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# A study to assess the quality of life among patients undergoing adjuvant chemotherapy in the day care unit of JMMC & RI, Thrissur

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#### **Abstract**

**Introduction:** Adjuvant chemotherapy can profoundly affect patients quality of life, necessitating comprehensive evaluations to identify areas needing improvement. This study compiles findings from various groups investigating the quality of life of cancer patients undergoing adjuvant chemotherapy in day care units, offering insights and highlighting areas for enhancement.

**Objectives:** The objective of this research is to assess the quality of life among patients undergoing adjuvant chemotherapy at the day care unit of JMMC & RI and to explore the relationship between quality of life and specific sociodemographic as well as clinical factors.

**Methods:** The study adopted a descriptive design with 60 adjuvant chemotherapy patients chosen through convenience sampling. A self-prepared questionnaire was utilized to evaluate their quality of life

**Result:** The study showed that there was significant association between quality of life of patients with age (p=0.009), education (p=0.002), food habits (p=0.038) and dependency (p=0.015). Majority of patients belong to the age group above 60 years. Majority of the patients have mixed food habits. Among the patients 14 are completely dependent 36 are partially dependent and 10 are independent. Majority of the patience had no unhealthy habits. Majority of the patients have no prior knowledge about cancer.

**Conclusion:** Findings of the study indicate that patients receiving chemotherapy at the day care unit of JMMC & RI demonstrated a good quality of life in social (66.67%) and spiritual (91.67%) aspects, whereas their quality of life was moderate in physical (58.33%), psychological (51.67%), and cognitive (58.33%) domains.

Keywords: Adjuvant chemotherapy, quality of life

#### 1. Introduction

Globally, cancer is recognized as a significant health problem and continues to be one of the primary causes of death in India. It arises from the uncontrolled growth of cells, which can involve almost any organ system of the body. Such growths often invade nearby tissues and may spread (metastasize) to distant sites. Interestingly, in India the incidence of cancer is higher among women, while worldwide, men exhibit a greater incidence than women.

Cancer is a genetic disorder in which the normal regulation, characteristics, and functions of cells are disrupted. Genes contain the instructions for producing proteins and control when and where these proteins are synthesized. Proteins, in turn, are essential for maintaining normal cellular processes. During protein synthesis, deoxyribonucleic acid (DNA) provides the code for the formation of amino acids and proteins. Mutations that occur during DNA replication or protein synthesis can lead to alterations that give malignant cells a selective advantage over normal cells, allowing them to proliferate uncontrollably [1].

The treatment of cancer depends on the type and stage of the cancer, as well as the individual's overall health. Common treatment options include surgery, radiation therapy, chemotherapy, immunotherapy, targeted therapy, and stem cell transplant. These treatments can be used alone or in combination, and the choice of treatment depends on the specific cancer and the patient's unique circumstances. Chemotherapy is a pharmacological intervention that employs cytotoxic agents to target and destroy rapidly proliferating cells. It is predominantly utilized in the treatment of malignancies, as cancer cells exhibit a higher

rate of growth and division compared to normal cells. In clinical practice. chemotherapy. Is frequently administered in conjunction with other therapeutic modalities, including surgical excision, radiotherapy, and hormone therapy, to enhance treatment efficacy. The primary mechanism of action involves disruption of nucleic acids, particularly DNA and RNA, which are essential for cellular replication. Given the accelerated division of malignant cells, they are disproportionately susceptible to chemotherapeutic agents, resulting in reduced tumor burden through inhibition of growth and induction of cell death.

A cross-sectional study was carried out using a simple random sampling technique to examine the quality of life (QoL) and its associated factors among adult cancer patients receiving chemotherapy in the Amhara National Regional State, Ethiopia. The mean QoL score among participants was 44.32. Multivariable logistic regression analysis revealed that several factors were significantly associated with QoL. These included emotional functioning (AOR = 1.01, 95% CI: 1.00–1.04), social functioning (AOR = 1.02, 95% CI: 1.01–1.03), nausea and vomiting (AOR = 0.95, 95% CI: 0.93–0.98), pain (AOR = 0.95, 95% CI: 0.93–0.98), and financial difficulty (AOR = 0.97,

95% CI: 0.93–0.98), and financial difficulty (AOR = 0.97, 95% CI: 0.95–0.99). In addition, higher educational attainment (AOR = 4.3, 95% CI: 1.49–12.32), receiving more than five cycles of chemotherapy (AOR = 4.0, 95% CI: 1.78–9.11), stage IV cancer (AOR = 0.21, 95% CI: 0.06–0.71), being underweight (AOR = 0.45, 95% CI: 0.24–0.84), comorbidities (AOR = 0.28, 95% CI: 0.14–0.57), anxiety (AOR = 0.32, 95% CI: 0.12–0.84), and depression (AOR = 0.29, 95% CI: 0.13–0.63) were also significantly associated with quality of life [2]

To support chemotherapy patients in managing potential side effects, nurses need to establish a trusting relationship that fosters open communication and ensures the provision of adequate information. Such an approach enables patients to feel a sense of control over their care. Additionally, nurses should prioritize the development of interventions aimed at alleviating psychological distress and delivering appropriate education, thereby enhancing the overall quality of life of patients undergoing treatment [3]

# Objectives

- To assess the quality of life among patients undergoing adjuvant chemotherapy in the daycare unit of JMMC&RI.
- To find out the association between the quality of life with selected social demographic and clinical variables.

# 2. Materials and Methods

Non-experimental descriptive research design was adopted

to assess the quality of life among patients undergoing adjuvant chemotherapy for cancer. The study was conducted at day care unit of Jubilee Mission Medical College and Research Institute, Thrissur and the population was the total number of patients undergoing adjuvant chemotherapy in the day care unit. The sample size consist of 60 patients of age above 18 years and non-probability sampling technique was used. The data in the study was analysed using descriptive and inferential statistical analysis on the basis of objectives of the study.

# Criteria for sample collection Inclusion criteria

Patients who are

- Ability to understand the Malayalam language
- Willingness to participate in the study
- Age above 18 years
- available during data collection period
- taking adjuvant chemotherapy

#### **Exclusion criteria**

Patients who are

- Mentally challenged admitted in oncology ward
- Who are sick at the time of data collection?

#### **Description of the tool**

Tool consist of 2 sections: Section A: Sociodemographic variables includes age, gender, education, occupation, marital status, income, food habits, family support, religion, and faith in spirituality, dependence. Clinical data variables includes duration of cancer, any other illnesses, unhealthy habits, previous history of cancer, cancer among family members and knowledge on cancer. Section B: A self-structured- Questionnaire to assess the quality of life consist of 20 questions with multiple choice. Minimum score is 20 and maximum score is 80. The questions were organised under 6 domains such as physical, psychological, social, spiritual, cognitive and overall wellbeing.

# **Data collection process**

Sample was selected using non-probability convenience sampling technique. Permission was obtained from Ethical committee. The data collection period was from 03/10/23 to 13/10/23 and 6 patients per day from daycare unit of JMMC&RI. After explaining purpose and nature of study, informed consent was obtained. The investigator established rapport with the patients and they were assured confidentiality. Quality of life among patient undergoing adjuvant chemotherapy was assessed by self-structured questionnaire and handouts regarding management of chemotherapy side effects was explained and distributed.



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#### 3. Results

**Table1:** Frequency and percentage distribution of patients undergoing adjuvant chemotherapy according to age, education, food habits and dependency (n=60).

Sociodemographic Variables	Categories	Categories Frequency (n)		
Age (in years)	18–30	1	1.7	
	31–40	0	0.0	
	41–50	13	21.7	
	51–60	10	16.7	
	>60	36	60.0	
Education	No formal education	2	3.3	
	Primary education	14	23.3	
	Secondary education	26	43.3	
	Higher secondary	12	20.0	
	Graduate	6	10.0	
Food Habits	Vegetarian	6	10.0	
	Non-vegetarian	2	3.3	
	Mixed	52	86.7	
Dependency	Completely dependent	14	23.3	
	Partially dependent	36	60.0	
	Independent	10	16.7	

Table 1 shows that Majority of the patients, 36 (60.0%) belonged to the age group above 60 years whereas, 24 (40.0%) belonged to the age group of below 60 years (see fig.1). Two (3.3%) have no formal education, 14(23.3%) have primary education, 26 (43.3%) have secondary school education, 12 (20.0%) have higher secondary school

education whereas 6 (10.0%) are graduates. Among sixty patients, 6 (10.0%) are vegetarians, 2 (3.33%) are nonvegetarians whereas 52(86.6%) have mixed food habits. Among the patients 14 (23.3%) are completely dependent, 36 (60.0%) are partially dependent and 10 (16.6%) are independent.

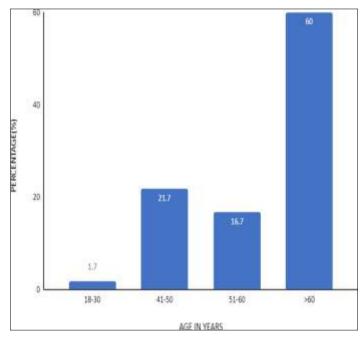


Fig 1: Distribution of patients undergoing adjuvant chemotherapy on age (n=60)

From data, the majority of sample 36(60%) belongs to age group above 60 years, thirty (21.7) belongs to 31-40 years,

ten (16.7%) belongs to 51-60 years and least of the sample 1(1.7%) belonged to 18-30 years.

 Table 2: Distribution of Chi square, degree of freedom and p value of association of age, education, food habits, dependency.

(n=60)

Sr. No.	Socio-demographic Variables	Good (f)	Good (%)	Moderate (f)	Moderate (%)	$\chi^2$	df	p value
1	Age in years					6.82	1	0.009
	Below 60	7	29.2	17	70.8			
	Above 60	23	63.9	13	36.1			
2	Education					9.86	4	0.002
	No Formal education	1	50.0	1	50.0			
	Primary education	3	21.4	11	78.6			
	Secondary School	12	46.2	14	53.8		-	•
	Higher Secondary	8	66.7	4	33.3			

Significant (p<0.05)

#### 4. Discussion

The present study was conducted to assess the quality of life among patients undergoing adjuvant chemotherapy in the daycare centre of Jubilee mission medical college and research institute, Thrissur.

Major findings of the study include:

- Majority of the patients, 36 (60%) belong to the age group of below 60 years, were as 24 (40.0%) belong to above 60 years.
- 17 (28.33%) are males whereas female counterparts 43 (71.7%)
- Among the patients 6 (10.0%) are vegetarians, 2(3.33%) are non-vegetarians whereas 52(86.6%) have mixed food habits.
- 58 patients (96.7%) get adequate family support.
- Majority of the patients 55(91.7%) had no unhealthy habits, 57(95.0%) had no previous history of cancer, 38(63.3%) had no prior knowledge about cancer.
- There is significant association between quality of life of patients with age (p=0.009), education (p=0.002), food habits (p=0.038) and dependency (p=0.018).

# The study showed that

1. To assess the quality of life among patients undergoing adjuvant chemotherapy.

The findings of the present study indicate that quality of life was rated as good in the social domain (40; 66.67%) and spiritual domain (55; 91.67%), while it was moderate in the physical domain (35; 58.33%), Psychological domain (31; 51.67%), and cognitive domain (35; 58.33%). A similar analytical cross- sectional study was conducted by Chagani to assess the quality of life and its determinants among adult cancer patients receiving chemotherapy. The study was carried out among 150 adult cancer patients attending tertiary care hospitals in Karachi, Pakistan, using consecutive sampling techniques. Data were collected with the Functional Assessment of Cancer Therapy-General (FACT-G) and a quality of life questionnaire. Statistical significance of predictors in relation to mean quality of life was analyzed through multiple linear regression. Among the 150 participants, 99 (66.0%) were females, 56 (37.3%) were within the age group of 51-65 years, 124 (82.7%) were married, 81 (54.0%) had completed graduation or higher education, 111 (74.0%) were unemployed, 91 (67.0%) reported a monthly income of 21,000-50,000 Rupees, and 124 (82.7%) self-financed their chemotherapy. The study patients undergoing that adult cancer concluded chemotherapy experienced an overall low quality of life.

2. To find out the association between the quality of life with socio- demographic and clinical variables of patients undergoing adjuvant chemotherapy.

The findings of the present study indicate that there was no significant association between quality of life in cancer patients across different chemotherapy cycles and selected sociodemographic variables such as age and educational level. A cross-sectional study conducted by Heydarnejad similarly evaluated the quality of life among cancer patients with solid tumors at various chemotherapy cycles. The study was carried out among 200 patients at Tehran University of Medical Sciences, Iran, using the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30). Of the participants, 109 (54.5%) were male, aged between 18 and 75 years, with a mean age of 46.2 years; 88 (44%) were unmarried, 130 (65%) had completed only primary education, and 158

(79.5%) reported insufficient income. The results demonstrated no significant correlation between quality of life and variables such as sex, marital status, or occupation. Furthermore, analysis of the association between quality of life and the number of chemotherapy cycles revealed that the majority (66%) of patients reported a fairly favorable quality of life.

# 5. Conclusion

The present study aimed to evaluate the quality of life among patients undergoing adjuvant chemotherapy in the daycare unit of JMMC and RI. Analysis of the findings demonstrated a statistically significant association between quality of life and selected sociodemographic variables, namely age (p = 0.009), educational status (p = 0.003), food habits (p = 0.038), and dependency status (p = 0.018). Conversely, no significant association was observed between quality of life and gender (p = 0.776), marital status (p = 0.487), religion (p = 0.709), occupation (p = 0.103), or monthly income (p = 0.180).

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## **How to Cite This Article**

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