creates a fundamental change in family life, hence it as an uninvited guest mentioned that couples and families must adapt themselves to it (Zaider and Kissane, 2010). In other word, cancer diagnosis can make all family members experience a crisis (Atri et al., 2014) and coping with tension and stress (Visser et al., 2004). Exchange theory considers the family as an interactive character and analysis the symbolic communications that family members use during communicate with each other.

According to this theory, each family member occupies the place and has specific role and according to his position and role, responsibilities entrusted to him (Stanhope, 2013). Therefore, the family is the origin and the main source of care and support for patients and their behavior

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and function and plays an important role in care giving and supporting the patients (shirin barzanjeh atr, 2014). Panganiban and Corales study showed that in the event of a crisis in the family like a chronic disease such as cancer, financial support, social, faith and commitment to religion, adequate medical resources to cope the family with the crisis are very productive (Panganiban-Corales and Medina Jr, 2011). Carry and colleagues have shown that the incidence of cancer in one of the couples endanger and threaten many roles and behavior as: relationship between spouses due to end of marriage, Inability to care of their family members, failure to perform duties in connection with family and sexual relations (Cardy et al., 2006).

Understanding of the patient and his family from disease can help in upgrading self-efficacy of Chronic diseases and have a correct view of the disease is important for coping with diseases (Wisawatapnimit, 2009). Broadbent and colleagues demonstrated that interventions done via spouses cause a change in the perception of the disease and reduces couples' anxiety during the illness (Broadbent et al., 2009). Reviews the perception of family function during cancer has shown that these families have less family cohesion than ordinary families (Rait et al., 1992). Cultural and economic differences family resources during crisis situations, religious factors, ethnic, beliefs can help family understanding from its function in facing with the crises as fatal and serious disease (Stanhope et al., 2014). Having sufficient and adequate perception in head of family from family function during cancer may increase the solidarity among family, reduce conflict within the family, resulting in more consistent compliance with the disease, reducing the stress of diagnosis, treatment and reduction in depression is caused by the disease (Kissane et al., 1994).

With regard to above explanation and the prevalence and mortality of cancer, the undeniable role of families and their function to conform with cancer and the critical role of family, as well as in the East, particularly in Iran, due to not being enough research to clarify the impact of knowledge of the family head from cancer on family functioning by considering Spatial and cultural differences with other countries, This study conducted to analysis of the perception of family functioning in head of families with and without cancer members during illness.

Materials and Methods

This study is a comparative study in which the families with cancer patients were compared without cancer. Case and control groups were matched in terms of demographic factors such as: age, gender, occupation and education. The population in this study, cancer patients which were hospitalized and outpatient in Urmia (Imam Khomeini Hospital and Omid Hospital) which referred to chemotherapy, radiation therapy or follow-up treatment. The control group contained hospitalized patients without cancer in surgical and internal units and as well as individuals referred to Taleghani and Imam Khomeini hospitals and clinics.

Number of sample using the formula for calculating the sample size for statistical comparison between groups for

the control group, 176 individuals and for case groups 148 were estimated. The sampling method was available. The tool for collecting data on family functioning is FAD. This 60-item questionnaire is a tool that has been developed by Epstein and colleagues to measure family function. This questionnaire analyses the function of family in seven dimension as following: problem solving(6items), communication (7 items), role (9 items), emotional response (8 items), emotional involvement (8 items), behavioral control (9 items) and overall performance (13 items). Grading tool on a Liker scale is varied from strongly disagree to strongly agree choice which they respectively belong score from 1 to 4.

Validity and reliability of studies has been proven in abroad by Epstein and Miller (Miller et al., 1985) and inside Country by YOOSEFI (2012). In order to collect data after obtaining permission of the regional committee on research ethics of Tabriz University of Medical Sciences, researchers in August and September of 2015 after the necessary arrangements, with the permission of the relevant authorities, interacted with Participants in the study. Participants were asked to complete a questionnaire in a quiet location (preferably lounge). At first verbal explanation was given to participants and people who declared their readiness to participate in the study, written consent was obtained. Information collected data were analyzed statistically via SPSS-23 Software. The descriptive statistics such as test t-test, Variance and non-parametric (Chi- (Square) were applied. The significance level, $p < 0.05$ was defined.

Inclusion criteria in the study group: The definitive diagnosis of cancer in one family member (according to the pathology sample and approved oncology specialist of the patient's clinical records), passing at least 3 months of cancer diagnosis, avoiding the use of anti-psychotic drugs and depression in head of family, having adequate literacy to complete the questionnaire, sufficient awareness in patient and heads of families in diagnosing the cancer. Inclusion criteria for the control group: non-use of anti-psychotic drugs and depression in the head of household, adequate literacy to complete the questionnaire and not being of chronic disease in the family.

Exclusion criteria: being head of the family with any chronic disease, elapsing less than three months since illness and lack of awareness among patients and /wife or husband, were the Exclusion criteria for patients in this study.

Results

Analysis of demographic data showed that the mean age of patients with cancer is 55.26 (14.02), the age of the head of family in the case is 48.77 (15.20) and the mean age of control group was 45.21 (13.92). The mean number of children in case group was 4 and in the control group is 3. Many men and women in both groups were almost identical, and most participants in both groups had higher education. The frequency of cancer cases in women are breast cancer, colorectal cancer, lung cancer and cancer of the uterus and appendages, and men experience as well as prostate cancer, intestine, colon respectively. Comparing

Table 1. Evaluation of Qualitative Variables between the Two Groups

		Families with cancer (cases)		Families without cancer (controls)		The significance level
		Number	percentage	Number	Percentage	
Gender	female	17	10.5	14	8	0.6
	male	131	89.5	162	92	
Job	Employed	24	16.4	41	23.8	0.13
	Self Employed	59	39	71	41.3	0.13
	other	65	44.6	64	34.9	0.13
education	Below Diploma	58	39.2	68	37.33	0.63
	above Diploma	90	60.8	110	62.67	0.63

Table 2. Average Functioning Scores of Families with Cancer and no Cancer in the Seven Dimensions between the two Groups in Terms of Heads of Household

Functioning Items	With cancer		Without cancer		Result of T-Test			
	Average	Standard deviation	Average	Standard deviation	(df ; t ; P-value)			
Problem solving	17.41	2.13	17.88	2.01	322 ; -2.02 ; 0.04			
Communication	21.46	2.90	21.44	2.86	321 ; 0.07 ; 0.92			
roles	25.86	3.22	26.22	2.67	322 ; -1.1 ; 0.26			
Emotional response	25.69	3.68	25.93	3.23	322 ; 1.1 ; 0.26			
Behavior controlling	25.87	3.69	26.32	3.54	322 ; -1.1 ; 0.27			
Emotional involvement	22.222	3.84	21.79	3.08	322 ; -2.02 ; 0.53			
Genral functioning	40.41	6.22	40.70	4.60	322 ; -0.48 ; 0.62			

the mean scores of the seven dimensions of family function showed in Table 2 that the mean scores of the seven dimensions of family function except for problem solving, don't show significant difference.

As this chart illustrates the difference between the dimensions of function measurement in the families with cancer patients and without cancer is not observed in all aspects except the dimension of the problem solving.

Discussion

The foundation of Family function Assessment Model (McMaster) are in seven dimensions: problem solving, communication, roles, emotional response, behavior management, emotional involvement and overall function. Current study is on the comparative perception of head of the family from family function in patients with cancer and non-cancer.

This comparison showed that there is no meaningful relationship between the perception of head of the family in the two groups of families with and without cancer member.

Problem solving is an important aspect of function measurement tool (Edwards and Clarke, 2004). Factors which affected the family functioning can be the right strategy and solutions for families deal for Disease and Control it (Mohseni et al., 2011). Other factors which contributing to this phenomenon: positive interaction between the couple which how negative interaction occurs, problem solving occurs less frequently (Sadeghi et al., 2013) In a study of Mosheim and et. a. which analyses the family of patients with rheumatoid arthritis and schizophrenia, function in this aspect reported lower than healthy family (Mohseni et al., 2011). But in the study of Atria (2014) functioning in the families of Cancer patients in this aspect has been reported as healthy families (Shirin barzanjeh atr, 2014). Lack of access to good strategies, problem-solving and decision-making skills as well as the lack of positive interaction between couples of Iranian

families can justify the differences between the average scores of heads of family perception of cancer patients.

No significant difference in communication aspect between cancer and non-cancer family was found. Previous studies mentioned factors which affected for this case are following: frustration and distress as a result of cancer, its impact on the relationship between family members, the adaptation of the patients and their familiarity with cancer (Inoue et al., 2003). In a study conducted in 2013 by Francиска and colleagues regard to family functioning in cancer patients at the palliative level, lowest score in healthy families reported for communication (Kühne et al., 2013). But in a study by Smith and colleagues (2008) which study the family function in the cancer patients and their families that was conducted in several European countries simultaneously, in communication aspect, family functioning of cancer patient is reported as same as families healthy family (Schmitt et al., 2008). Due to lack of difference in this regard between the two groups in this study can be a good consistent for cancer patients and their families as well as lack of frustration and helplessness caused by disease and good communication among family members of Iran.

The mean scores of heads of household in the aspect of roles showed no significant difference. Family behavioral problems (Ma et al., 2013) and culture on the application of the right roles in the family are effective (Mantani et al., 2007). In a study conducted in 2013 by Francиска and colleagues with title family function in cancer patients in the palliative lowest score compared to healthy families in parental roles were reported later (Kuhne et al., 2013). A study conducted in 2012 in Iran, with subject "Couples perception of family functioning when cancer occurrence in of them" also family function in the aspect of roles did not change compared to healthy families (shirin barzanjeh atr, 2014). These findings are in good agreement with the findings of the present study.

In this study, understanding the head of family with cancer and no cancer showed no significant difference in

the emotional response.

Solidarity between members of the family, intimacy, emotions among family members and enough time for family members from the head of the family are the factors affecting the functioning of the family from the emotional response aspect (Alderfer et al., 2009). In a study by Martin and Calabrese in 2012 as a family functioning in families with children with cancer and AIDS disease (HIV), all the families of the participants reported family functioning as a healthy family (Martin et al., 2012). But according to a study done via Jiang (2013), chronic kidney disease has a negative impact on family functioning and relations between spouses, and it disrupts. So disturbs emotional responses and family functioning is not as healthy families (Jiang et al., 2015).

Relationships and family bonds of intimacy and agreement among Iranian families have very deep-rooted, so that Pollack in this regard writes: Iranians are somewhat dependent on their families to do everything it can to do them, Do not understand how to be and live away from their families and remain unaware of their fate (Heydari et al., 2009). Probably solidarity and cordiality among Iranian families and express their feelings to one another, especially when the occurrence of such diseases Has not seen significant differences between mean scores of head of households understanding in family with cancer and non-cancer in the aspect of emotional response.

The results showed that the mean scores of the supervisors understanding with cancer and no cancer showed no significant difference in the emotional involvement. Good correlation with patient and supportive family members from each other during the cancer is an important factor in the emotional involvement (Martin et al., 2012). Since that chronic diseases cause stress, anxiety and depression in patients and their families, in regard with this, a study conducted in 2003 by Gerhardt with title "Comparing parental distress, family functioning, and the role of social support for caregivers with and without a child with juvenile rheumatoid arthritis" showed that the mean scores of any of the aforementioned factors don't have any differences from healthy group (Gerhardt et al., 2003). But a study Ma et al. (2013) with subject "Prevalence of behavioral problems and related family functioning among middle school students in an eastern city of China" showed that healthy family functioning is more than case study (Ma et al., 2013).

Diagnosis of cancer, may be increase the compatibility and their support of family members with the patient during their illness and can be justified the conclusion between Iranian families. In the control of behavior there was not significant different between the two groups. Critical factors for the family functioning can be family conflict and conflict within the family and behavioral problems between families (Lewandowski et al., 2010). This findings match Smith (2008) (Schmitt et al., 2008) and the Atir in 2014 in Iran (shirin barzanjeh atr, 2014), but aren't agreement with the findings Lewandowski and colleagues in 2010 in patients with chronic pain control (Lewandowski et al., 2010).

The study also showed no significant difference between the two groups in terms of overall function

and performance. Strong and good family relationships, as well as strategies and power of coordination in the family system cause to better function and improve the family function (Stanescu and Romer, 2011). In a study Lewandoswki et al. (2010) the overall performance of the control group did not differ families of patients with chronic pain (Lewandowski et al., 2010). In a study conducted in 2010 by Vantaa and Rachel, was not observed any difference between family function criteria between the two groups (Vannatta et al., 2010). In a study conducted in 2010 as a family functioning in families with children with chronic pain, family functioning was weaker than the control group (Lewandowski et al., 2010). The reason for this lack of difference between the scores of heads of families between the two groups can be attributed to good and strong family relationship among Iranian families.

In conclusion, The findings of this study showed that perception of the head of the family from the function of their families in all aspects except for problem solving show no significant difference between family without cancer, therefore these families were in trouble in this aspect, so during planning, the main focus should be done on problem solving and as the nurses play an important role as a member of the medical team in need of care and diagnosis for cancer patients and their families, So their main role at this stage should focus on helping patients and families to use their capabilities To strengthen problem-solving skills to be family function less in trouble.

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References

- Alderfer MA, Navsaria N, Kazak AE (2009). Family functioning and posttraumatic stress disorder in adolescent survivors of childhood cancer. *J Family Psychol*, **23**, 717.
- Amin M, Kazemi A, Eskandari O, et al (2015). Geographical distribution of stomach cancer related to heavy metals in Kurdistan, Iran. *Int J Environmental Health Engineer*, **4**, 12.
- Atri SB, Rahmani A, Sheikhehjad L (2014). Access Family Functioning and Related Factors from the Viewpoints of Male Cancer Patients. *J Caring Sci*, **3**, 113.
- Broadbent E, Ellis CJ, Thomas J, et al (2009). Can an illness perception intervention reduce illness anxiety in spouses of myocardial infarction patients? A randomized controlled trial. *J Psychosomatic Res*, **67**, 11-5.
- Cardy P, Corner J, Evans J, et al (2006). Worried sick: the emotional impact of cancer. research for Macmillan cancer support conducted by opinion leader research.
- Edwards B, Clarke V (2004). The psychological impact of a cancer diagnosis on families: the influence of family functioning and patients' illness characteristics on depression and anxiety. *Psycho Oncol*, **13**, 562-76.
- Ferlay J, Soerjomataram I, Ervik M, et al (2014). GLOBOCAN 2012 v1. 0, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer. c2013 [cited

- 2013 Oct 17]. globocan. iarc. fr/Default. aspx. Accessed.
- Gerhardt CA, Vannatta K, McKellop JM, et al (2003). Comparing parental distress, family functioning, and the role of social support for caregivers with and without a child with juvenile rheumatoid arthritis. *J Pediatric Psychol*, **28**, 5-15.
- Heydari S, Salahshourian-fard A, Rafii F, et al (2009). 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*, **22**, 8-18.
- Inoue S, Saeki T, Mantani T, et al (2003). Factors related to patient's mental adjustment to breast cancer: patient characteristics and family functioning. *Supportive Care Cancer*, **11**, 178-84.
- Jiang H, Wang L, Zhang Q, et al (2015). Family functioning, marital satisfaction and social support in hemodialysis patients and their spouses. *Stress and Health*, **31**, 166-74.
- Kissane DW, Bloch S, Burns WI, et al (1994). Perceptions of family functioning and cancer. *Psycho Oncol*, **3**, 259-69.
- Kühne F, Krattenmacher T, Bergelt C, et al (2013). "There is still so much ahead of us"—Family functioning in families of palliative cancer patients. *Families Systems Health*, **31**, 181.
- Lewandowski AS, Palermo TM, Stinson J, et al (2010). Systematic review of family functioning in families of children and adolescents with chronic pain. *J Pain*, **11**, 1027-38.
- Ma X, Yao Y, Zhao X (2013). Prevalence of behavioral problems and related family functioning among middle school students in an eastern city of China. *Asia Pac Psychiatry*, **5**, 1-8.
- Mantani T, Saeki T, Inoue S, et al (2007). Factors related to anxiety and depression in women with breast cancer and their husbands: role of alexithymia and family functioning. *Supportive Care Cancer*, **15**, 859-68.
- Martin S, Calabrese SK, Wolters PL, et al (2012). Family functioning and coping styles in families of children with cancer and HIV disease. *Clin Pediatr*, **51**, 58-64.
- Miller IW, Epstein NB, Bishop DS, et al (1985). The McMaster family assessment device: reliability and validity*. *J Marital Family Therapy*, **11**, 345-56.
- Mohseni M, Chime G, Panaghi L, et al (2011). A comparison of family function and expressed emotion in families with rheumatoid arthritis patients and families with schizophrenia patients. *Family Research*, **7**, 373-90.
- Panganiban-Corales AT, Medina Jr MF (2011). Family resources study: part 1: family resources, family function and caregiver strain in childhood cancer. *Asia Pac Fam Med*, **10**, 14-25.
- Rait DS, Ostroff JS, Smith K, et al (1992). Lives in a balance: Perceived family functioning and the psychosocial adjustment of adolescent cancer survivors. *Family Process*, **31**, 383-97.
- Sadeghi M, Mazaheri M, Mootabi F (2013). The role of couples' interactions in application of communication skills.
- Schmitt F, Piha J, Helenius H, et al (2008). Multinational study of cancer patients and their children: factors associated with family functioning. *J Clin Oncol*, **26**, 5877-83.
- shirin barzanjeh atr Is (2014). Couples perception of family functioning when cancer occurrence in of them. *Int Res J Applied Basic Sci*, **8**, 1093.
- Siegel RL, Miller KD, Jemal A (2015). Cancer statistics, 2015. *CA Cancer J Clin*, **65**, 5-29.
- Stanescu DF, Romer G (2011). Family functioning and adolescents' psychological well-being in families with a TBI parent. *Psychol*, **2**, 681.
- Stanhope M, Lancaster J, Jessup-Falcioni H, et al 2014. Community health nursing in Canada, *Elsevier Health Sciences*.
- Vannatta K, Ramsey RR, Noll RB, et al (2010). Associations of child adjustment with parent and family functioning: comparison of families of women with and without breast cancer. *Journal of Developmental & Behavioral Pediatrics*, **31**, 9-16.
- Visser A, Huizinga GA, van der Graaf WT, et al (2004). The impact of parental cancer on children and the family: a review of the literature. *Cancer treatment reviews*, **30**, 683-94.
- YOOSEFI N (2012). AN INVESTIGATION OF THE PSYCHOMETRIC PROPERTIES OF THE MCMASTER CLINICAL RATING SCALE (MCRS), **3**, 83-112.
- Zaider TI, Kissane DW (2010). Psychosocial interventions for couples and families coping with cancer, **2**, 483-487.