Case Report

Palliative care and quality of life: A case of cancer pateints in Iran

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Abstract

Quality of life (QoL) is a major concern for cancer patients. Patients with cancer have a poor quality of life. Palliative care is one of the ways to improve the quality of life of cancer patients but palliative care is a relatively new concept in Iran. This study was conducted to compare the quality of life among cancer patients receiving palliative care than those who do not receive palliative care in Iran. This was a cross-sectional study. The sample size comprised of 97 patients who received palliative care and 302 patients who did not receive palliative care. The specific questionnaire was used for data collection. Data analyzed using SPSS software version 22 with descriptive and analytic statistics. Mann-Whitney test was used to compare the quality of life between under coverage of palliative care and not under coverage of palliative care groups.

The total QoL among patients receiving palliative care was lower than those who did not receive (50.23±7.77 VS 53.41±10.07), and this difference was statistically significant ($P<0.05$). Furthermore, there was a significant association between palliative care and satisfaction with the social relationship, satisfaction with treatment, limitations and Total QoL ($P<0.05$). satisfaction with treatment had a better condition in patients who receiving palliative care.the result of generalized linear regression model indicated that QoL in patients who were under coverage of palliative care was better in comparison with those patients who were not under coverage of palliative care ($p < .0001$). The findings showed that cancer patients who did not receive palliative care had better QoL than those who did. Patients who received palliative care had higher satisfaction with treatment. It seems that the most impact of palliative care was related to patient satisfaction with the treatment process.

Keywords: palliative care, quality of life, cancer, supportive care, Iran

INTRODUCTION

Cancer as the second leading causes of mortality globally, and is liable for an estimated 9.6 million deaths in 2018. Globally, about 1 in 6 deaths is due to cancer [1]. The largest increase in cancer incidence in the next 15 years estimated to be in the Eastern Mediterranean Region, considering the trends for all related risk factors [2]. In Iran, cancer epidemiology is changing owing to demographic and epidemiological transition [3]. While cancer was the fifth leading cause of death from 1979 to 1981, it became the fourth during 1982 to 1986, and the third in recent years which contributed to significant growth in population and changes in socioeconomic status [4]. This growth will turn cancers into a challenge for the current decade and the future one in Iran [5].

Cancer patients experience a variety of symptoms. Quality of life (QoL) is a major concern of cancer patients [6]. And one of the main goals of cancer management is related to preserve and improve the quality of life (QoL) of patients, particularly in patients whose treatments are meant to palliate and not to cure the disease [7]. The QoL of cancer survivors indicates their treatment experience and physical and psychosocial functions and can be used to identify subgroups of patients who require further monitoring, and guides approach for patient-centred interventions after cancer treatment completion [8].

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According to the World Health Organization reports, palliative care can maintain the patients' quality of life [9]. Palliative care is a treatment to relieve, rather than cure, symptoms caused by cancer and improve the quality of life of patients and their families. Palliative care can help people live more comfortably. It is an urgent humanitarian need for people in the world over with cancer and other chronic fatal diseases and particularly needed in places with a high proportion of patients in advanced stages of cancer where there is little chance of cure [10]. A randomized control trial of early palliative care study reported that providing palliative care earlier in the disease course is associated with improving patient functioning and QoL while potentially reducing the cost of care among patients with stage IV lung cancer [11].

In spite of the WHO recommendations [12], palliative care is a relatively new concept in Iran and some studies reveal inadequate training, lack of awareness and expertise in care providers in relation to palliative services, the patients' lack of knowledge, and a need for raising awareness at the community [13]. In Iran, despite the fact that the health policymakers pay attention to this issue and have considered it in the National Palliative Care Action Draft Plan, the classification of palliative care services and establishment of the referral system are considered as challenges [14], and there are currently no systematic structures for providing palliative care in Iran and merely almost five to six centres are active in this field [15]. Besides, there are several barriers to providing palliative care in Iran, such as the lack of a predefined structure for palliative care in the healthcare system, the lack of a clear job position for palliative care providers, and failing to consider a serious training on palliative care in the formal curriculum of medical universities. One of the reasons for this problem can be attributed to the lack of comprehensive domestic studies regarding palliative care, which limits the concept application of palliative care in patients requiring these services [15].

Considering the growing incidence of cancer in Iran and the importance of improving the level of quality of life in cancer patients and their family members, and with regard to the absence of palliative care in the treatment process of cancer patients and the lack of adequate centers in relation to palliative care for cancer patients in Iran, the objective of this study was to compare the quality of life among cancer patients receiving palliative care than those who do not receive palliative care in Iran.

Materials and Methods

This study was a cross-sectional study. The statistical population included all patients with cancer in six different provinces, in Iran. The convenience sampling method was used. The sample size consisted of 399 patients. 97 patients were under coverage of palliative care and 302 patients were not under coverage of palliative care. All patients were at the end stages of the disease. Those patients who had received palliative care for at least 8 weeks were included in this study.

The disease-specific researcher-made quality of life questionnaire was used for data collection. This questionnaire consists of 38 questions in six subscales including emotions in life (9 questions), satisfaction with personal relationships (7 questions), satisfaction with current treatment (4 questions), concerns about illness (7 questions), social and occupational concerns (7 questions) and limitations in life (4 questions).. The validity and reliability of this questionnaire has already been confirmed in the study of BabamMohamoodi et al .Experts were used to evaluate the validity of this questionnaire qualitatively and Cronbach's alpha was used to evaluate its reliability, which were 0.81, 0.79, 0.84, 0.85, 0.87 and 0.81, for its dimensions, respectively [16].

The scoring of the questionnaire was conducted based on the 3-point Likert scale, comprising I agree, I partly agree, I disagree. The scores of questions with the negative direction were reversed to make higher scores generally demonstrate better QoL. The score of each domain ranged from 1 to 3. These scores could also be added up to produce an overall score. The higher scores demonstrated better QoL.

After calculating the raw scores of each subscale, the score of each subscale was transformed to a standard score ranged from 0 to 100 using the below formula:

$$\frac{obtained\ score\ in\ subscale\ - the\ possible\ lwoest\ of\ subscale}{the\ difference\ between\ the\ possible\ highest\ and\ lowest\ of\ subscale} \times 100$$

Data analyzed using SPSS software version 22. Means and standard deviations (SDs) were used for the descriptive analysis. Kolmogorov-Smirnov test was applied to assess the normality of data. With regard to the K-S test and nonnormality of data, Mann-Whitney test was used to compare the quality of life among patients who had received palliative care than those who did not receive palliative care groups, and also to examine the association between age, gender, monthly income, housing status, habitation status, and QoL subscales. Kruskal-Wallis test was used to examine the association between education status, employment status, basic insurance coverage status and QoL subscales. A generalized linear regression model was used to determine the effect of demographic variables on the cancer patients' QoL. In all the tests and regression models, p-values less than 5% were considered significant.

Results and Discussion

The socio-demographic characteristics are represented in Table 1. The majority of patients received palliative care (N=302, 75.7%). The age of 200 (50.1%) patients was >50 years. Most of the patients were female (N=233; 62.3%), married (N=359; 90.0%), housewife (N=208; 52.1%) and native (N=295; 73.9%). As shown in Table 1, a statistically significant association was observed between total QOL and palliative care status, age, marital status, education status, employment status (P<0.05).

Table 1: Demographics variable and mean ±SD of total quality of life (N=399)

Variables	Modes	Frequency (Percent)	Mean ±SD	P value
palliative care status	**Under coverage of palliative care**	97 (24.3)	50.23±7.77	0.007**
	No under coverage of palliative care	302 (75.7)	53.41±10.07	
Age	**<50 years**	200 (50.1)	51.08±10.04	0.001**
	>50 years	199 (49.9)	54.21±8.99	
Gender	**Male**	150 (37.7)	51.82±9.54	0.13
	Female	249 (62.3)	53.45±9.73	
Marital status	**Single**	40 (10.0)	49.63±8.08	0.03*
	Married	359 (90.0)	52.97±9.76	
Education status	**illiterate**	85 (21.3)	54.68±10.42	0.006**
	High school	234 (58.6)	52.75±8.85	
	Academic	80 (20.1)	50.10±10.60	
Employment status	**Housewife**	208 (52.1)	53.71±9.58	0.02*
	Employee	63 (15.8)	50.06±8.96	
	Student	16 (4.0)	49.75±9.71	
	Etc.	112 (28.1)	52.46±9.89	
Monthly income status	**<10000000 Rial**	226 (56.6)	52.13±9.23	0.29
	>10000000 Rial	173 (43.4)	53.30±10.16	
Basic insurance coverage status	**Health insurance**	185 (46.3)	53.58±9.04	0.43
	Social security insurance	179 (44.7)	54.17±89.90	
	Other basic insurance	35 (8.44)	52.06±9.94	
Housing status	**Housing owned**	308 (77.2)	53.05±9.64	0.06
	Rented housing	91 (22.8)	51.19±9.60	
Habitation status	**Urban**	295 (73.9)	52.48±9.64	0.43
	Rural	104 (26.1)	53.07±59.69	

*P < 0.05 was considered as significant **P < 0.01 was considered as significant

As shown in Table 2, only the subscale of satisfaction with treatment had the highest mean ±SD among cancer patients receiving palliative care at 75±23.71 than other subscales, while that of among those who did not receive palliative care was lower at 63.54±31.91. By contrast, the subscales of emotions, satisfaction with social relationships, concern about disease, concern about employment, limitations and total QoL had the highest mean among patients who did not receive palliative than those who did at 46,50.73,44.43,66.74,56.93 and 53.41, respectively. It is noticeable that palliative care had a significant effect on the satisfaction with social relationships, satisfaction with treatment status, limitations and total QoL (P<0.05).

Table 2: Mean ±SD of QoL subscales

variables	Receiving palliative care	Not receiving palliative care	P value
Emotions	44.90±23.86	46.00±23.91	0.73
Satisfaction with social relationships	43.75±28.23	50.73±28.10	0.03*
satisfaction with treatment	75.00±23.71	63.54±31.91	0.005**
Concern about disease	42.41±23.74	44.43±24.74	0.47
concern about employment	61.97±26.37	66.74±29.31	0.12
Limitations	42.05±29.02	56.93±33.58	0.0001**
Total quality of life	50.23±7.77	53.41±10.07	0.007**

*$P < 0.05$ was considered as significant **$P < 0.01$ was considered as significant

The generalized linear regression model is shown in Table 3. QOL among patients who received palliative care was better in comparison with those who did not receive palliative care. Further, QOL among patients who were covered by armed forced insurance was better compared to other insurances.

Table 3: Multiple regression analysis of related to QOL subscales(N=399)

variables	B	SE	95%CI	P-value
palliative care status (Refference: Not undercoverage of palliative care)				
Under coverage of palliative care	5.097	1.181	[2.782, 7.412]	0.0001*
Age (Refference: >50 years)				
<50 years	-1.299	1.204	[-3.659, 1.061]	0.28
Gender (Refference: Female)				
Male	-2.033	1.849	[-5658, 1.592]	0.27
Maital satus (Refference: Single)				
Married	2.307	2.026	[-1.666, 6.279]	0.25
Education status (Refference: Academic)				
Illiterate	1.198	2.193	[-3.101, 5.497]	0.58
High school	1.688	1.718	[-1.679, 5.055]	0.32
Employment status (Refferences: Etc)				
Housewife	0.908	2.024	[-3.061, 4.877]	0.56
Employer	-0.391	1.852	[-4.022, 3.240]	0.83
Student	0.733	3.150	[-5.441, 6.908]	0.81
Monthly income status (Reference: >10000000 Rial)				
<10000000 Rial	-1.085	3.207	[-7.370, 5.201]	0.73
Basic insurance coverage status (Refference: No insurance)				
Health insuarnce	-1.938	1.145	[-4.183, 0.363]	0.06
Social security insurance	-6.624	4.085	[-14.631, 0.306]	0.09
Armed force insurance	-9.983	4.497	[-18799, -1.168]	0.02*
Relief foundation insurance	-4.456	7.379	[-19.028, 9.899]	0.53
Housing status (Refference: Rental)				
Private	2.452	1.332	[-0.159, 5.063]	0.06
Habitation status (Refference: Rural)				
Native	0.749	1.288	[-1.777, 3.275]	0.56

This study was to compare the quality of life among cancer patients receiving palliative care to those who do not receive palliative care in Iran. With regard to the findings of our study, among cancer patients who received palliative care, the highest score of subscales was related to the satisfaction with treatment, followed by concern about employment. By contrast, in patients who did not receive palliative care, the highest score of QOL subscales was related to the concern about employment, followed by satisfaction with treatment. It is noticeable that the score of all QoL subscales except for satisfaction about treatment status was higher among cancer patients who did not receive palliative care than those who receive palliative care.

The results of Umann-whitney test showed that the total mean of QoL among cancer patients who did not receive palliative care was higher than those who did received palliative care (53.41 VS 50.23). These differences were statistically significant ($P>0.05$). This can be attributed to several factors. Firstly, in the present study, confounding variables were not controlled, and variables of age, marital, education and employment status may have a better situation among patients who did not receive palliative care. The results also showed that these variables had a significant effect on cancer patients' QoL. On the other hand, it is possible that some confounding variables have not identified and included. Secondly, this study was performed on cancer patients who were at the end stage of the disease, and palliative care may have a positive effect at an early stage. Several studies have confirmed this matter [11, 17-21]. Furthermore, the quality and quantity of palliative care must be taken into consideration. Since palliative care is a new concept in Iran, adequate knowledge does not exist in the country and health care providers have not enough knowledge of this field [13-15]. Finally, the majority of patients were a housewife and elderly, concern about employment may not be considered as an important dimension, while satisfaction with treatment status was better among those who received palliative care, and this difference was statistically significant. It seems that palliative care has more effect on satisfaction with treatment and factors related to the treatment process. Anyway, the result of generalized linear regression model indicated that QoL in patients who were under coverage of palliative care was better in comparison with those patients who were not under coverage of palliative care ($p < .0001$). This shows the positive effect of palliative care on improving the quality of life of cancer patients.

A study in 2015 reported palliative care consultation led to decreased use of chemotherapy near death, lower risk of ICU admission, multiple emergency department visits and multiple hospitalizations near death in patients with advanced pancreatic cancer [22]. In the study by Zhuang et al. 150 patients with lung cancer analyzed in two groups (control group with conventional care and study group with early palliative care). The levels of Pulmonary function indexes of peak expiratory flow (PEF), functional residual capacity (FRC), and trachea-oesophageal fistula 25% (TEF 25%) in patients assigned to early palliative care were remarkably higher than those in the control group [23]. Moreover, in 2018 Ziegler et al. found palliative care initiated more than 2 weeks, more than 4 weeks and more than 33 weeks before death is associated with avoiding a hospital death, avoiding emergency hospital admissions and increased access to an opioid, and avoiding late chemotherapy respectively [24]. Another study in 2018 analyzed 3,040,740 cases with prostate, lung, colorectal, and breast cancer (289,600 (9.5%) had palliative care) and reported cancer-related pain and failure to thrive were strongly associated with palliative care referrals [25]. Taylor et al, showed that each additional palliative care visits during the first month of follow-up using an area under the curve approach increased patient functioning measured (0.008 per visit, $p=0.01$) [26].

Based on the results of the present study and other studies in this field, palliative care in cancer patients will lead to improving the quality of life of cancer patients and reducing the utilization of expensive and ineffective medical services, especially in the final stages of the disease. Considering that palliative care in Iran is a new concept, therefore, considering its positive effects, it is necessary to take the necessary measures to develop and localize the structure and process of providing palliative care and integrate it with the process of caring for cancer patients.

Limitations

There are two noteworthy limitations of the current study. Firstly, matching was not performed for confounding variables among cancer patients who received palliative care and those who did not receive. Secondly, random sampling was not conducted and this limits the generalizability of the findings.

CONCLUSION

Patients who received palliative care had a better satisfaction with treatment. It seems that the most important effect of palliative care was related to patient satisfaction with the treatment process. Due to the fact that this study was performed in patients who were at the end stage of the disease, it is recommended that further studies performed as a clinical trial so as to control confounding variables, at different stages of the disease and also in different quality and quantity of palliative care.

Conflict of interest statement

The authors declare that they have no conflict of interest.

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