

Quality of life of patients undergoing chemotherapy: a tertiary care hospital-based study from Karachi

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Abstract

The quality of life (QoL) of cancer patients is of paramount concern due to the enduring effects of chemotherapy on the physical, emotional, spiritual, and social aspects of life. This study aims to examine the factors influencing QoL among cancer patients. A cross-sectional analysis encompassing 200 chemotherapy patients aged 18 and above was conducted, using self-reported surveys and clinical records. The results indicate higher social well-being and lower physical well-being scores. Significantly, patients in joint families, with income above Rs25,000, limited pre-diagnosis check-ups, over four chemotherapy cycles, showed better QoL. Engaging diversions like art and internet usage alleviated worries. Conversely, comorbidities correlated with lower FACT-G scores. QoL is still compromised, even with the developments of advanced cancer treatments. Managing mental, emotional, social, and physical health is vital. Future research should focus on evidence-based policies, innovative strategies, psychiatric assessments, mindfulness interventions, and exploring the impact of social interactions on QoL, aiming to enhance the well-being of newly diagnosed cancer patients.

Keywords: Chemotherapy, Cancer care facilities, Cancer pain, Oncology nursing.

DOI: <https://doi.org/10.47391/JPMA.10123>

Introduction

Cancer, a leading cause of death, resulted in around 10 million fatalities in 2020.¹ Asia is projected to witness a surge in cancer cases from 6.1 to 10.7 million by 2030, accompanied by increased mortality from 4.1 to 7.5 million.² Both the physical and mental well-being of individuals are affected by cancer, often hinging on their

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Submission complete: 19-06-2023

Review began: 07-08-2023

Acceptance: 20-12-2023

Review end: 24-11-2023

perceived control over the ensuing stressors. Several factors, such as diagnosis,³ disease stage,⁴ patient's performance,⁵ physical activity, depression, and spiritual beliefs,^{5,6} shape cancer patients' QoL. Existing cancer research either emphasises the physical and mental toll of chemotherapy or focusses on specific cancer types, while comprehensive studies on QoL and its determinants are limited. Hence, this study aims to assess QoL and its various aspects in all chemotherapy-receiving cancer patients. In a developing country like Pakistan, where prevalent stressors, such as financial hardships,⁷ already foster depression, cancer's burden extends to mental health, amplifying the impact. Through evaluation of QoL, the patients are helped in addressing physical and psychological challenges. Identifying individuals at risk of poor QoL is crucial for devising effective, enduring treatment strategies.

Patients/Methods and Results

This was a cross-sectional study, conducted at the Oncology Department of Jinnah Postgraduate Medical Centre (JPMC), Karachi, after approval from the Ethical Review Board of JPMC having approval number F281/2021-GENL/73459/JPMC.

Participants were selected through non-probability convenience sampling. The sample size was 200, inflated by 10% to 220 to account for the incomplete and improperly filled questionnaires. The sample size was calculated based on the study conducted in Iran by Heydarnejad et al.⁸ The data was collected over the span of a year from January 2022 to January 2023. Informed consent was obtained and all ethical considerations were observed. The participants included patients above 18 years of age, who provided consent and were currently undergoing chemotherapy. Those who had any linguistic or cognitive impairment (dementia, brain tumours, etc.), and had debilitating physical comorbidities (such as stroke, renal failure, etc.) were excluded.

The data was collected using a self-structured questionnaire. The socio-demographic and other clinical characteristics of the study participants were obtained by inquiring about personal and financial information,

Table-1: Socio-demographics, Cancer and Fact-G scores

	N (%)	FACT-G TOTAL SCORE	
		Mean (SD±)	p-value
Age			0.581
Young Adults (18-35)	52 (26%)	78.48 (14.72)	
Middle Aged (36 -55)	107 (53.5%)	77.67 (14.69)	
Elderly (56+)	41 (20.5%)	80.52 (15.53)	
Gender			0.159
Male	87 (43.5%)	80.15 (15.41)	
Female	113 (56.5%)	77.16 (14.31)	
Years of Education			0.271
Less than 10 years	123 (61.5%)	77.54 (15.65)	
More than 10 years	77 (38.5%)	79.92 (13.41)	
Marital Status			0.272
Married	177 (88.5%)	78.02 (15.00)	
Unmarried	23 (11.5%)	81.67 (13.37)	
Employment Status			0.842
Employed	65 (32.5%)	78.16 (14.14)	
Unemployed	135 (67.5%)	78.61 (15.21)	
Family System			0.010*
Nuclear	82 (41%)	75.11 (16.31)	
Joint	118 (59%)	80.79 (13.31)	
Average Household Income			<0.001*
Less than Rs25,000	134 (67%)	75.50 (14.56)	
More than Rs25,000	66 (33%)	84.48 (13.63)	
Regular Annual Check-up Before Diagnosis			<0.001*
Yes	37 (18.5%)	70.56 (14.59)	
No	163 (81.5%)	80.25 (14.34)	
Family History of Malignancy			0.167
Yes	59 (29.5%)	75.51 (14.21)	
No	123 (61.5%)	79.94 (15.38)	
N/A	18 (9%)	78 (12.07)	
Stage of Cancer			0.687
Stage I	4 (2%)	86.50 (8.27)	
Stage II	33 (16.5%)	80.52 (13.73)	
Stage III	61 (30.5%)	77.35 (14.53)	
Stage IV	43 (21.5%)	77.63 (13.96)	
Unstaged	59 (29.5%)	78.52 (16.72)	
Cycles of Chemotherapy			0.002*
Greater than 4	119 (59.5%)	81.15 (14.58)	
Lesser than 4	81 (40.5%)	74.52 (14.41)	
Type of Cancer			0.712
Breast	65 (32.5%)	78.16 (14.21)	
Gastrointestinal	40 (20%)	76.38 (17.51)	
Head And Neck	34 (17%)	77.19 (13.68)	
Haematological	26 (13%)	78.76 (15.48)	
Ovarian	9 (4.5%)	79.61 (16.99)	
Lung	8 (4%)	81.92 (7.40)	
Skin	6 (3%)	87.67 (5.20)	
Uterine	5 (2.5%)	85.40 (11.39)	
Prostate	3 (1.5%)	87.39 (12.93)	
Others	4 (2%)	74.42 (23.71)	

treatment, and coping strategies like painting, socialising, and indulging in religious activities, etc. The QoL of the study subjects was assessed using the translated and

validated Urdu version of the instrument Functional Assessment of Cancer Therapy-General (FACT-G).⁹ This tool was developed by a group, the Functional Assessment of Chronic Illness Therapy (FACIT) for the assessment of QoL for those suffering from cancer. It consists of 27 questions measured on a 5 point Likert scale (0 = not at all, 1 = a little bit, 2 = somewhat, 3 = quite a bit, 4 = very much). The tool includes four QoL domains that are commonly used: functional, social/family, emotional, and physical well-being. The higher the score, the better the QoL of the patient. The FACIT system's administrator granted permission for using the tool.

The data was analysed using the SPSS version 25.0 (Armonk, NY: IBM Corp.) for Windows. Mean and standard deviation was reported for normally distributed continuous variables. Categorical variables were reported as frequencies and percentages. ANOVA and independent sample T-test were used to compare the means of FACT-G total score across different groups of independent variables. A p-value of equal to or less than 0.05 was considered statistically significant.

The study involved 200 participants, primarily middle-aged (n=107, 53.5%), with a mean age of 44.61± 12.265 years. Of the total 200 participants, 113 (56.5%) were females and 87 (43.5%) were males. The majority 123(61.5%) had <10 years of education, 177(88.5%) were married, and 135(67.5%) were unemployed. Prevalent cancers were breast 65(32.5%) and gastrointestinal 40(20%), while other types were also present (Table 1). The mean FACT-G score was 78.46±14.83. Participants scored highest in social/family well-being (22.39 ± 6.17), and lowest in physical well-being (17.59 ± 5.512). Notably,

Table-2: Distractions and Comorbid Affecting Fact G Scores.

	FACT-G TOTAL SCORE		
	N (%)	Mean (SD±)	p-value
Distractions			
Songs	24 (12%)	77.90 (10.84)	0.845
Art	23 (11.5%)	84.16 (13.75)	0.050*
Religious Activities	139 (69.5%)	79.03 (14.47)	0.415
Internet, Mobile, TV	101 (50.5%)	83.14 (14.12)	<0.001*
Socialising/ Going out	61 (30.5%)	82.10 (14.63)	0.021*
Games/ Exercise	27 (13.5%)	83.85 (11.49)	0.042*
House Chores	28 (14%)	79.63 (14.74)	0.656
Co-morbidities			
Hypertension	55 (27.5%)	75.50 (16.71)	0.083
Diabetes Mellitus	30 (15%)	74.71 (17.12)	0.133
COPD	11 (5.5%)	69.29 (17.41)	0.035*
Cardiovascular Disease	9 (4.5%)	75.22 (13.44)	0.504
Hepatitis B /			
Hepatitis C	16 (8%)	80.69 (19.42)	0.533

COPD: Chronic Obstructive Pulmonary Disease.

those with skin, prostate, or uterine cancer achieved better FACT-G scores.

Significant influences on QoL included joint family setups 118(59%), income > Rs25,000 66(33%), no pre-diagnosis check-ups 163(81.5%), and >4 chemotherapy cycles 119(59.5%) (Table 1). Distractions such as art 23(11.5%), internet/TV 101(50.5%), socialising 61(30.5%), and exercise 27(13.5%) positively impacted QoL, whereas music, religion, and chores had lesser effects (Table 2). Participants diagnosed with chronic obstructive pulmonary disease (COPD) reported statistically significant better quality of life as compared with participants who had other comorbidities.

The study assessed well-being using the FACT-G scale among cancer patients. The mean scores (SD) for physical, social/family, emotional, and functional well-being were 17.59±5.512, 22.39±6.17, 18.18±5.42, and 20.31±5.23 respectively. The total FACT-G score averaged 78.46±14.83 out of 108, reflecting participants' overall quality of life. Specific distractions correlated with distinct QoL facets: use of internet and socialising improved physical well-being (PWB); art and internet affected social well-being (SWB); internet and exercise/games boosted emotional well-being (EWB); and music enhanced functional well-being (FWB).

Remarkably, those without prior health check-ups demonstrated better FACT-G scores than those who visited doctors regularly.

Conclusion

Cancer impacts patients' physical and overall Quality of Life (QoL), which includes social, emotional, and functional well-being. The study results highlight QoL's most affected domains: physical and emotional well-being. Variables like family system, income, health check-ups, and significant co-morbidities like COPD notably influence QoL. Positive diversions such as painting, games, socialising, and outings elevate QoL scores. Enhanced cancer care advocacy is crucial. Chemotherapy patients could benefit from routine psychological

screening and support groups to address mental distress. Further research is imperative to explore unaddressed causal factors and implement management strategies, aiming to enhance patients' QoL.

Acknowledgement: We would like to acknowledge the administration of Northwest General Hospital & Research Centre for their cooperation with this project.

Disclaimer: None to declare.

Conflict of Interest: None to declare.

Funding disclosure: None to declare.

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Authors' Contributions

NJ: Conduct, data acquisition, manuscript preparation, editing, review, final approval.

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