The Assessment of Spirituality Between Cancer and Chronic Inpatients: A Cross-Sectional Study

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Abstract

Purpose

Spiritual well-being had protective effect on quality of life in cancer, due to the cultural, regional and custom differences,it was rarely been discussed between cancer and chronic diseases in Chongqing,China. We aimed at comparing the level of spirituality in two groups, and discussing its factors of subjects with cancer at county regions.

Methods

A cross-sectional questionnaire survey was distributed to 630 inpatients who received treatment between January and December 2020 in Chongqing University Three Gorges Hospital.In addition to basic demographic data,spirituality was measured using the Chinese version of Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being (FACIT-Sp-12). The mean,standard deviation,independent t-tests, ANOVA and multiple regression were used for statistical description and analysis.

Results

Significant differences were found between cancer and chronic diseases in total scores of FACIT-Sp-12 and each domain(P<0.05).The meaning, peace, faith and total scores in cancer were 11.21±3.38,10.66±4.46,11.43±3.54,and 33.3±10.35,respectively.Which were lower than chronic diseases (13.00±3.21,12.95±4.76,12.66±3.64,38.61±10.88,respectively). The spiritual well-being had significant differences in gender,character,and emotional with spouse for cancer (P<0.05).The male and extravert character were significantly associated with a greater spiritual well-being.

Conclusion

The study shows a medium level of spiritual well-being in cancer, which stands the population with lower economic and education in county regions. It suggests that under the current nursing mode, we should provide specifically spiritual care to the female,introvert and those with poor relationship with spouses, and create a harmonious doctor-patient environment to improve the spiritual well-being.

Retrospectively registered

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Introduction

Globally,cancer has become the first cause of death and a major public health problem, with the changes of disease spectrum and human living environment.The GLOBOCAN released there were an estimated 18.1 million new cancer cases in 2018 and 19.29 million in 2020[1].While in China, an estimated 4.3 million new cases and 2.9 million new deaths occurred in 2018[2], and according to the 2020 China Health Statistical Yearbook[3], the mortality rate of cancer among urban and rural were 161.56/100,000 and 160.96/100,000 respectively, showing a high incidence and mortality rate of cancer and increasing year by year. Cancer has a long course, the patients mostly need radical surgery and combined with radiotherapy, chemotherapy, etc., they endure physical pain, psychological pressure and financial burden, require long-term care and social support[4].The aim of palliative care is to alleviate the symptoms of patients with cancer, reduce pain and improve the quality of life. More than 90% of physical, psychological and spiritual problems can be alleviated[5]. However, the core of palliative care is holistic care,and meeting the spiritual needs is the basic requirements. As the health essence of human, spiritual well-being in cancer patients is lower than others [6–8] .

Currently,scholars had different definitions of spirituality. Such as, Hawks[9] proposed that spiritual health is a high-level belief, hope,and commitment related to the worldview, provides the life purpose, existence and the direction for greater satisfaction of oneself. Other studies had also point out that spiritual health is a subjective feeling of happiness which affirms self-worth,

managing interpersonal relationships with an open,acceptable attitude and possessing inner energy[10]. A scholar believed that in nursing, it is a dynamic process of approaching God, and patients give disease meaning through communication with the Creator, self and others, etc.[11–12]. In short, there are no clear and unified definition, what is more agreed is that spirituality is a subjective feeling and internal experience, and a spiritual force that is intrinsically related to the meaning of life[13].

At present, researches mainly focus on concepts, assessment tools,influencing factors and so on. Several studies have shown spiritual well-being interacts with quality of life, anxiety and depression. For example, a cross-sectional study about 705 patients diagnosed with primary gynecological cancer was conducted through the European Organization for Research and Treatment of Cancer quality of life instruments (EORTC QLQ-SWB32 and EORTC QLQ-C30),and the Hospital Anxiety and Depression Scale, and found that well spiritual well-being is associated with lower anxiety and depression, and better quality of life[14]. A research used EORTC QLQ-C30 and FACIT-Sp-12 for 97 cancer patients, and concluded that spirituality can improve quality of life and decrease the incidence of anxiety and depression, which is consistent with other researches[15–20]. Numbers of studies have shown that age, religious belief and educational were the influence factors of spirituality. Such as, a study of 202 advanced cancer found that patients with a religious affiliation showed higher score than those without a religious affiliation. Religious affiliation, individual spiritual activities and quality of life were significantly related to a greater spiritual well-being[21]. A survey of 176 adult cancer patients who received chemotherapy at an outpatient clinic revealed it were moderately to strongly associated with age, appetite, and quality of life,suggested that younger and stage I cancer patients need additional assistance to meet their spiritual needs,etc. [22–25]. In China,the earliest study originated in Taiwan,which found that the creation and the meaning of life were the most desired spiritual need for terminal cancer patients. Hong Kong scholars believed that spiritual care was an important aspect of cancer patient[26]. In short, it mainly focused on review of spiritual care and needs, reliability and validity test of assessment scale, etc. [27–32].

In general, due to the differences of culture, region and customs, the research can not represent the level of spiritual well-being among cancer patients in the worldwide, and there are few data describing levels and influence factors of spiritual well-being among such patients in Chongqing which is a municipality directly under the Central Government of China.Therefore, the aim of this study were to explore the level of spirituality and analyze factors of cancer patients in the northeast of Chongqing, and compare it with that of chronic disease, in order to provide reference for intervention on the spiritual well-being of cancer patients.

Materials And Methods

Subjects

We randomly enrolled inpatients diagnosed with cancer and chronic diseases who had been treated in Chongqing University Three Gorges Hospital between January and December 2020. The inpatients of cancer were included if they were receiving all types of treatments,such as surgery,chemotherapy or radiotherapy. The chronic inpatients were from the department of Endocrinology. Inclusion criteria were as follows:1)clear expression and effective communication capacity;2)patients who voluntarily agreed to participate in the study.Exclusion criteria were as follows:1)mental or cognitive disorders;

2)inability to understand or express autonomously;3)unwillingness to participate.

Ethical considerations

The study protocol was approved by the ethics committee of Chongqing University Three Gorges Hospital and made in accordance with the ethical standards laid down in the declaration of Helsinki.

Data Collection and Study Design

This study is a cross-sectional investigation, the content includes basic information and the state of spirituality.

The basic information was self-designed and variables included demographic,social and biomedical factors, as follows: age, gender, education, occupation, religion, character, blood type, marital status, emotional with spouse, course of disease, relationship with caregivers, monthly household income and methods of payment.

We used the Chinese version of the Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being, the 12-item Spiritual Well-Being Scale(FACIT-Sp-12 to measure the state of spirituality,

which was translated by the Chinese scholar and developed to assess spiritual well-being of patients with chronic or life-threatening diseases, the Cronbach's alpha is from 0.711 to 0.920[33].The Scale includes 12 items and composes 3 dimensions to assess meaning(including items 2, 3, 5, 8),peace (including items 9, 10, 11, 12) and faith (including items 1, 4, 6, 7) domain. Each item is assessed according to a five-point liker response scale: 0 (not at all), 1 (a little), 2 (medium), 3 (many), and 4 (very good), but there are two items are reversed, for item 4 and 8. The score calculation is performed by the sum of responses to different items,for each dimension ranged between 0 and 16, whereas the total score ranged between 0 and 48. The highest scores reflect higher levels of spirituality, lower than 24 is classified as low level,24 to 35 as medium level, and more than 36 as high level.

Investigators were the head nurse and received unified training. Before being asked to complete the questionnaire, the detailed description of the purpose, the data application and the potential disclosure of the finding must provide to all participants and obtained the informed consent. The questionnaires was provided through mobile-internet platform and completed by participants with self administered. During the survey, investigators carefully explained each item,and checked that no missing items were submitted on the spot after completed it.

Statistical analysis

A total of 630 subjects underwent statistical analysis.The frequency, composition ratio, mean and standard deviation were used for statistical description. Independent t-tests was used to investigate the differences between the 2 groups (subjects with cancer and those with chronic diseases) according to the score of each items, each domain and the total score of FACIT-Sp-12. ANOVA analysis or t-tests were performed to investigate the differences according to the basic characteristics in the total score, and each domain. Multiple regression analyses were performed to investigate the factors associated with spirituality. The total and each domain score of FACIT-Sp-12 were entered into the model as dependent variables, respectively.The significant factors proven were considered as independent variables. All statistical analyses were performed using the SPSS 21.0. The statistically significant level was set at $P < 0.05$.

Results

Table 1 shows the basic characteristics of subjects. A total of 588 questionnaires for inpatients with cancer were collected, of which 571 were effective(97.1%).In the department of Endocrinology, there were collected 59 and with an effective rate of 100%. For inpatients of cancer and chronic disease, the average ages were 59.66±12.19 and 59.97±17.93,respectively, and the education below Junior high school accounted for 89.32% and 71.19% respectively. The majority of patients were married, had no religious, and had good relationship with spouses were 80.39% and 64.41% respectively. The treatment costs were paid by medical insurance for 93.87% and 93.22% respectively.

Table 2 shows the differences of FACIT-Sp-12 scores between two groups. The total score, meaning, peace and faith domain for cancer inpatients were 33.3±10.35,11.21±3.38,10.66±4.46 and 11.43±3.54 respectively. And for those inpatients with chronic diseases were 38.61±10.88,13.00±3.21,12.95±4.76 and 12.66±3.64 respectively.

Significant differences were found between inpatients with cancer and those with chronic diseases in the total score of FACIT-Sp-12, as well as in the meaning, peace and faith domains (P<0.05). Except item 3 and item 4, the score of each item in the two groups were statistically significant (P<0.05).

Table 3 shows the relationships of FACIT-Sp-12 scores to the basic characteristics in subjects with cancer.The male showed a significantly higher score of FACIT-Sp-12, peace, meaning and faith domain compared to female (P < 0.05). In terms of

character, introvert showed a significantly lower score of FACIT-Sp-12 and each domain compared to extravert (P < 0.05) and hybrid (P < 0.05) .The better relationship with spouse, the higher score of FACIT-Sp-12, peace and meaning domain.However, there were no significant differences among age, education, occupation, religious and so on.

The results of multivariate analysis are shown in Table 4. Gender（β=-2.406, P<0.05), character（β=-1.421, P<0.05）were significantly associated with the total score of FACIT-Sp-12, and the influence of gender (β=-1.421, P<0.05) and character(β=-0.695, P<0.05) on the peace domain was consistent with it. The score for the meaning domain was positively associated with the emotional with spouse(β=-0.683, P<0.05), and it also related to gender（β=-0.722, P<0.05) and character （β=-0.382, P<0.05）. The total score, peace and faith domain was not related to emotional with spouse (P>0.05). In addition, the score for the faith domain was only correlated with gender（β=-0.105）P<0.05）.

Discussion

Human beings are the unity of biology, psychology, society and spirituality, the quality of life can not ignore spirituality, especially for cancer patients.Our study used the FACIT-sp-12 scale to access the spirituality, and its total score was 33.3±10.35, which was lower than the results of Munoz [15, 34–36], but higher than Lewis[37, 21]. The differences may be affected by the cultural background and religious beliefs of the subjects. The faith domain includes religious contents, thus, having religious affiliations may increase the total FACIT-Sp-12 scores[21], while 97.2% of the patients in our study had no religious beliefs.In this study,the level of spiritual well-being was moderate. It may be that 88.79% of the patients have spouses, and 86.87% are taken care by relatives. As the core of family support, spouse and their relatives can provide support and understanding when cancer patients are helpless or negative, thus increasing self-affirmation and confidence[38].At the same time, 77.41% of patients extroverted, they could adjust themselves to feel the meaning of life and have a peaceful heart.

Studies have shown that higher education is a protective factor for spiritual health. Our hospital is responsible for cancer prevention and treatment of 8,064,628 population in 11 districts and counties in northeast Chongqing, where the regional economic level is low and the rural population is in the majority,and the education is low. It is the only third-class hospital in this area with advanced cancer treatment equipment such as linear accelerators and PET-CT. In this study, 89.32% had a primary school education and 71.98% had a family income below 3000.In the face of diseases with high recurrence and high cost, it is difficult to accept the guidance of positive energy to seek spiritual sustenance, and the overall level of spirituality not high and lower than that of patients with chronic diseases.Chronic diseases with a long survival and high quality of life,as it through healthy lifestyles and dietary interventions can control the progression. Cancer belongs to the category of chronic diseases, but because of its rapid progression, high recurrence and death, once diagnosed and known to the patient, the spirit has become a serious burden, suggesting that the spirituality of cancer patients needs to be improved. Previous studies [39–40] have shown that cancer patients have higher spiritual needs, and meeting spiritual needs is the focus of nursing. Timely intervention should be conducted to make them face the disease with peaceful and strength.

From the perspective of dimensions and items, the lowest score were the peace domain and item 9 "I find comfort in my faith or spiritual beliefs", which was consistent with another study [41]. It may be that cancer patients with varying degrees of anorexia, pain and other symptoms, and coupled with financial pressure that lead they are easy to anxiety and depression, the mood is difficult to calm and ease. Related studies have shown that spiritual care affects the clinical outcomes, relieves pain and contributes to health promotion, so that patients can feel content and enjoy peace in mind[42–43]. Therefore, under the condition of solving the economic pressure and using treatment methods to alleviate discomfort symptoms, it is necessary to meet their spiritual needs as the premise and provide appropriate measures of spiritual care.

Spiritual well-being was related to gender,character,and emotional with spouse from the ANOVA test or t test,and the results of multiple regression analysis showed that gender and character jointly affected it. Male and extroverted cancer patients had a higher level of spirituality.The differences can be explained as follows. First, gender.The score of male was higher than that of female.which may be due to the fact that 78.07% of male patients are migrant workers and farmers, have rich experience and profound inner experience. They are brave, strong and unrestrained,and they are better able to see through the world and understand the essence of life.On the contrary, female patients are mainly emotional and focusing on family,and rooted in

traditional Chinese thoughts. Once they suffer from cancer, their physiological functions are impaired and the ability to perform family duties is lacking,the physical and mental symptoms interact and shows more serious spiritual impairment.Therefore, female patients need targeted supportive care, maximize the guidance to appreciate the meaning of life, relax family responsibilities to reduce their ideological burden.Second, character.The extrovert had a higher score than the introvert. It may be an optimistic and open-minded personality trait, is easier to form a harmonious, long-term and stable interpersonal relationship, accept the guidance of positive energy to seek spiritual sustenance and appreciate life.They show a scene of calm and serene, full of strength in the heart, it prompts that more spiritual care should be given to patients with introverted cancer. Third,

emotional with spouse. It was related to the score of the meaning dimension. It is possible that the support, understanding and tolerance of the spouse can provide patients with rich emotional interaction and spiritual support, which can alleviate loneliness and helplessness, facilitate the integration with the outside,and deepen the understanding of the meaning of life.Therefore, medical staff should be good at communicating with patients to create a harmonious doctor-patient environment. For patients without a spouse or have a poor relationship with spouse, relatives and friends should be encouraged to actively participate in disease care, and carry out family-centered health education to increase the social support for patients[44].Because of the influence of religion and culture, western countries have matured spiritual care and with a higher level of spiritual well-being than that in China. In recent years, through the continuous exploration and efforts of scholars, tranquility treatment and end-of-life education are gradually developing. How to improve the spiritual well-being of cancer patients? The model should be suitable for the regional characteristics and rooted in Confucianism, Taoism, Legalism and other historical culture, customs, and medical systems, and pay attention to the subjects of focus.

Limitations

Our study did have some limitations. Due to the time and resources, only recruited one medical institution and collected the basic demographic characteristics information. While the informations about cancer staging, psychological characteristics, quality of life, etc. were not included, at the same time, the cross-sectional study was unable to find changes the trends. In the future, a multi-center longitudinal study can be carried out to comprehensively explore the influencing factors and dynamic changes of spirituality.

Conclusion

In our study, it found a medium level of spirituality of cancer patients in the northeast area of Chongqing, and gender,character, emotional with spouse were the influencing factors. Therefore, under the current nursing model,the overall nursing should focus the patients on female,introverted, and those with poor relationship with spouses, create a harmonious interpersonal environment and provide spiritual care to improve the spiritual well-being.

Declarations

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Conflict of interest The authors declare that they have no conflict of interest.

Availability of data and material The data that support the findings of this study are available from the corresponding author upon reasonable request.

Code availability Not applicable.

Authors' contributions All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by Yalan Liu, Xue Hao and Yan Li. The first draft of the manuscript was written by Yalan Liu and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Compliance with ethical standards The study protocol was approved by the ethics committee of Chongqing University Three Gorges Hospital and made in accordance with the ethical standards laid down in the declaration of Helsinki.

Consent to participate Informed consent was obtained from all individual participants included in the study.

Consent for publication All individual participants provided informed consent for publication of the data.

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Tables

Table 1 **Basic Characteristics of the Inpatients with Cancer and Chronic Diseases**

Variables		Cancer		Chronic diseases		Total	
		N	%	N	%	N	%
Gender	Male	342	59.89	24	40.68	366	58.10
	Female	229	40.11	35	59.32	264	41.90
Age	Less than40	28	4.90	11	18.64	39	6.19
	41 to 65	343	60.07	26	44.07	369	58.57
	More than 65	200	35.03	22	37.29	222	35.24
Education	Junior high school	510	89.32	42	71.19	552	87.62
	High school	39	6.83	15	25.42	54	8.57
	College	22	3.85	2	3.39	24	3.81
Occupation	Enterprise	26	4.55	6	10.17	32	5.08
	Civil servant	3	0.53	0	0.00	3	0.48
	Worker	51	8.93	5	8.47	56	8.89
	Self-employed	28	4.90	10	16.95	38	6.03
	Others	463	81.09	38	64.41	501	79.52
Religion	Yes	16	2.80	0	0.00	16	2.54
	No	555	97.20	59	100.00	614	97.46
Character	extravert	255	44.66	16	27.12	271	43.02
	hybrid	187	32.75	34	57.63	221	35.08
	introvert	129	22.59	9	15.25	138	21.90
Blood type	A	35	6.13	2	3.39	37	5.87
	B	23	4.03	1	1.69	24	3.81
	AB	16	2.80	0	0.00	16	2.54
	O	44	7.71	1	1.69	45	7.14
	Others	453	79.33	55	93.22	508	80.63
Marital status	Married	517	90.54	43	72.88	560	88.89
	Single	8	1.40	6	10.17	14	2.22
	Widowed	38	6.65	9	15.25	47	7.46
	Divorce	8	1.40	1	1.69	9	1.43
Emotional with spouse	Well	459	80.39	38	64.41	497	78.89
	Ordinary	109	19.09	21	35.59	130	20.63
	bad	3	0.53	0	0.00	3	0.48
Course of disease	Less than12 months	408	71.45	25	42.37	433	68.73
	12 to 24 months	106	18.56	6	10.17	112	17.78
	More than 24 months	57	9.98	28	47.46	85	13.49

Relationship with caregivers	Spouse	272	47.64	15	25.42	287	45.56
	Parents	19	3.33	1	1.69	20	3.17
	Offspring	196	34.33	17	28.81	213	33.81
	Brothers & Sisters	9	1.58	1	1.69	10	1.59
	Nurse	7	1.23	7	11.86	14	2.22
	Others	68	11.91	18	30.51	86	13.65
Monthly household income	Less than 3000	411	71.98	5	8.47	416	66.03
	3000 to 5000	108	18.91	15	25.42	123	19.52
	5000 to 7000	33	5.78	11	18.64	44	6.98
	7000 to 10000	13	2.28	5	8.47	18	2.86
	More than 10000	6	1.05	23	38.98	29	4.60
Methods of payment	Own expense	17	2.98	1	1.69	18	2.86
	Workers medical insurance	140	24.52	34	57.63	174	27.62
	Residentsmedical insurance	396	69.35	21	35.59	417	66.19
	Commercial insurance	4	0.70	0	0.00	4	0.63
	Others	14	2.45	3	5.08	17	2.70

Table 2 **The Score of FACIT-Sp-12 for the Inpatients with Cancer and Chronic Diseases**

FACIT-Sp-12	Cancer (Mean ± SD)	Chronic disease (Mean ± SD)	t-Value	P-Value
Total	33.30±10.35	38.61±10.88	-3.731	0.000
Faith	11.43±3.54	12.66±3.64	-2.535	0.012
Q1:I feel peaceful	2.82±1.19	2.92±1.26	-0.586	0.558
Q4: I have trouble feeling peace of mind	2.99±1.24	3.39±0.70	-3.874	0.000
Q6: I am able to reach down deep into myself for comfort	2.77±1.14	3.15±1.16	-2.435	0.015
Q7: I feel a sense of harmony within myself	2.85±1.09	3.2±1.16	-2.345	0.019
Meaning	11.21±3.38	13.00±3.21	-3.89	0.000
Q2: I have a reason for living	2.95±1.14	3.49±0.90	-4.31	0.000
Q3: My life has been productive	2.78±1.16	3.07±1.10	-1.832	0.067
Q5: I feel a sense of purpose in my life	2.74±1.13	3.19±1.09	-2.876	0.004
Q8: My life lacks meaning and purpose	2.74±1.39	3.25±1.12	-3.262	0.002
Peace	10.66±4.46	12.95±4.76	-3.725	0.000
Q9: I find comfort in my faith or spiritual beliefs	2.61±1.21	3.2±1.28	-3.552	0.000
Q10: I find strength in my faith or spiritual beliefs	2.64±1.22	3.27±1.14	-3.821	0.000
Q11: My illness has strengthened my faith or spiritual beliefs	2.69±1.24	3.24±1.14	-3.243	0.001
Q12：I know that whatever happens with my illness, things will be okay	2.72±1.23	3.24±1.26	-3.048	0.002

Table 3 **Associations between Basic Characteristics and the Score of FACIT-Sp-12 in Cancer**

Variables		Total		Peace		Meaning		Faith	
		Mean ± SD	*P*-Value	Mean ± SD	*P*-Value	Mean ± SD	*P*-Value	Mean ± SD	*P*-Value
Gender	Male	34.30±10.25	0.005	11.05±4.46	0.011	11.51±3.23	0.01	11.74±3.42	0.011
	Female	31.82±10.34		10.08±4.40		10.76±3.55		10.97±3.68	
Age	Less than40	35.21±9.36	0.398	11.71±3.77	0.242	11.57±3.24	0.685	11.93±3.21	0.595
	41 to 65	32.90±10.90		10.45±4.63		11.12±3.54		11.33±3.71	
	More than 65	33.74±9.47		10.89±4.23		11.32±3.13		11.54±3.28	
Education	Junior high school	33.17±10.20	0.316	33.17±10.20	0.522	11.15±3.32	0.186	11.40±3.52	0.443
	High school	33.18±12.57		33.18±12.57		11.26±4.13		11.28±4.11	
	College	36.59±9.26		36.59±9.26		12.50±3.14		12.36±3.02	
Occupation	Enterprise	34.88±10.76	0.845	11.04±4.64	0.782	12.19±3.70	0.566	11.65±3.56	0.927
	Civil servant	34.67±9.29		11.00±4.36		12.00±2.00		11.67±3.06	
	Worker	32.65±11.00		10.29±5.00		11.33±3.47		11.02±3.76	
	Self-employed	31.89±11.07		9.79±4.41		10.79±4.00		11.32±4.27	
	Others	33.37±10.24		10.73±4.40		11.16±3.32		11.47±3.48	
Religion	Yes	34.00±8.15	0.785	12.06±3.04	0.084	10.88±3.78	0.688	11.06±3.09	0.673
	No	33.28±10.41		10.62±4.49		11.22±3.37		11.44±3.55	
Character	extravert	33.98±10.40	0.003	11.05±4.44	0.003	11.42±3.36	0.017	11.51±3.46	0.006
	hybrid	34.27±9.24		10.94±4.05		11.44±3.19		11.89±3.32	
	introvert	30.57±11.33		9.50±4.88		10.47±3.60		10.61±3.88	
Blood type	A	33.66±9.03	0.885	11.83±3.82	0.455	11.37±3.06	0.943	10.46±3.28	0.301
	B	34.43±9.99		11.39±5.29		11.57±3.16		11.48±3.38	
	AB	31.69±6.68		10.00±3.41		11.06±2.52		10.63±3.12	
	O	32.27±9.04		10.39±4.00		10.89±3.22		11.00±2.96	
	Others	33.38±10.70		10.59±4.53		11.22±3.47		11.57±3.63	
Marital status	Married	33.11±10.43	0.416	10.57±4.52	0.437	11.17±3.37	0.335	11.38±3.56	0.565
	Single	34.50±6.09		11.50±2.51		11.38±2.13		11.63±2.26	
	Widowed	34.55±10.15		11.50±3.92		11.29±3.81		11.76±3.52	
	Divorce	38.50±9.13		12.13±3.94		13.38±3.02		13.00±3.42	
Emotional with spouse	Well	33.26±10.38	0.047	10.56±4.493	0.002	11.34±3.41	0.021	11.37±3.51	0.091
	Ordinary	33.89±10.03		11.284.184		10.80±3.15		11.81±3.62	

	bad	19.00±10.54		4.67±4.509		6.67±3.79		7.67±3.22	
Course of disease	Less than12 months	33.22±10.62	0.295	10.64±4.62	0.522	11.15±3.44	0.373	11.44±3.67	0.16
	12 to 24 months	32.60±9.82		10.44±3.89		11.13±3.32		11.03±3.31	
	More than 24 months	35.21±9.18		11.26±4.26		11.81±3.02		12.14±2.90	
Relationship with caregivers	Spouse	32.95±10.27	0.902	10.34±4.51	0.377	11.22±3.35	0.995	11.39±3.48	0.976
	Parents	34.11±8.08		11.84±3.67		11.11±2.54		11.16±3.18	
	Offspring	33.61±9.98		10.93±4.34		11.19±3.28		11.49±3.52	
	Brothers & Sisters	32.22±10.16		10.11±4.68		11.33±3.04		10.78±3.49	
	Nurse	37.00±9.04		12.86±3.24		12.00±3.00		12.14±3.44	
	Others	33.38±12.44		10.71±4.84		11.18±4.12		11.50±4.02	
Monthly household income	Less than 3000	33.56±10.47	0.673	10.95±4.41	0.013	11.10±3.34	0.736	11.51±3.50	0.88
	3000 to 5000	33.00±10.27		10.17±4.58		11.60±3.38		11.23±3.57	
	5000 to 7000	30.79±8.95		8.36±4.27		11.15±3.73		11.27±4.00	
	7000 to 10000	33.85±12.56		10.77±4.64		11.54±4.33		11.54±3.93	
	More than 10000	33.67±3.39		12.33±2.34		11.00±2.37		10.33±3.20	
Method of payment	Own expense	31.29±11.00	0.739	10.71±4.73	0.646	10.59±3.37	0.771	10.00±4.02	0.353

Table 4 **Multivariate Analysis of Factors Related to the Score of FACIT-Sp-12 in Cancer**

Dependent variable	Factors	β	Standardized beta	t-Value	*P*-Value
Total Score	Gender	-2.406	-0.114	-2.75	0.006
	Character	-1.421	-0.109	-2.613	0.009
	Emotional with spouse	-0.028	-0.001	-0.027	0.978
Peace	Gender	-0.937	-0.103	-2.488	0.013
	Character	-0.695	-0.123	-2.97	0.003
	Emotional with spouse	0.415	0.039	0.931	0.352
Meaning	Gender	-0.722	-0.105	-2.526	0.012
	Character	-0.382	-0.089	-2.151	0.032
	Emotional with spouse	-0.683	-0.084	-2.019	0.044
Faith	Gender	-0.105	-0.104	-2.487	0.013
	Character	-0.089	-0.077	-1.842	0.066
	Emotional with spouse	-0.084	0.028	0.672	0.502