Original Research Article

Quality of Life among Cancer Patients at Tertiary Hospital, Chitwan, Nepal

Isha Bhusal[1], Amar Regmi[2], Preeti Shrestha[3]

[1]Nursing Officer, [2]Public Health Officer, [3]Lecturer
[1]Lumbini Provincial hospital, Rupandhehi, Nepal
[2]Provincial Health Logistic Management Center, Rupandhehi, Nepal
[3]Manmohan memorial institute of Health Sciences, Kathmandu, Nepal

Corresponding Author: Isha Bhusal.

ABSTRACT

Introduction: Cancer is a chronic fatal disease. Among various diseases, cancer has become a big threat to people. Although, Cancer is the 2nd leading cause of death and quality of life (QoL) is grossly affected by disease related factors, the quality of life among cancer patients is still lagging behind. The aim of the study was to assess the quality of life among cancer patients at tertiary hospital, Chitwan.

Methods: Descriptive cross sectional research design was used for the study. The study population was cancer patients receiving services from B.P Koirala Memorial Cancer Hospital. Sample size of the study was 101. Non probability purposive sampling technique was used. EORTC QLQ-C30 (version 3) module tool was used for data collection through interview technique. Data was analyzed via Statistical Package for Social Sciences (SPSS) software version 16.

Results: The study findings revealed that among 101 respondents, 65.3% of respondents have average QoL, 29.7% have poor QoL and 5% of them have good QoL. The average QoL scores (out of 100) for different scales were 38.61 (global health/QoL), 57.82 (functional), 70.31(financial difficulties scale) and 27.62 (symptom). Among the symptom scales and other single items, financial problem was the highest with mean score of 70.31. The study also shows significant association of overall QoL with age and co-morbidity.

Conclusions: It was found that the quality of life of cancer patients was average although there were higher ratings for some (Cognitive, social scales) and lower for others (like physical functioning).

Keywords: cancer patient, EORTC QLQ- C30, quality of life

INTRODUCTION

Cancer is a chronic fatal disease and second greatest cause of death globally. Cancer is responsible for 1 in 6 deaths globally. (1) A study in India showed among 768 cancer patients, 82.3% had average quality of life (QoL). Very low-level QoL was observed in general (96.1%), physical (72.3%), and psychological (53.5%) well-being.(2) In Nepal, a total of 29,802 cancer cases were recorded across twelve hospital based cancer registries.(3) Many factors such as type of cancer, stage of cancer, duration of treatment have an impact on QoL of cancer patients.(4) The purpose of cancer therapy should not only focus for cure and longevity of life but also improve QoL. Although, QoL is grossly

affected among cancer patients, it is still not addressed properly. (5)

This study might provide baseline data related to QoL among cancer patients comprising all domains of life. This study may help to emphasize on nursing care for improving QoL of cancer patients. The objective of this study is to assess the quality of life among cancer patients in terms of functional, symptom, global health status & financial difficulties scale and to find out the association between quality of life of cancer patients with their socio-demographic and disease-related variables.

MATERIALS & METHODS

Study Design: The study design was Descriptive Cross Sectional Study was adopted to assess the quality of life of cancer patients.

Study Setting: This study was conducted at B.P. Koirala Memorial Cancer Hospital, Chitwan.

Study Participants: Cancer patients receiving services from B.P Koirala Memorial Cancer Hospital were taken as study population.

Study Duration: The study was conducted from July 2018 to December 2018. Data collection was done for three weeks from September 9 to September 29 except Saturday and public holidays throughout the stipulated timeframe. It took approximately 25-30 minutes for each respondent.

Sample Size and Sampling Technique: Sample size was 101. Non- probability, purposive sampling technique was used.

Inclusion & Exclusion: Cancer patients receiving services from B.P. Koirala Memorial Cancer Hospital within my data collection period, those 11 years and above and willing to participate were taken as study population. Cancer patients who were critical were excluded from the study.

Data Collection Tools and Techniques: Data collection instrument of this study was the structured interview schedule in Nepali language with following parts; Part I: Questionnaire related to socio-demographical variables, Part II: Questionnaire related to disease related variables and Part III: Questionnaire related to QoL using EORTC QLQ-C30 (version 3) module. Face to face Interview Technique was done.

Dependent Variables: Quality of life of cancer patients

Independent Variables:
Sociodemographic variables- Age, Sex, Residence, Ethnicity, Religion, Marital Status, Family Type, Educational Status, Occupation, Economic Status.

Disease related Variables- Type of cancer, Stage of cancer, Duration of illness, Past treatment, Present treatment, Duration of treatment (after diagnosis), Duration of Hospital Stay, Co-morbidity.

The presence of additional disease in cancer patients like Diabetes, Hypertension, Stroke, Heart Disease, Arthritis, Other circulatory, musculoskeletal, Neurological and Mental problem and others were categorized into Co-morbidity. The quality of life compared in different functional scales of quality of life in which the final scores were interpreted as follows: >66.7 = good QoL, 33.3-66.6 = average QoL, <33.3= poor QoL.(6)

The EORTC QLQ-C30 (version 3) module has been widely used and well validated in numerous previous studies. Reliability was maintained through pre-testing among 10% of sample size i.e. 20 cancer patients in the same setting.

Ethics: Ethical approval was taken from Institutional Review Committee (IRC) of Manmohan Memorial Institute of Health Sciences (Ref: 75/49). Formal approval was taken B.P. Koirala Memorial Cancer Hospital (Ref: 808). The written consent was obtained from each respondent (cancer patient) before the interview. Respondents

were allowed to withdraw from the study at any time without giving any reason during the study period.

STATISTICAL ANALYSIS

Statistical Package for Social Sciences (SPSS) version 16 was used for data processing and analysis. Frequency and percentage were used to represent socio-demographic variables, disease related variables and categories of quality of life whereas mean and standard deviation were used to represent quality of life of cancer patients in terms of different scales. Assumption test for chi-square (goodness of fit) was assessed. It was achieved. So, the association between quality of life with their socio-demographic and disease-related variable were analyzed using Chi-square test. Statistical significance was considered at $p < 0.05$ and p-value of the test has been included in the respective tables.

RESULT

Out of 101 respondents (20.8%) were in the age group 51-60 and >=61 respectively. Female patients (56.4%) were found to be in greater number. Concerning the residence, more than half (67.3%) of them came from urban area. Most of them (74.3%) were married, (Fig 1). Regarding family type, 49.5% belonged to nuclear family. Majority of them i.e. 73.3% were literate and among them, 25.7% had studied SLC & above. With respect to the economic condition, 41.6% of the respondents said that they had enough resources to eat for a year but no surplus, while 58.4% of the patients said that they did not produce enough resources to eat for a year. (Table 1)

Table 1: Socio- demographic Variables Profile of Cancer Patients.

Variables	Frequency (N)	Percentage (%)
Age		
11-20	5	5
21-30	16	15.8
31-40	18	17.8
41-50	20	19.8
51-60	21	20.8
>=61	21	20.8
Sex		
Male	44	43.6
Female	57	56.4
Residence		
Rural	33	32.7
Urban	68	67.3
Ethnicity		
Dalit	9	8.9
Janjati	29	28.7
Madhesi	12	11.9
Brahmin/Chhetri	45	44.6
Thakuri/Sanyasi/Others	6	5.9
Religion		
Hindu	88	87.1
Others (Christian/Buddhist/Muslim)	13	9.9
Marital status		
Married	75	74.3
Unmarried	11	10.9
Divorced/Separated	6	5.9
Widowed	9	8.9
Family Type		
Nuclear	50	49.5
Joint	45	44.6
Extended	6	5.9
Educational Level		

Illiterate	27	26.7
Literate	74	73.3
If yes (n=74)		
Can read & write	18	17.8
Primary (Up to grade 5)	13	12.9
Some secondary	17	16.8
SLC & above	26	25.7
Occupation		
Agriculture	40	39.6
Housewife	31	30.7
Service	14	13.9
Labor	8	7.9
Student	8	7.9
Economic status		
Enough to eat for 1 year	42	41.6
Not enough to eat for 1 year	59	58.4

The patients with carcinoma (ca) breast were in highest proportion i.e. 17.8%. Similarly, when data was further analyzed on the basis of the duration of illness since diagnosis, almost half of them were undergoing treatment since last six months (47.5%). Table represents that out of the total 101 study sample, 50.5% were not mentioned with their stages, whereas 50 respondents had their stage mentioned. Among them,16.8% of them had cancer in stage III followed by stage II. Only 82 out of 101 samples had received past treatment. Regarding the past treatment, most of them (26.7%) had received chemotherapy and the present treatment, majority of them (76.2%) had come for chemotherapy treatment. Majority of the respondents (89.1%) had hospital stay of less than 1 week. And 23.8% of them had co-morbidity. (Table 2)

Table 2: Information on Respondents Disease related Variables

Variables	Frequency (N)	Percentage (%)
Type of Cancer		
Ca. cervix	13	12.9
Ca. Ovary	8	7.9
Ca. Lungs	10	9.9
Ca. Oral cavity	5	5
Ca. Breast	18	17.8
Ca. Stomach	14	13.9
Ca. Blood	8	7.9
Ca. Bone	9	8.9
Others (Ca. Gall bladder, Ca. Prostate, Ca. colorectal, Ca. Urinary bladder, Ca. testis)	16	15.8
Duration of illness		
< 6 months	48	47.5
6 month-1 year	31	30.7
>1 year	22	21.8
Stage of Cancer		
First stage	12	11.9
Second stage	15	14.9
Third stage	17	16.8
Fourth stage	6	5.9
Not mentioned	51	50.5
Past Treatment (n=82)		
Chemotherapy	27	26.7
Surgery	14	13.9
Radiotherapy	3	3

Surgery & Chemotherapy	24	23.8
Radiotherapy & Chemotherapy	3	3
Chemotherapy, Radiotherapy & Surgery	11	10.9
Present Treatment		
Chemotherapy	77	76.2
Surgery	7	6.9
Radiotherapy	13	12.9
Palliative care	2	2
Concurrent Chemo-RT	2	2
Duration of Treatment (after diagnosis)		
Less than 1 year	75	74.3
More than 1 year	26	25.7
Duration of Hospital stay		
<1 week	90	89.1
>1week-1month	9	8.9
>1 month-6 months	2	2
Co-morbidity		
Yes	24	23.8
No	77	76.2

The below table explicates that when calculating the mean scores for all major scales and subscales of the Quality of life (QoL) instrument, the transform mean and SD score of Global Health/QoL was 38.61(SD=18.70). Similarly the functional scale was 57.82(SD=17.29). Among the functional scale the highest score is in cognitive functioning i.e.80.36, which shows the quality of life of cancer patients is better. Regarding symptoms scale the transform mean and SD score is low that is 27.62 (SD=16.02) which also indicate better quality of life of cancer patient or low symptomatic. Among the symptoms scale, fatigue is the most frequent symptoms, which indicates that high level of problems with fatigue. The single item rated the far most problematic is financial difficulties that is transform mean 70.2970 (SD=32.96). (Table 3)

Table 3: Scores of Respondents on Various Quality of Life Scales

Scale	Raw Score Mean (SD)	Transformed Score Mean (SD)
Global Health/QoL	**3.32 (1.12)**	**38.61(18.70)**
Functional Scales	**2.27(0.52)**	**57.82 (17.29)**
Physical Functioning	2.68 (0.62)	43.89 (20.51)
Role Functioning	2.57(1.02)	47.52(33.86)
Emotional Functioning	1.90 (0.77)	70.05(25.66)
Cognitive Functioning	1.59 (0.64)	80.36(21.27)
Social Functioning	2.32 (0.88)	55.94(29.21)
Symptom Scales	**1.83 (0.48)**	**27.62(16.02)**
Fatigue	2.83(0.73)	60.83(24.42)
Nausea & Vomiting	1.53 (0.77)	17.82 (25.74)
Pain	2.01 (0.95)	33.66(31.88)
Dyspnoea	1.47(0.90)	15.51 (30.02)
Insomnia	1.69(0.85)	23.10 (28.18)
Appetite loss	2.32(1.13)	43.89 (37.69)
Constipation	1.48 (0.88)	15.84 (29.29)
Diarrhoea	1.26(0.67)	8.58(22.44)
Financial Difficulties	**3.11(0.99)**	**70.29 (32.96)**

It is revealed that among 101 respondents, 65.3% of respondents have average QoL, 29.7% have poor QoL and 5% of them have good. QoL. Scoring of QoL was done being based on previous study.(6) (Table 4)

Table 4: Quality of Life of Cancer Patients

Quality of Life	Frequency (N)	Percentage (%)
Good QoL	5	5
Average QoL	66	65.3
Poor QoL	30	29.7

The results illustrate that out of 101 respondents, more than half of respondents (65.3%) have average QoL. Among the sub scales of functional scale more than half of the respondents (62.3%) have good QoL in cognitive functioning whereas most of them (25.7%) have poor QoL in role functioning.

It shows that majority of respondents (72.3%) have good QoL in constipation scale whereas most of the respondents (34.7%) have poor QoL in fatigue scale. majority of respondents (46.5%) had poor QoL in financial difficulties scale. (Table 5)

Table 5: Quality of Life related to Scales

Variables	Frequency (N)	Percentage (%)
Functional scale		
Physical		
Good	12	11.9
Average	64	63.4
Poor	25	24.8
Role		
Good	24	23.8
Average	51	50.5
Poor	26	25.7
Emotional		
Good	58	57.4
Average	33	32.7
Poor	10	9.9
Cognitive		
Good	63	62.3
Average	35	34.7
Poor	3	3
Social		
Good	31	30.7
Average	54	53.5
Poor	16	15.8
Symptom		
Fatigue		
Poor	35	34.7
Average	57	56.4
Good	9	8.9
Nausea & Vomiting		
Poor	5	4.9
Average	22	21.8
Good	74	73.3
Pain		
Poor	15	14.9
Average	45	44.6
Good	41	40.6
Dyspnoea		
Poor	9	8.9
Average	19	18.8
Good	73	72.3
Insomnia		
Poor	3	3

Average	45	44.6
Good	53	52.5
Appetite loss		
Poor	21	20.8
Average	48	47.5
Good	32	31.7
Constipation		
Poor	6	5.9
Average	22	21.8
Good	73	72.3
Diarrhoea		
Poor	2	2
Average	13	12.9
Good	86	85.1
Financial Difficulties		
Poor	47	46.5
Average	46	45.5
Good	8	7.9

The association of socio-demographic variables with overall QoL indicates that only age was significantly associated with overall QoL. (Table 6)

Table 6: Association of Socio-demographic Variables with Overall QoL

Variables	Good		Average		Poor		p-value
	n	%	n	%	n	%	
Age							
11-20	0	0	3	60	2	40	
21-30	0	0	15	93.8	1	6.2	
31-40	0	0	12	66.7	6	33.3	
41-50	4	20	13	65	3	15	0.004
51-60	1	4.8	14	66.7	6	28.6	
>=61	0	0	9	42.9	12	57.1	
Gender							
Male	3	6.8	29	65.9	12	27.3	0.702
Female	2	3.5	37	64.9	18	31.6	
Residence							
Rural	2	6.1	21	63.6	10	30.3	0.928
Urban	3	4.4	45	66.2	20	29.4	
Ethnicity							
Dalit	1	11.1	5	55.6	3	33.3	
Janjati	0	0	23	79.3	6	20.7	
Madhesi	1	8.3	5	41.7	6	50	0.204
Brahmin/Chhetri	2	4.4	28	62.2	15	33.3	
Thakuri/Sanyasi/Others	1	16.7	5	83.3	0	0	
Religion							
Hindu	4	4.5	58	65.9	26	29.5	0.876
Others (Buddhist/Christian/Muslim)	1	7.7	5	61.5	4	30.8	
Marital status							
Married	4	5.3	50	66.7	21	28	
Unmarried	0	0	10	90.9	1	9.1	0.081
Divorced/Separated	1	16.7	3	50	2	33.3	
Widowed	0	0	3	33.3	6	66.7	
Family type							
Nuclear	4	8	33	66	13	26	
Joint	1	2.2	28	62.2	16	35.6	0.497
Extended	0	0	5	83.3	1	16.7	
Educational level							

Illiterate	1	3.7	17	63	9	33.3	0.856
Literate	4	5.4	49	66.2	21	28.4	
If literate							
Can read & write	1	5.6	11	61.1	6	33.3	
Primary (Up to grade 5)	0	0	8	61.5	5	38.5	0.126
Some secondary	1	5.9	8	47.1	8	47.1	
SLC & above	2	7.7	22	84.6	2	7.7	
Occupation							
Agriculture	1	2.5	27	67.5	12	30	
Housewife	1	3.2	19	61.3	11	35.5	
Service	2	14.3	9	64.3	3	21.4	0.528
Labor	1	12.5	4	50	3	37.5	
Others	0	0	7	87.5	1	12.5	
Economic status							
Enough to eat for 1 year	3	7.1	30	71.4	9	21.4	0.251
Not enough to eat for 1 year	2	3.4	36	61	21	35.6	

Association of Disease related Variables with Overall QoL indicates that only co-morbidity was significantly associated with overall QoL.

Table 7: Association of Disease related Variables with Overall QoL

Variables	Good		Average		Poor		p-value
	n	%	n	%	n	%	
Type of cancer							
Ca. cervix	0	0	9	69.2	4	30.8	
Ca. Ovary	0	0	6	75	2	25	
Ca. Lungs	0	0	6	60	4	40	
Ca. Oral cavity	1	20	2	40	2	40	
Ca. Breast	2	11.1	12	66.7	4	22.2	0.448
Ca. Stomach	2	14.3	7	50	5	35.7	
Ca. Blood	0	0	7	87.5	1	12.5	
Ca. Bone	0	0	8	88.9	1	11.1	
Others	0	0	9	56.2	7	43.8	
Stage of cancer							
First stage	0	0	8	66.7	4	33.3	
Second stage	1	6.7	10	66.7	4	26.7	
Third stage	0	0	13	76.5	4	23.5	0.793
Fourth stage	1	16.7	4	66.7	1	16.7	
Not Mentioned	3	5.9	31	60.8	17	33.3	
Duration of illness							
< 6 months	2	4.2	33	68.8	13	27.1	
6 month-1 year	2	6.5	18	58.1	11	35.5	0.898
>1 year	1	4.5	15	68.2	6	27.3	
Past treatment							
Chemotherapy	1	3.7	15	55.6	11	40.7	
Surgery	0	0	10	71.4	4	28.6	
Radiotherapy	0	0	1	33.3	2	66.7	0.109
Surgery & Chemotherapy	0	0	19	79.2	5	20.8	
Radiotherapy & Chemotherapy	1	33.3	2	66.7	0	0	
Chemotherapy, Radiotherapy & Surgery	2	18.2	7	63.6	2	18.2	
Present treatment							
Chemotherapy	4	5.2	49	63.5	24	31.2	
Surgery	0	0	6	85.7	1	14.3	
Radiotherapy	1	7.7	9	69.2	3	23.1	0.471
Palliative care	0	0	0	0	2	100	
Concurrent Chemo-RT	0	0	2	100	0	0	
Duration of treatment (after diagnosis)							

Less than 1 year	4	5.3	47	62.7	24	32	0.63
More than 1 year	1	3.8	19	73.1	6	23.1
Duration of hospital stay						
<1 week	5	5.6	56	62.2	29	32.2	0.447
>1week-1month	0	0	8	88.9	1	11.1
>1 month-6 months	0	0	2	100	0	0
Co-morbidity						
No	4	5.2	55	71.4	18	23.4	0.044
Yes	1	4.2	11	45.8	12	50

DISCUSSION

The present study showed that the average score of the global health scale was 38.61. Similarly it was 57.82 for functional scale, 27.62 for symptom scale and 70.31 for financial difficulties scale. In this study, among the symptom scales and other single items, financial problem was the highest with mean score of 70.31.

The findings are consistent to the findings of the previous study done by Zhen Gou et al. concerning QoL of patients undergoing radiotherapy at People's Republic of China, global health status/QoL score was (61.31), functional (55.56) and symptom score (29.42) .(7) The global and function score of this study were comparatively higher, which may be because all of the patients included in this study were not in pre terminal stage and so that may have better quality of life.

Among the subscales for functioning, the highest mean scores were for cognitive functioning (80.36±21.27) while physical functioning had the least (43.89). This corresponds with the study done on Cross sectional Assessment of Health Related Quality of Life among Patients with Cancer in Malaysia among 393 cancer patients from which had found highest score in cognitive functioning (84.9±23.6).(8)

Similarly, among the symptom scales, fatigue was the most frequent complaint (60.84) and diarrhea had the lowest (8.58) mean score. This study finding supported by a study done by Donald, Braun, Gupta and Staren, the most frequently reported symptom is fatigue in cancer patients. (9)

During the application of inferential statistics in this study, Overall QoL showed the significant association with the age factor. In the present study, age group 41-50 yrs showed higher number of respondents with good QoL and age group >=61 with poor QoL which was in congruence to the findings of previous study conducted in Malaysia which stated that Patients above the age of 50 years showed better quality of life.(10)

In the current study, the association of Gender, Residence, Ethnicity, Religion, Marital status, Family type, Educational level, Occupation & Economic status with overall QoL didn't show any significance but there was significant association between co-morbidity and overall QoL. This finding was in contrast with the previous study as well. A cross-sectional study was conducted to measure QoL in Bharatpur, Chitwan which indicated that residence, ethnicity, religion, occupation and educational level are not significant with overall QoL.(4)

CONCLUSION

Being based on the findings of this study, it is concluded that the quality of life of cancer patients was average although there were higher ratings for some (Cognitive, social scales) and lower for others (like physical functioning). Age was highly associated with overall QoL. Only co-morbidity among disease-related variables was significantly associated with overall QoL. However, the study shows the lowest score in the physical functioning among functional scales which suggests to give an attention to the physical functioning of the cancer patients. Majority of the patients reported of financial problem. Hence economic support to the patients, especially subsidization in treatment is essential for improving their quality of life. The symptoms scores showed effect on patients with cancer it is therefore, recommended that the need for better

management of cancer-related symptoms such as fatigue during the active treatment regimens. This study can act as a baseline and further study can be done to predict QoL of cancer patients using complex statistical techniques.

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