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Quality of Life in Cancer Patients and its Related Factors

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ABSTRACT

Introduction: Despite the importance of quality of life (QOL) in outcomes of cancer patients, there have been a few Iranian studies investigating the Iranian patients' quality of life. The present study aimed to assess the cancer patients' QOL and its related factors. ***Methods:*** This cross-sectional study conducted in Shahid Ghazi Tabatabaei Hospital affiliated to Tabriz University of Medical Sciences in 2009. The samples included 150 cancer patients aged more than 18 years who were aware of their own diagnosis. They were selected through convenient sampling method and European Organization for Research and Treatment of Cancer–Quality of life questionnaire (EORTC–QOL 30) were completed. ***Results:*** Our findings showed that 44.1% of the patients had moderate QOL. QOL had a significant correlation with the level of family support (p = 0.002). ***Conclusion:*** Many of cancer patients have a moderate QOL. However, confirmation of such finding requires further investigations.

Introduction

Cancers include a group of more than a hundred malignant tumors suffering all humans with various races, sexes and ages.[1] Cancer is the third leading cause of mortality in the world; annually 1.3 million new cases of cancers are diagnosed in the U.S.[2] In Iran, Mousavi et al. reported that incidence of cancer in 2004 was 98 per 100000 women and 110 per 100000 men.[3]

In recent years, one of the concepts accepted as a criterion to evaluate the treatment results, particularly in patients with chronic physical and mental diseases, is quality of life (QOL).[4] Quality of life is a multidimensional concept indicating feeling well-being and satisfaction toward important aspects of people's life which is a tool or scale to investigate and measure health condition in different domain of life.[5] World Health Organization has defined QOL as understanding of each person from life, values, goals, standards and individual interests.[6]

Cancer is one of the chronic disorders extremely affects people's health and QOL. Diagnosis of cancer is a very unpleasant experience for everyone and can cause economic, social and family dysfunction.[6] Mental and physical disorders in cancer patients can have important role in low QOL.[7] In cancer patients, like any other chronic diseases, due to the lack of a definitive treatment for most of them the primary goal is to maximize QOL. In fact, the main goal of health care team in treating many cancer patients is to maximize occupational abilities and improving performance of physical, mental and social aspects of QOL.[8,9]

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A few studies have been done to assess the QOL of Iranian cancer patients. The findings of these studies contained some contradictions. For example, Mardani Hamole and Shahraki Vahed in their study showed that QOL of patients with cancer was low.[10] On the other hand, Hasanpour Dehkordi showed that QOL of cancer patients was suitable in Tehran.[8] Likewise, Zeyghami Mohamadi and Ghafari showed that QOL of cancer patients was good.[11] However, Dehkordi and Shaban also showed that their QOL was moderate.[12] Furthermore, the quantity of conducted studies was low and cannot be used to make a final conclusion. Nevertheless, considering the high prevalence of cancer and its destructive effects on QOL and relationship of QOL concept with cultural and religious factors as well as low local reports pertaining to QOL of such patients, the present study aimed to determine QOL in cancer patients and its related factors.

Materials and methods

In a cross-sectional study conducted in Shahid Ghazi Tabatabaei University Hospital affiliated to Tabriz University of Medical Sciences in 2009, all patients with final diagnosis of cancer who referred to this hospital to receive health treatment cares were recruited. The inclusion criteria included being aware of the final diagnosis of cancer, having at least 18 years old and ability to participate in the study. The exclusion criteria included having any other chronic diseases except for cancer and history of diagnosed mental disorders. All the patients with inclusion and exclusion criteria were selected through convenience sampling method resulted in 150 patients during five months.

A questionnaire was used to assess QOL and its related factors. The mentioned questionnaire consisted of two main parts. The first part included demographic variables such as age, sex, marital status, educational level, economic status, disease duration, patients' levels of social responsibility and family support. The second part of the questionnaire was the European Organization for Research and Treatment of Cancer – Quality of life questionnaire (EORTC–QOL). This questionnaire was especially for cancer patients comprises of 28 items based on 4-item Likert scale (never, a little, moderate and very much) investigating physical aspects (4 items), role playing (2 items), symptoms (12 items), mental aspects (6 items) and social items (3 items). The above mentioned choices scored from 1 to 4. Therefore, the total score of this questionnaire was from 28 to 112. The higher score the patient obtained, the better the QOL he/she had. According to the questionnaire's instruction, scores 28 to 56 considered as low QOL; 57 to 84 as moderate QOL; 85 to 112 as high QOL. In this questionnaire, two different items investigated the overall physical conditions and QOL of patient. These two items were on 7-choice Likert scale; score 1 considered as very poor QOL and 7 as excellent QOL, i.e. higher score indicated higher levels of QOL. Of importance to note is that the questionnaire was translated carefully. Thus, it was translated to Persian by one of the researchers; thereafter, it was again retranslated to English by an English expert and the agreement with the original text was measured. The content validity of the questionnaire was evaluated by 13 faculty members of Tabriz University of Medical Sciences and revisions were applied if necessary. The reliability of the questionnaire was determined by test-retest method. The questionnaires were given to 15 patients for two times in a ten-day-interval to be filled. The correlation coefficient between the two tests was calculated as 0.91.

Two researchers referred to admission wards in working days and identified the patients with inclusion and exclusion criteria. The researchers explained the study objectives and obtained patients' consent to participate in the study. Thereafter, those who had sufficient literacy were given questionnaires to fill in by themselves. Rest of patients received help to fill the questionnaire. Illiterate or low

literate patients underwent interviewing and researchers recorded their answers after reading the items for them. The responses directly registered without any changes by the researchers. Patients' information was collected in a private room before outpatient procedures.

The ethical principles governing human researches were met. Before starting the study, the research project was approved by Ethics Committee in Tabriz University of Medical Sciences. In addition, the required information was given to the patients and written informed consent was obtained. Moreover, the patients were aware of voluntary nature of participation and ineffectiveness of non-participation on their treatment cares.

Data were analyzed through SPSS software version 13. Description of demographic variables and disease-related data as well as QOL level were done through descriptive statistics includes number, percentage, mean and standard deviation. Given the relationship between demographic variables and health-related QOL of patients, ANOVA, independent t-test and Pearson correlation test were used.

Results

Mean age of patients was 43.9 ± 16.3 years and the mean duration of cancer diagnosis was 2.0 ± 2.4 years (Table 1). General QOL of patients and all its qualitative and quantitative aspects are shown in table 2. As indicated, 44.1% of patients had moderate QOL. Furthermore, QOL of patients was lower in role playing aspect than any other aspects and was higher in a single question related to QOL.

Table 1. Demographic characteristics of participants

Variable	Groups	Patients N (%)
Sex	Male	76 (52.8)
	Female	68 (47.2)
Marital status	Single	33 (22.9)
	Married	103 (71.5)
	Divorced	8 (5.6)
Education	Illiterate	56 (38.9)
	Elementary	20 (13.9)
	Secondary	14 (9.7)
	High school	22 (15.3)
	Academic	32 (21.5)
Behavior of family members	Excellent	62 (43.1)
	Good	55 (38.2)
	Average	25 (17.4)
	Poor	2 (1.4)

There was no significant correlation between age and QOL ($p = 0.71$, $r = 0.03$). In addition, there was no significant correlation between QOL and the time of cancer diagnosis ($p = 0.28$, $r = 0.09$). The relationship of some other demographic and disease-related variables with QOL was assessed through independent t test or ANOVA which are given in Table 3. As indicated in this table, the only variable with statistically significant correlation was the level of family members support. Scheffé's post hoc test showed that the main difference was between patients with excellent and good and those with lower family treating and behaviors so that the higher family support increased level of QOL.

Table 2. Level of quality of life and its aspects in cancer patients

Quality of Life and its Aspects	Level of QOL (Quantitative)	Level of QOL (Qualitative)		
	Mean (SD)	Low N (%)	Moderate N (%)	High N (%)
Overall QOL	64.1 (18.8)	53 (37.1)	63 (44.1)	27 (18.9)
Physical aspect	12.3 (4.7)	59 (41)	38 (26.4)	47 (32.6)
Symptoms	26.7 (8.2)	54 (37.5)	71 (49.3)	19 (13.2)
Role playing	4.5 (2.1)	78 (54.2)	35 (24.3)	31 (21.5)
Mental aspect	12.4 (4.7)	77 (53.8)	46 (32.2)	20 (14)
Social aspect	7.9 (3.0)	49 (34)	44 (30.6)	51 (35.4)
Single question related to overall physical aspect	4.51 (1.60)	40 (27.8)	63 (43.8)	41 (28.5)
Single question related to overall QOL	4.37 (1.50)	38 (26.4)	73 (50.7)	33 (22.9)

QOL: Quality of life

Table 3. The association of quality of life with disease related and demographic characteristics in cancer patients

Variable	Groups	Mean (SD)	P-value
Sex	Male	37.92 (6.05)	0.57
	Female	37.32 (6.77)	
Marital Status	Single	37.60 (5.58)	0.85
	Married	37.83 (6.60)	
Education	Illiterate	36.37 (6.34)	0.10
	Elementary	37.45 (7.34)	
	Secondary	35.35 (4.48)	
	High school	39.90 (6.85)	
	Academic	39.19 (5.92)	
Economic Status	Very low	34.52 (7.98)	0.05
	Low	37.31 (5.43)	
	Average	38.51 (6.22)	
	Good	38.40 (5.84)	
	Very good	42.33 (4.93)	
Living with	Alone	38.80 (3.34)	0.35
	Spouse	37.67 (6.73)	
	Parents	37.93 (5.69)	
	Others	32.00 (4.83)	
Social Responsibility	Never	36.67 (46.75)	0.31
	Low	37.66 (6.19)	
	Average	37.66 (5.89)	
	High	39.69 (6.58)	
Family Member Support	Excellent	39.69 (6.12)	0.002
	Good	36.72 (6.05)	
	Average	34.88 (6.62)	
	Poor	31.50 (3.53)	

Discussion

The results of this study showed that the majority of cancer patients had moderate QOL and the only factor which had a significant correlation was the level of family support. Sammarco in a study in New York indicated that QOL of cancer patients was moderate.[13] In another study, Hasanpour Dehkordi investigated the QOL level of 200 cancer patients in Tehran; they reported the QOL level in 66% of these patients was moderate.[8] Nematolahi reported the QOL of most of study subjects (66%) as moderate.[14] On the other hand, the study results of Hasanour Dehkordi in Tehran[8] and also Zeyghami Mohammadi and Ghafari showed that QOL of cancer patients was good and appropriate.[11] On the contrary, Mardani Hamole and Shahraki showed that QOL of cancer patients was low.[10] Although the differences can be due to the accuracy of these studies or different tools, it should be considered that in these studies and even in the present study, there were a different spectrum of cancer patients such as recently diagnosed patients, patients undergoing chemotherapy or the entire patients and the difference in selected patients can be the main reason.

Considering the second objective of the study, i.e. association between disease-related and demographic factors with QOL level, it was determined that QOL was higher in patients with higher family support and other variable including age, duration of cancer diagnosis, marital status, education, economic status, responsibility level and the circumstance of communicational life had no correlation with QOL of patients. Likewise, Northouse et al. in the United States observed no significant correlation between age, education, marital status and income level factors and QOL.[15] In Sammarco study, no signifi-

cant correlation was found between age and onset of disease.[13] Furthermore, Schultz and Winstead-Fry in a study entitled "predictors of QOL in rural patients with cancer", found that there was no significant correlation between age, education and disease duration and QOL.[16] Nematolahi found no significant correlation between age, education, marital status and disease duration as well as physical, mental, social and religious aspects and QOL.[14] On the contrary, the study results of Aghabarari showed that increased age reduced QOL of cancer patients.[17] Therefore, although many studies indicated there was no significant correlation between demographic characteristics and patients' QOL, in some other studies there was such a correlation. However, further clarifications are required in this regard.

One of the findings of the present study was that there was a statistically significant correlation between QOL and family support. It seems social support and improving relationship with others along with providing mental and social support can provide social and individual development of patients.[18] Generally, some studies have shown that positive outcomes of patients is correlated with social support.[19] Social support, particularly support provided by family members, can improve socio-mental status. However, it should be noted that not so much studies have been done yet to investigate the correlation of social support with QOL; further studies are needed in this regard.

The present study had some limitations which may restrict the application of its results. First, the subjects were not selected through random sampling method. Second, data collection was done through self-report and mostly through interview which may limit its application and generalization. Therefore, conducting studies with larger sample size and proper sampling method is recommended. Moreover, it is suggested to conduct some studies to determine the relationship of patients' characteristics with the level of QOL as well as conducting further studies to compare QOL of patients with different types of cancer and in different stages of disease.

Conclusion

Generally, the results of the present study showed that QOL of cancer patients referred to Shahid Ghazi Tabatabaei University Hospital was in a moderate level. However, due to the large effects of QOL on physical and mental health in cancer patients, enhancing QOL of cancer patients must be of priorities of care providers.

Ethical issues

None to be declared.

Conflict of interest

The authors declare no conflict of interest in this study.

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