Quality of life assessment among cancer patients undergoing treatment in a rural tertiary care center

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Abstract

Introduction: QoL among cancer patients has various domains such as Physical, Social, Environmental and Psychological domain. Hence it becomes important to know the domain of QoL which is most affected. This knowledge can provide an insight to address the specific domain by providing specific measures among cancer patients.

Objectives: To Study the profile of cancer patients in tertiary care center, to assess the quality of life among cancer patients undergoing treatment and to correlate the domains of quality of life with duration of treatment.

Methods: Hospital based Cross-sectional study was conducted for three months among cancer patients aged > 20 years at a tertiary care centre. 90 cancer patients were included after obtaining informed consent and Data was collected using a pretested and structured questionnaire. QoL was measured using WHO BREF Questionnaire. Data was analyzed using SPSS 22 version. p value of <0.05 was considered as statistically significant.

Results: Out of 90 subjects majority were in the age group < 50 years (47.8%), females (68.9%) and 85.6% were illiterates. 62% of them had head and neck cancer. Positive correlation was observed between duration of treatment and social domain. Head & neck cancer had lower QoL scores for all the domains except for social domain wherein cancer cervix had lower QoL scores for the same.

Conclusion: Quality of life was affected in cancer subjects; Social domain was the most affected. Hence it's most important to address the social issues associated with cancer & cancer treatment. Head & neck cancer was found to have affected all the domains of QoL in this study.

Keywords: QOL, Cancer patients.

Introduction

Cancer is one of the leading causes of morbidity and mortality worldwide. More than 60% of world's total new annual cases occur in Africa, Asia and Central and South America. These regions account for 70% of the world's cancer deaths.[1]

Cancer prevalence in India is also on rise and it is estimated to be around 2.0 to 2.5 million, with over 7-8 lakh new cases detected every year and 4-5 lakh cancer deaths per year.[2]

WHO defines Quality of Life (QoL) as 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. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of their environment.[3,4,5]

There are various detrimental symptoms experienced by a cancer patient due to the disease and the undergoing treatment which adversely affect the QoL in these patients. The cancer-specific QoL is related to all stages of this disease. Hence, QoL and its assessment have become increasingly important in the health care system. QoL is also increasingly being used as a primary outcome measure in studies to evaluate the effectiveness of treatment. An increasingly important issue in oncology today is to evaluate QoL in cancer patients.[5-11]

Need for the study

QoL among cancer patients though affected, it is not a single entity. It has various domains such as Physical, Social, Environmental and Psychological domain. Hence it becomes important to know the domain of QoL which is most affected. This knowledge can provide an insight to address the specific domain by providing specific measures among cancer patients. Hence this study was intended to identify the domain of QoL affected among cancer patients in rural tertiary care centre.

Objectives

1. To Study the profile of cancer patients in tertiary care center
2. To assess the domains of quality of life affected in cancer patients undergoing treatment
3. To correlate the domains of quality of life with duration of disease and treatment

Materials and Methods

Study settings/area: The study was carried out in Department of Radiotherapy, Oncology and ENT in tertiary care hospital.

Study Population: All the Cancer patients aged more than 20 yrs, undergoing treatment such as chemotherapy, radiotherapy and surgery giving informed consent.

Exclusion criteria

1. Subjects with Known Psychiatric Illness
2. Terminally ill cancer patients

Study Duration: Three months.

Study Design: Hospital based Cross-sectional study

Sample Size: Sample size was estimated based on the values from the study by Thalyta Cristina Mansano-Schlosser et al.[12] Mean of social domain gave the maximum sample size. Hence sample was estimated by using 55.1±24.4 values; with 10% nonresponse rate sample size 90 was obtained. The desired sample size was collected in 3 months.

Sampling: All the cancer patients who gave informed consent and met the inclusion criteria were included in to the study with in the study duration.

Data Collection: Data was collected by using a pretested and structured questionnaire after obtaining the informed consent. QoL was measured using WHO BREF Questionnaire.[13,14] Validation of WHOQOL-BREF instrument was done by translating into Kannada by researchers and back-translated into English by another expert not acquainted with the original versions. The back-translated version was subsequently compared with the original by a psychiatrist for conceptual equivalence of the items. WHOQOL-BREF scale consisting 26 questions related to physical, psychological, social and environmental domains. Each question was asked to the subject and later it was being converted to transformed score. This score will be used as the outcome score.

Statistical analysis: The data was compiled in Microsoft excel and SPSS 22 statistical software will be used to analyze the data. Descriptive statistics like proportions and frequencies were computed. Chi-square test was the test of significance for qualitative data. Quantitative data was be represented as Mean and Standard deviation and ANOVA was the test of significance to compare the mean QoL between three or more groups, Pearson correlation was done to find the correlation between two quantitative data and p value of <0.05 will be considered as statistically significant.

Results

In the study 90 cases of Cancer were included from department of ENT, OBG, Surgery and Oncology.

Mean Age of subjects was 54.14±11.24 years. Median duration of treatment was 4 weeks. Majority of subjects were females (68.9%), illiterates (85.6%), married (80%). Majority of the cancer patients included in the study was Head and Neck cancers (61.1%) and were on radiotherapy 46.7% (Table 1).

Mean score of Quality of Domains were computed. Highest score was observed for Environmental domain and lowest was observed for Social domain. Hence social domain was affected more than any domains (Fig. 1).

Significant positive correlation was observed between Duration of treatment and Physical domain. (Table 2 and Fig. 2) I.e. with increase in duration of treatment, physical domain was improved. It indicates that patients with better compliance had better physical health; hence it is important to take treatment. There was no significant correlation between age and QoL domains.

Lower scores were observed for Social Domain among different cancers in the study. Lowest score for Social domain was observed in Head and neck cancers. Similarly for other domains the scores were lower among head and neck cancers. Significant difference in mean scores of QoL for different cancers was observed for Psychological domain and Environmental domain. Overall head and neck cancers had poor QoL compared to other cancers (Table 4).

Table 1: Profile of subjects included in the study

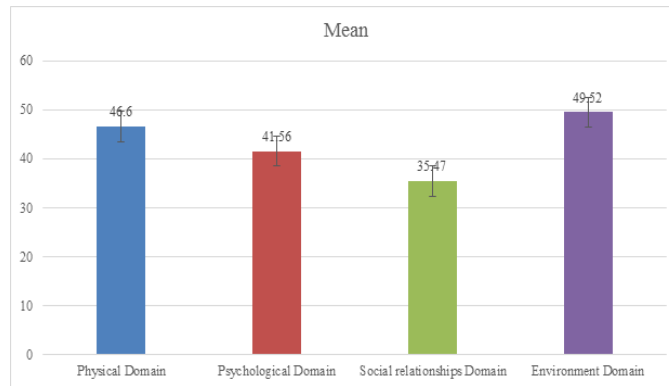|		Count	%
Age	< 50 yrs	43	47.8%
	51 to 60 yrs	22	24.4%
	61 to 70 yrs	21	23.3%
	> 70 yrs	4	4.4%
Gender	Male	28	31.1%
	Female	62	68.9%
Education	Illiterates	77	85.6%
	Primary	10	11.1%
	Secondary	3	3.3%
Marital status	Separated	1	1.1%
	Married	72	80.0%
	Widow	17	18.9%
Diagnosis	Head and Neck Cancer	55	61.1%
	Cervix cancer	28	31.1%
	Others	7	7.8%
Type of Treatment	RT	42	46.7%
	CT	5	5.6%
	RT + CT	24	26.7%
	Surgery	19	21.1%

Fig. 1: Bar diagram showing mean Scores of Domains of QoL in Cancer subjects

Table 2: Correlation of Duration of treatment and Age with Domains of QOL

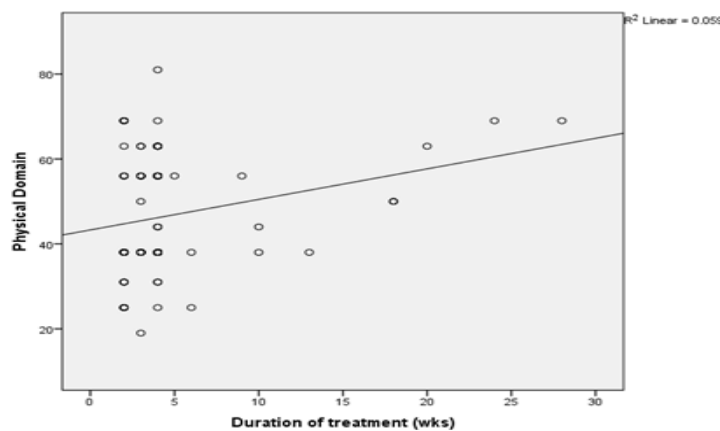|		Correlations			
		Physical Domain	**Psychological Domain**	**Social relationships Domain**	**Environment Domain**
Duration of treatment (wks)	Pearson Correlation	0.244*	0.098	0.051	0.121
	P value	0.021*	0.356	0.636	0.254
Age (yrs)	Pearson Correlation	-0.079	-0.069	-0.050	0.058
	P value	0.456	0.520	0.639	0.587
*. Correlation is significant at the 0.05 level (2-tailed)					

Fig. 2: Scatter plot showing positive correlation between duration of treatment and physical domain

Table 3: Comparison of mean score of Domains of QoL with respect to diagnosis

	Diagnosis										P value
	Head and Neck		**Cervical Cancer**		**Ca Ovary**		**Ca Breast**		**Ca Esophagus**		
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	
Physical Domain	44.0	13.8	50.0	13.1	46.0	6.9	56.0	.0	62.5	9.2	0.107
Psychological Domain	39.6	14.8	42.2	12.6	54.3	7.5	44.0	.0	65.5	13.4	0.048*
Social relationships Domain	35.3	12.8	34.8	11.9	50.0	.0	25.0	.0	37.5	17.7	0.231
Environment Domain	48.4	9.9	48.9	8.8	67.0	3.5	50.0	.0	62.5	17.7	0.008*

Discussion

Quality of life among cancer subjects is important from the patient's perspective and also for the treating physician to add quality life years for the patients by limiting the morbidity. In this regard this study was conducted on 90 cancer subjects in a rural tertiary care centre.

Profile of cancer subjects included in the study was similar to the cancer patients profile in country and tertiary care centres. In the study by Thalyta Cristina Mansano-Schlosser et al in Brazil similar findigns with respect to demographic profile were observed. Mean age was 54±16 years and majorities (52%) of them were married. Differences were observed in gender and educational status of subjects. Majority of subjects were males (60%) and only 15% were illiterate.[15] This difference in gender and literacy status can be attributed to the place of study being a rural tertiary care centre. Being a rural setup most of the illiterate subjects especially females are betel chewers, may have one or risk factors for cervical and breast cancer. Hence percentages of females were significantly higher in the present study.

In a study conducted in Japan by Tazaki M on 197 patients from eight cancer treatment centers, using the WHOQOL-100, showed similar results, and the authors emphasized that self-rated health did not correspond to the severity of the clinical phase of the tumor.[16] These findings suggest that self-rated health can be a reliable predictor of quality of life in these patients.

In the present study Highest score in QoL domain was observed for Environmental domain and lowest score was observed for Social domain. Hence social domain was affected more than any domains. No significant correlation was observed between age and QoL domains. Quality of Life scores did not differ according to socio-demographic characteristics.

In studies by Lee JH et al., Huguet PR et al., and Rabin EG et al., among cancer subjects, just like in the present study, no association was found between quality of life and gender, age, education, being employed, type of surgery, time since surgery, duration of the disease, staging, and chemotherapy.[17-19]

Were as in a similar study by Michelone et al on patients affected by colorectal cancer, the most commonly affected domain was the Environment domain, and the least affected was the Psychological.[20] In literature, Rogersons RJ et al observed that factors such as age, female gender, low education level and not having a partner may be related to low quality of life.[21]

In case of the Physical domain, the following facets were found in order of higher to lower: energy and fatigue, daily activities, pain and discomfort and mobility, to affect it the most. It was found that these four facets are very well inter-related. In the study by Coelho FMR et al and Silveira CC et al., Fatigue was a prevalent symptom in advanced cancer disease, occurring in most of the patients. This is due to the complex and debilitating symptom because it compromises the activities of daily life and causes damages to life quality.[22,23]

In the present study with increase in duration of treatment, physical domain improved significantly. Hence emphasis has to be laid by treating physician and counsellor to for regular treatment and follow-ups.

Lower scores were observed for Social Domain among different cancers in the study. Lowest score for Social domain was observed in Head and neck cancers. Similarly for other domains the scores were lower among head and neck cancers. Significant difference in mean scores of QoL for different cancers was observed for Psychological domain and Environmental domain. Overall head and neck cancers had poor QoL compared to other cancers.

Similar observation was made for psychological domain by Michelone APC et al. The Psychological domain is influenced by the following facets: negative thoughts (inverse correlation), self-esteem and positive thoughts. Literature point out that the suffering coming from the tumor, other symptoms related to the disease, waste caused by the treatment and the emotional charge involving the diagnosis play a important role in Psychological domain of subjects.[20]

The Social domain was most affected by personal relationships and social support. Cancer and its treatment can cause significant changes in vital functions related to communication and social interaction of patients and may result in a significant negative impact on their quality of life and that of their family members.

From the study it was observed that QoL becomes an important component to be addressed at individual level. As each person with and without disease has a particular way of evaluating quality of life, and the evaluation can vary with time, place, priorities along life and with the circumstances.

Limitations

Inclusion of different cancers patients in equal proportions and gender was matching was not possible due to limited oncology cases in the setup.

Conclusion

Cancer is a condition which affects QOL. In this study, all the domains were affected (mean scores was <50 for all the domains). Social domain was the most affected. Hence it is most important to address the social issues associated with cancer & cancer treatment. Positive correlation was observed for physical domain of treatment .Hence emphasis should be laid on compliance for treatment. Head & neck cancer was found to have affected all the domains of QOL in this study.

Recommendations

This study emphasis on the need for empathetic care for cancer subjects especially related to social, psychological domains. Proper counseling and good palliative care should be provided to improve the Quality of life. Emphasis should also be laid on regular treatment and Follow-up to improve the physical health as suggested by this study.

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