Clinical Cancer Investigation Journal-ISSN: 2278-0513

Quality of Life of Gastrointestinal Cancer Patients Undergoing Chemotherapy

Abstract

Cancer is the third leading cause of death in Iran. Gastrointestinal cancers are one of the most common cancers associated with high mortality and disability in patients. Since cancer and its treatment process strongly influence health and quality of life, the present study was conducted to evaluate the quality of life of patients with gastrointestinal cancer undergoing chemotherapy in hospitals in Zahedan. In this descriptive study, 90 patients with gastrointestinal cancer were selected based on inclusion criteria using the convenience sampling method. The European Organization for Research and Treatment of Cancer quality of life questionnaire (EORTC QLQ-C30) was completed by patients. Data were analyzed in SPSS software version 21.

Most patients had a mean age of (48.58 ± 13.73) years. Most patients were male, married, unemployed and illiterate or illiterate. Most patients in this study had colorectal cancer. Based on the findings of this study, the global health/quality of life was evaluated as 40.27 ±22.7. At the functional scales, the lowest mean was related to social functioning, and the best domain was related to cognitive functioning. In the study of symptom scales/items, the most severe symptoms included as follows: financial difficulties, appetite loss, nausea and vomiting, pain, fatigue, insomnia, constipation, dyspnea, and diarrhea. The results of the present study showed that patients' scores were lower on functional scales, and the severity of cancer symptoms and treatments was more severe than most studies in other countries and even in Iran. The low quality of life index in Sistan and Baluchestan province compared to other provinces, lack of beds in oncology wards, and hospitalization of patients in general wards are some factors that can affect patients' quality of life. It is recommended that professional oncology nurses take care of these patients, even in general wards.

Keywords: *Gastrointestinal cancer, Quality of life, Esophageal cancer, Gastric cancer,*

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Introduction

The increasing prevalence of cancer in recent years and its impacts on different physical, psychological, and social aspects of human life has led to calling cancer the major health problem of the century (1).In the United States, cancer is the second leading cause of death after cardiovascular disease (2). In Iran, cancer is the third leading cause of death after cardiovascular disease and accidents. More than 30,000 Iranians die of cancer every year (3). It is estimated about 100,000 people are diagnosed with cancer annually in Iran (4).Gastrointestinal cancers are common cancers associated with a high rate of mortality. The incidence of these cancers in different societies is very different, and the epidemiological characteristics of these cancers have changed in recent decades. Esophageal, gastric, and colon cancers are common malignancies in Iran, with an annual increase in the number of patients and mortality due to this disease (5). Gastrointestinal cancer accounts for 25% of all cancers in the country (3). According to studies, gastrointestinal cancer is of special importance due to its high mortality and high prevalence among cancers (6). Gastrointestinal cancers account for approximately half (44.4) of cancer deaths (4).

Over the past two decades, quality of life has been one of the most important issues in clinical research. It has been emphasized as one of the effective aspects of patient care. It has been evaluated in terms of diagnosis, differences between patients, predicting disease consequences and used therapeutic interventions (7). WHO defines Quality of Life as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns (8). One of the reasons for paying attention to the concept of quality of life in the new era is more emphasis on quality of life versus quantity of life (9). Quality of life is an important issue in the study of chronic diseases, especially cancer and can clarify many ambiguities. There is a correlation between disease and quality of life and physical disorders, and the presence of related symptoms directly affects all aspects of quality of life. The psychological effects of cancer diagnosis and the physical effects of its treatments have a negative effect on a person's quality of life. (10-12). Cancer disease threatens the independence and ability of the individual for effective participation in family and society and directs him/her toward feeling incompetence and lack of confidence (13). Sammarco indicates a positive and significant relationship between family support and quality of life (14). According to Zillich et al., it is clear that determining the quality of life in these patients can provide new ways for medical staff (especially nurses and physicians) to help patients independently manage their life in critical and non-critical conditions. Improving the quality of life in cancer patients is the primary goal of medical and health care. One of the major tasks of the health care team is maximizing occupational abilities and improving the functional condition of patients as well as promoting quality of life (15).

Materials and methods

This descriptive study was carried out in hospitals affiliated with Zahedan University of Medical Sciences in 2018. The research population included patients with gastrointestinal cancer. Inclusion criteria included age above 18, communication ability, and lack of chronic diseases (such as diabetes and hypertension). Research samples included 90 individuals that were selected using the convenience sampling method in a three-month time interval. The data collection tool was a two-part questionnaire. The first part was related to demographic characteristics, and the second was the European Organization for Research and Treatment of Cancer quality of life questionnaire (EORTC QLQ-C30) (16), which was used to investigate the quality of life of patients with cancer. It contains 30 items in five functional scales, including physical (5 items), role functioning (2 items), emotional functioning (4 items), cognitive functioning (2 items), social functioning (2 items), and Symptom scales/items were included (fatigue, nausea and vomiting, pain, dyspnea, insomnia, appetite loss, constipation, diarrhea, and financial difficulties) and Global health status/QoL. After data collection, the scales of the QLQ-C30 questionnaires were scored according to the EORTC questionnaire guideline, according to which all the scores get a score between 0-100. The higher scores in functional scales and score of Global health status/QoL represent better status regarding the scale, while higher scores in Symptom scales/items indicate a worse level of symptoms. The Persian version of this questionnaire has been recognized as a valid and reliable instrument by the European Organization for Research and Treatment of Cancer. The reliability and validity of the QLQ-C30 questionnaire were evaluated by Montazeri and Safaee, which showed appropriate reliability and validity (76%-93%) (17-18). The reliability of this research was measured using Cronbach's alpha as 72%. The researcher firstly provided an introduction and goals of the research, and then took informed consent of participants, and the questionnaire was completed by the patients. The data were analyzed by SPSS version 21.

Results

The mean age of patients with gastrointestinal cancer was 48.58 (13.73) years. 42.2% were female, 57.8% were male, and most patients were married. (88.9%) 63.3% were illiterate or had a primary school education. 53.3% of the patients lived in urban areas, and the majority of patients were unemployed (66.7%). 51.1% of patients had colorectal cancer(Table 1). In the study of Symptom scales/items in cancer patients, the most severe symptoms were financial difficulties, appetite loss, nausea and vomiting, pain, fatigue, insomnia, constipation, dyspnea, and diarrhea, respectively (Table 2) in investigating functional scales, the weakest functioning as social functioning, physical functioning, emotional functioning, role functioning, and cognitive functioning, respectively. The Global health status / QoL in patients was 40.27 ± 22.7 (Table 3).

Table1: Some demographic characteristics in patients with gastrointestinal cancer

Variable			
Age			**48.58±13.73**
Gender	**Female**	**38(42.2)**	
	Male	**52(57.8)**	
Education	**Illiterate**	**42(46.6)**	
	Primary school	**15(16.7)**	
	high school	**23(25.6)**	
	diploma and higher	**25(27.8)**	
Marital status	**Single**	**10(11.1)**	
	Married	**80(88.9)**	
Residential location	**Urban area**	**48(53.3)**	
	Rural area	**42(46.7)**	
Job	**Employed**	**30(33.3)**	
	Unemployed	**60(66.7)**	
Cancer type	Esophageal cancer	**19(21.1)**	
	gastric cancer	**25(27.8)**	
	Colorectal cancer	**46(51.1)**	

Values are expressed as mean±SD or No. (%).

Table 2: Some symptom scales/items of quality of life in patients with gastrointestinal cancer

Symptom scales/items	**Mean**	**SD**
Fatigue	66.66	23.22

nausea and vomiting	71.65	23.28
Pain	67.96	26.63
Dyspnea	44.81	32
Insomnia	60	27.65
Appetite loss	72.21	25.46
Constipation	52.59	37.84
Diarrhea	41.11	36.73
Financial difficulties	84.81	21.38

Table 3: Some functional scales of quality of life and Global health status in patients with gastrointestinal cancer

Functional scales	Mean	SD
Physical functioning	54.37	27.49
Role functioning	59.81	32.30
Emotional functioning	58.51	29.22
Cognitive functioning	67.77	28.52
Social functioning	38.15	29.76
Global health status / QoL	40.27	22.7

Discussion

The results showed that the mean age of patients with gastrointestinal cancer in this study was 48.58 ± 13.73. Zahedi et al. (2005) studied the prevalence of gastrointestinal cancers in Kerman province from 1996-2000 and reported the mean age of the disease for men and women as 53.1 and 51.5 years, respectively (19). Tavoli et al. (2007) studied the role of cancer diagnosis information in patients' quality of life with gastrointestinal cancer and reported a mean age of 54.3 ± 14.2 years for patients (20). Yoosefian Miandoab et al. (2012) investigated the effect of reflexology on reducing vomiting in patients with chemotherapy and reported their mean age as 73.44 ± 13.38 years (21). The mean age of men and women in the study of Yazdanbod et al. (2005) in their investigation of the four-year survival rate of patients with upper gastrointestinal cancers in Ardabil province was 65.2 and 61.7 years, respectively (22). It seems that the lower average of cancer incurrence in this study is related to the reduction of consumption of fruits and vegetables in this province and the lower economic index in Sistan and Baluchestan province (23).

In functional scales, the weakest scale was related to social functioning. Social functioning is one of the most important factors in understanding patients' quality of life. Because all human beings have an inner need to communicate with others, this relationship is an extract of the feeling of well-being and security in the social functioning of patients' lives (24). Various studies show that a significant proportion of cancer patients experience several problems in social functioning. Such as disruption of social relations, social isolation and withdrawal from society and challenges in the workplace, etc. (13). Sometimes, in the face of cancer, patients find themselves close to death, which can affect their social life of patients and even their relatives (25). In fact, cancer constitutes a large time of patients' lives, and patients have less time to continue living as before (26). Cancer becomes the focus of patients and their families and practically affects their participation time in social activities (24). On the other hand, the risk of stigma in some cancers, such as colorectal cancer, among patients may reduce their presence in social activities because people may associate colorectal cancer with unsafe sexual relationships. Also, the culture of collectivism in Eastern societies and interaction with the personality traits of individuals may lead to the isolation of patients in social functioning (27, 28).

The second scale that patients gave the lowest score on was physical functioning, which was not surprising because patients with a cancer diagnosis and side effects of chemotherapy suffer from many physical disorders that are due to the nature of cancer, the effects of chemotherapy drugs and its side effects (29). This can affect the physical functioning of patients. Although the results of this study were consistent with the results of other studies in other regions of Iran, the average physical functioning was significantly lower than in other regions of Iran, such as Shiraz and Tabriz (17,30), which could be related to the relationship between quality of life and geographical area. Sistan and Baluchestan province is classified as one of the cities with low quality of life in Iran, according to the study by Moazen and Alizadeh Aghdam (2012). Therefore, it is not surprising that the average of different scales of patients' quality of life, including physical functioning, is less than the physical functioning of patients in other parts of Iran (31).

In emotional functioning, the result of the study was more severe but in line with other studies conducted in Iran (30, 32). The majority of patients with a diagnosis of cancer go through

a process of mourning (33). Many patients have anxiety, fear, depression, and anxiety about the uncertain future, treatments, and side effects. The prevalence of major depression among cancer patients under treatment is 15%, minor depression at 20% and anxiety at 10% (34). Of course, it should be noted that the prevalence of mental disorders in Iran is higher compared to national studies in other countries of the world in which the standard questionnaire was used. For example, comparing the results of a national study of mental disorders in 2011 with the Global Mental Health Survey conducted in fourteen countries between 2001 and 2003 with the same questionnaire shows that the prevalence of mental disorders in Iran is higher than in all countries except the United States (35).

Role functioning is influenced by physical, emotional, and social dimensions. Because if the patient has a physical disorder, the ability to play a role is reduced. Emotional dimensions such as anxiety, fear, and depression also affect performance reduction and role functioning (36, 37). On the other hand, the weakening of the social functioning of individuals also affects some aspects of the role functioning of individuals in society (24). Therefore, the low mean score of the role functioning in this study was not far from expectation. In all functional scales, the mean scores reported in this study were less than the functional scales reported with the same questionnaire in other countries such as Germany, Russia, Denmark, Turkey, Poland, Austria, Canada, United Kingdom, USA, Netherlands, Italy, Sweden, Spain, France and Hungary (38) and Iran (32), which may be basically due to the lower quality of life in Sistan and Baluchestan province (31).

The patients' best functional scale reported was cognitive functioning, similar to other studies in Iran (39, 32). The lowest functioning affected by the effects of chemotherapy and cancer was cognitive functioning. However, the average scores were lower than studies of other countries and even Iran. However, other functioning scales have been reported to be higher in other countries, such as physical or social functioning (38). It seems that due to the higher mean of chemotherapy complications among patients in this study and the greater impact of other functional scales such as physical functioning due to the nature of cancer and chemotherapy complications, emotional functioning due to adverse feelings associated with the diagnosis of disease and fear of an ambiguous future, and social functioning due to disruption of the normal course of life and the priority of cancer in the lives of patients, the cognitive functioning is less affected, which is not unexpected and of course, may indicate weak control of the effects of chemotherapy among the patients in the study.

In general, the symptoms of chemotherapy in the study (financial difficulties, appetite loss, nausea and vomiting, pain, fatigue, insomnia, constipation, dyspnea, diarrhea) are much more severe than in other counties such as Austria, Canada, Denmark, France, Germany, Hungary, Italy, the Netherlands, Poland, Spain, Sweden, the United States and the United Kingdom (38). In terms of the severity of symptoms, patients reported more severe complications than in other studies, such as Safaee et al. (2007) and Montazeri et al. (2017) (17, 32). It seems that the severity of symptoms in these patients is not effectively controlled, and patients in this study experience more severe complications than patients in other cities in Iran. This can be related to the limitation of hospital beds, the lack of skilled oncology nurses, the limitation of the oncology ward and the inevitable hospitalization of patients in general wards. In terms of symptom scales/items, the most important scale that patients assessed was the financial scale. Even though the treatment of cancer patients living in Sistan and Baluchestan province is free (40), this dimension still seems to be one of the main concerns of patients in this region, which seems to be related to the unfavorable financial situation of patients in this area (31). In addition, cancer itself has negative effects on the occupational and economic dimensions of patients. Of course, cancer patients have many other costs in addition to medication, complicating the treatment and follow-up treatment (41, 42).

Conclusion and recommendations

In this study, the patient's quality of life scales was investigated in functional scales, Global health status / QoL and symptom scales/items. In most functional scales, Global health status / QoL, the lower scores and more scores in the symptom scales/items compared to similar studies conducted in Iran and other countries. It seems that in the functional scales of quality of life, lower scores may be related to weak control of chemotherapy complications and low quality of life in Sistan and Baluchestan province. In terms of symptom scales/items, the severity of complications (financial difficulties, appetite loss, nausea and vomiting, pain, fatigue, insomnia, constipation, dyspnea, diarrhea) may be related to the lack of skilled nurses to care for chemotherapy patients and hospitalization in general wards due to the limited number of oncology beds for professional care of cancer patients. Therefore, it is recommended that trained oncology nurses take care of cancer patients. Even if there are not enough beds in the oncology ward and patients have to be admitted to general wards, professional oncology nurses take care of them.

Ethical Approval: This study was approved by the Ethics Committee of Zahedan University of Medical Sciences (IR.ZAUMS.REC.1397.330).

Acknowledgment

This article is part of an M.Sc. Medical-Surgical Nursing thesis at the Zahedan University of Medical Sciences. The authors are grateful to all patients and their families who participated in this study. We would like to thank all the clinical personnel

who contributed to the data collection process and Zahedan University of Medical Sciences officials.

Conflict of interest

None.

Financial Support

None.

Ethics Statement

All Permissions to conducting this research has been approved.

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