# Quality of life among cancer patients receiving treatment in the Regional Cancer Hospital, IGMC, Shimla, Himachal Pradesh

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## ABSTRACT

*Cancer is characterized by uncontrolled growth and spread of cancerous cells. It can be defined as a disease in which there is uncontrolled growth of abnormal cells by disregarding the normal rules of cell division. Normal cells are constantly providing signals that dictate whether the cell should divide, differentiate into another cell, or die Cancer cells develop a degree of autonomy from these signals, resulting in uncontrolled growth and proliferation. The aim of the study to assess the quality of life and improve the quality of life among cancer patients by distributing informational booklet. The descriptive research design was adopted to collect data from patients with cancer in Regional Cancer Hospital IGMC, Shimla, and using convenience sampling technique. Data was collected by the EORTC questionnaire. The pilot study findings showed that 70% of cancer patients have an average quality of life.30 % of cancer patients were below the average quality of life.*

*Keywords— Quality of life, Cancer patients, Informational booklet*

## 1. BACKGROUND OF THE STUDY

Cancer is characterized by uncontrolled growth and spread of cancerous cells. It can be defined as a disease in which there is uncontrolled growth of abnormal cells by disregarding the normal rules of cell division. Normal cells are constantly providing signals that dictate whether the cell should divide, differentiate into another cell, or die Cancer cells develop a degree of autonomy from these signals, resulting in uncontrolled growth and proliferation. It can be fatal, if this proliferation is allowed to continue and spread. Infect, almost 90% of cancer related deaths are due to tumor spreading process is known as metastasis. It can result in death, if the spread is not controlled.[1]

Cancer is an abnormal cells growth which destroys the normal body tissue with many sign and symptoms like weight loss, nausea vomiting, alopecia, pain etc. and is considered as one of the prime cause of mortality throughout the world, with approximately 14 million new cancer cases in 2012.[2]
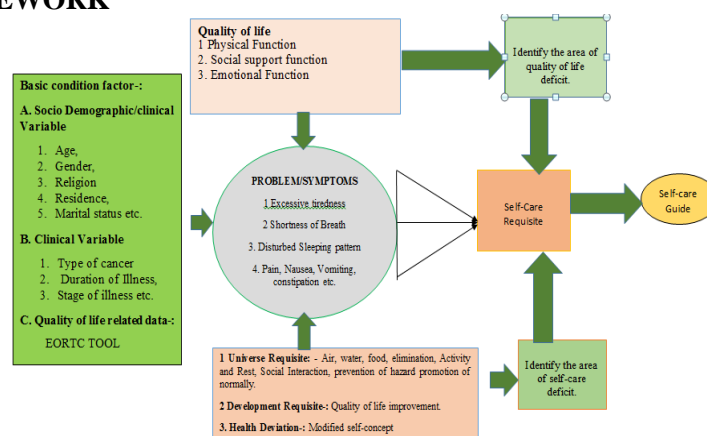
## 2. CONCEPTUAL FRAMEWORK



**Fig. 1: Conceptual framework based on Orem's Theory**

## 3. REVIEW OF LITERATURE

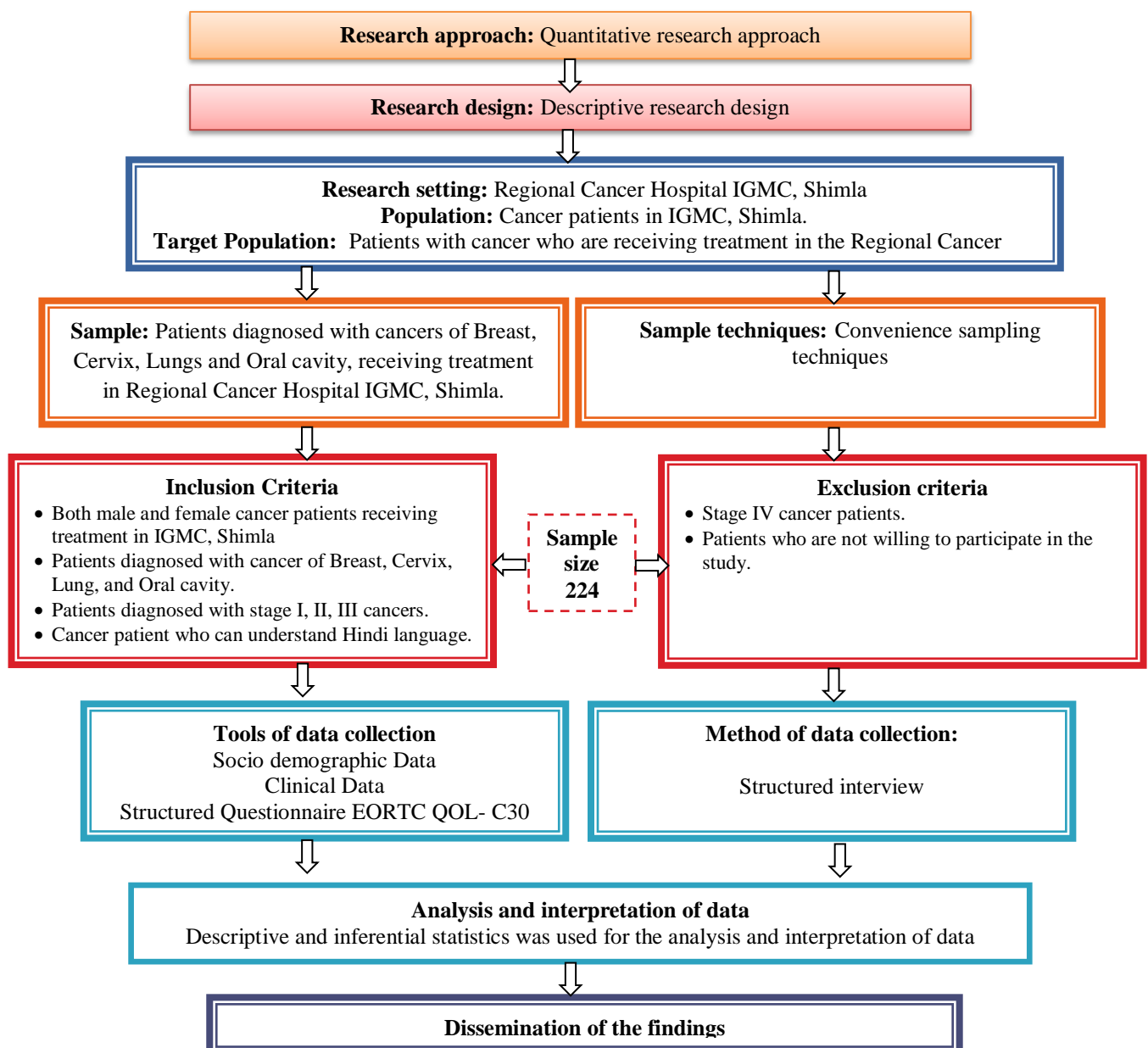| S no. | Name of the researchers | Methodology | Results |
|---|---|---|---|
| 1. | Nayak M. G, George A, Vidyasagar M. S., Mathew S, Nayak S, Nayak B. S. 2017 **Study Title:** Quality of Life among Cancer Patients. | **Study design:** Exploratory survey Design **Sample:** Cancer patients **Sample size:** 768 **Sampling Techniques** convenient sampling **Study setting:** Selected Cancer hospitals of Karnataka. **Tools:** quantitative method with structured questionnaire (EORTC) | Out of 768 cancer patients, 30.2% patients were in the age group of 51–60 years, majority with head–and–neck cancer (40.1%), and 57.7% had stage III disease. QOL of majority of patients was influenced by their symptoms. 82.3% of them had low QOL scores. |
| 2. | Sunderam. S, Jeseena K, Kashyap V, Singh S. B, Kumar M. 2016 **Study Title:** Quality Of Life of Cancer Patients In Relation To Treatment Modality | **Study design:** Cross-sectional, descriptive survey design **Sample:** Women and Men **Sample size:** 113 **Study setting:** Oncology Department of Rajendra Institute of medical sciences (RIMS), Ranchi **Tools and techniques:** quantitative method with structured questionnaire (EORTC). | Total of 113 cancer patients were included in the study, of which 67 (59.3%) were females and 46 (40.7%) were males. None of the participants had above average or significantly high quality of life. 22.1% had average 54% had below average, and 21.9% had significantly poor quality of life. Patients undergoing radiotherapy had a comparatively higher quality of life than patients undergoing chemotherapy (p value <0.05) |
| 3. | Awring M. Raoof, Selwa E. Yacoub, Yassin A. Asaad & Tariq S. Al- Hadithi 2015 **Study title:** Quality of Life Among Cancer Patients | **Study design:** Cross-sectional survey design **Sample:** Men and women **Sample size:** 200 **Study setting:** Rizgary Teaching Hospital in Erbil city. Tools & techniques: quantitative method with structured questionnaire (FACT-G) | Mildly affected in 92% of those with radiotherapy and moderately affected in 47% of those on chemotherapy. Breast cancer was more affected among those with radiotherapy, while the quality of life of patients with gastrointestinal tract cancer was more badly affected by chemotherapy. |

## 4. RESEARCH METHODOLOGY

**Research approach:** Quantitative research approach

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**Research design:** Descriptive research design

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**Research setting:** Regional Cancer Hospital IGMC, Shimla
**Population:** Cancer patients in IGMC, Shimla.
**Target Population:** Patients with cancer who are receiving treatment in the Regional Cancer

⇩

**Sample:** Patients diagnosed with cancers of Breast, Cervix, Lungs and Oral cavity, receiving treatment in Regional Cancer Hospital IGMC, Shimla.

**Sample techniques:** Convenience sampling techniques

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**Inclusion Criteria**
- Both male and female cancer patients receiving treatment in IGMC, Shimla
- Patients diagnosed with cancer of Breast, Cervix, Lung, and Oral cavity.
- Patients diagnosed with stage I, II, III cancers.
- Cancer patient who can understand Hindi language.

**Sample size 224**

**Exclusion criteria**
- Stage IV cancer patients.
- Patients who are not willing to participate in the study.

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**Tools of data collection**
Socio demographic Data
Clinical Data
Structured Questionnaire EORTC QOL- C30

**Method of data collection:**
Structured interview

⇩

**Analysis and interpretation of data**
Descriptive and inferential statistics was used for the analysis and interpretation of data

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**Dissemination of the findings**

**Fig. 2: Schematic diagram of research methodology**

# 5. DESCRIPTION OF TOOL

**Table 1: Description of tool**

| Name of the tool | Description | Developed by |
|---|---|---|
| Socio –Demographic data (11questions) | It includes:<br>Age, Gender , Religion, Residence , Food Habits Preferred, Marital Status , Educational Status ,<br>Occupation,<br>Family Monthly Income , Type Of Family, Personal Habits | Researcher |
| Clinical Variables (7) | Type of cancer, Duration of illness, Stage of illness, Patients receiving radiation therapy, Patient receiving chemotherapy, Family cancer history, Any Alternative therapy | Researcher |
| EORTC for assessing the Quality of life among cancer patients. (30statements) | It includes statements related to various components<br>**Global health status / QoL**<br>**1. Functional scales**<br>1.1 Physical functioning<br>1.2 Role functioning<br>1.3 Emotional functioning<br>1.4 Cognitive functioning<br>1.5 Social functioning<br>**2. Symptom scales / items Fatigue**<br>Nausea and vomiting, Pain, Dyspnea, Insomnia, Appetite loss, Constipation, Diarrhea, Financial difficulties | Standardized |

## 5.1 Interpretations of the EORTC
**5.1.1 Criterion measures:** The scores will be measured as:
**TOOL I:** This part was related to demographic data.
This part was related to clinical data.

**TOOL II:** Interpretations of the EORTC
Total items: 30

The questionnaire was interviewed to the patients and each question was given score ranging 1 to 4. In this range, score 1 indicates "Not at all", score 2 indicates "A little", score 3 indicates "quite a bit" and score 4 indicates "Very much". Based on the patient's perspective, scoring was done for all the questions and raw score (RS) which is the mean of component items was calculated for all the scales.

## 5.2 The formula for calculating raw score is

$$Raw\ Score = \frac{\text{Sum of scores of questions pertaining to each functioning or symptom}}{\text{Number of questions pertaining to each functioning or symptom}}$$

Then, for functional scale:

$$Score = \frac{1 - (RS - 1) \times 100}{Range}$$

And for Symptom scales/items and global health status:

$$Score = \{(RS - 1)/Range\} \times 100$$

Whereas, range is the difference between maximum and minimum score. As such for functional and symptom scales, the range is 3 and for global health status, the range is 6. The scores of all the scales and single-item measures ranged from 0 to 100. The higher response level was indicated based on a high scale score. Thus, a high scale score for a functional scale represents a high/ healthy level of functioning, for the global health status it represents a high QoL, but a high scale score for a symptom scale/ item represents a higher occurrence of symptoms/ problems.

|   | Quality of life | Scoring |
|---|---|---|
| 1 | High QOL | 76-100 |
| 2 | Average QOL | 51-75 |
| 3 | Below Average QOL | 26-50 |
| 4 | Poor QOL | 0-25 |

|   | Functional Scale/items | Scoring |
|---|---|---|
| 1 | Better functioning | 76-100 |
| 2 | Average Functioning | 51-75 |
| 3 | Below Average functioning | 26-50 |
| 4 | Poor functioning | 0-25 |

|   | Symptoms scale /items | Scoring |
|---|---|---|
| 1 | High level | 76-100 |
| 2 | Average QOL | 51-75 |
| 3 | Below Average QOL | 26-50 |
| 4 | Poor QOL | 0-25 |

## 6. CONTENT RELIABILITY

| Reliability method | Formula | Interpretations |
|---|---|---|
| **For internal consistency:** By Cronbach's alpha | $\alpha = \left( \dfrac{K}{K-1} \right)\left( 1 - \dfrac{\sum V_i}{V_T} \right)$ | .874 |

## 7. CONTENT VALIDITY

Validity of the tool was obtained from 7 experts from the following departments: Community Health Nursing, Mental Health Nursing, Medical Surgical Nursing, Child Health Nursing, Oncology medicine.

## 8. PILOT STUDY

- **Study setting:** Day care center (regional cancer Hospital Shimla
- **Study sample:** Patients diagnosed with cancers of Breast, Cervix, Lungs and Oral cavity, receiving treatment in Regional Cancer Hospital IGMC, Shimla
- **Sample size:** 20
- **Sampling technique:** Convenience sampling technique.
- **Days for data collection:** 2 days

### 8.1 The data was collected using the following steps

- A formal permission was obtained from the HOD of the Regional Cancer Hospital Shimla. The participants were selected by using Convenience sampling. A written informed consent was taken from the study participants. The Researcher explained the purpose of the study.
- The baseline data will be collected from the participants by using structured interview schedule including Sociodemographic data and clinical data.
- A structured interview will be conducted with the cancer patients to assess their quality of life.
- After the data collection analysis of the data was done using descriptive and inferential statistics.

## 9. ETHICAL CONSIDERATION

- A written informed consent was obtained from each participant.
- Participants were informed that they can withdraw from the study at any point.
- The anonymity and confidentiality of the participants was protected through the study.

## 10. PLAN FOR DATA ANALYSIS

Descriptive and inferential statistics are used for the analysis of data.

- **Descriptive statistics:** Frequency,     percentages, range, mean , SD
- **Inferential statistics:** Chi-square for association between quality of life with the socio demographic variables.
- Chi-square for association between quality of life with the clinical variables.

## 11. ANALYSIS OF PILOT STUDY

### 11.1 Organization of Data Analysis

The analysis of data was organized and presented under following sections-:

- **Section A** : Socio Demographic data
- **Section B :** Clinical Data
- **Section C**: Quality of life among Cancer Patients.
- **Section D:** Association between quality of life of cancer patients and selected sociodemographic variables.
- **Section E:** Association between quality of life of cancer patients and selected clinical variables.

**Table 2: Frequency and percentage distribution of sociodemographic data of patients. N=20**

| S no. | Variables | Frequency(f) | Percentage (%) |
|---|---|---|---|
| **1.** | **Age** • 31-40 • 41-50 • 51-60 • 60-70 | 2 2 8 6 | 10.0 20.0 40.0 30.3 |

| No. | Category | Frequency | Percentage |
|---|---|---|---|
| 2. | **Gender** | | |
| | • Male | 10 | 50 |
| | • Female | 10 | 50 |
| 3. | **Religion** | | |
| | • Hindu | 20 | 100 |
| | • Musli | 00 | 00.0 |
| | • Sikh | 00 | 00.0 |
| | • Christian | 00 | 00.0 |
| | • Any other, Specify | 00 | 00.0 |
| 4. | **Residence** | | |
| | • Rural | 16 | 80.0 |
| | • Urban | 4 | 20.0 |
| | • Semi Urban | 0 | 00.0 |
| 5. | **Food Habits Preferred** | | |
| | • Vegetarian | 6 | 30.0 |
| | • Non Vegetarian | 14 | 70.0 |
| 6. | **Marital Status** | | |
| | • Married | 20 | 100.0 |
| | • Unmarried | 00 | 00.0 |
| | • Divorced | 00 | 00.0 |
| | • Any Other | 00 | 00.0 |
| 7. | **Educational Status** | | |
| | • No formal Education | 8 | 40.0 |
| | • Primary Education | 7 | 35.0 |
| | • Secondary Education | 3 | 15.0 |
| | • Higher Secondary | 2 | 10.0 |
| | • Graduate or above | 0 | 00.0 |
| 8. | **Occupation** | | |
| | • Government employee | 5 | 25.0 |
| | • Private Employee | 3 | 15.0 |
| | • Daily wager | 3 | 15.0 |
| | • Self employed | 1 | 5.0 |
| | • Unemployed | 8 | 40.0 |
| 9. | **Family Monthly Income (in rupees)** | | |
| | • <4000 | 3 | 15.0 |
| | • 4001-6000 | 5 | 25.0 |
| | • 6001-8000 | 2 | 10.0 |
| | • >8001 | 10 | 50.0 |
| 10. | **Type Of Family** | | |
| | • Nuclear | 4 | 20.0 |
| | • Joint | 16 | 80.0 |
| | • Extended | 00 | 00.0 |
| 11. | **Personal Habits** | | |
| | • Smoking | 9 | 45.0 |
| | • Alcohol | 1 | 5.0 |
| | • Tobacco chewing | 2 | 10.0 |
| | • Substance abuse | 0 | 00.0 |
| | • None | 8 | 40.0 |
| 12. | **Type of cancer** | | |
| | • Breast | 25 | 25.0 |
| | • Cervix | 25 | 25.0 |
| | • Oral cancer | 25 | 25.0 |
| | • Lung cancer | 25 | 25.0 |
| 13. | **Duration of illness** | | |
| | • < 1 years | 15 | 75.0 |
| | • 1-5 years | 5 | 25.0 |
| | • 6-10 years | 0 | 00.0 |
| | • > 10 year | 0 | 00.0 |
| 14. | **Stage of illness** | | |
| | • Stage I | 9 | 45.0 |
| | • Stage II | 8 | 40.0 |
| | • Stage III | 3 | 15.0 |
| 15. | **Patients receiving radiation therapy** | | |
| | • Yes | 12 | 60.0 |
| | • No | 8 | 40.0 |

| 16. | **Duration of radiation therapy**<br>• No radiation<br>• < 1 years<br>• 1-3 years<br>• 4-5 years<br>• 5 years and above | 10<br>6<br>4<br>0<br>0 | 50.0<br>30.0<br>20.0<br>00.0<br>00.0 |
|---|---|---|---|
| 17. | **Patient receiving chemotherapy**<br>• Yes<br>• No | 20<br>00 | 100<br>00.0 |
| 18. | **Duration of Chemotherapy therapy**<br>• < 1 years<br>• 1-3 years<br>• 4-5 years<br>• 5 years and above | 15<br>5<br>00<br>00 | 75.0<br>25.0<br>00.0<br>00.0 |
| 19. | **Does anyone of your family member had/is having cancer history?**<br>• Yes<br>• No | 00<br>20 | 00<br>100 |
| 20. | **Any Alternative Therapy taken for treatment of cancer.**<br>• No<br>• Yes | 20<br>00 | 100.0<br>00 |

**Table 3: Association between Quality of life and selected Socio-demographic Variables. N=20**

| S no. | Variable | Chi square | df | P-value |
|---|---|---|---|---|
| 1. | Age | 37.29 | 39 | .548 |
| 2. | Gender | 15.00 | 13 | .307 |
| 3. | Residence | 15.31 | 13 | .288 |
| 4. | Food Habits | 14.04 | 13 | .370 |
| 5. | Educational Status | 42.91 | 39 | .307 |
| 6. | Occupation | 56.91 | 52 | .297 |
| 7. | Family monthly income | 46.66 | 39 | .186 |
| 8. | Type of family | 16.87 | 13 | .205 |
| 9. | Personal Habits | 47.98 | 39 | .153 |
| 10. | Type of cancer | 40.00 | 39 | .205 |
| 11. | Duration Of Illness | 10.66 | 13 | .639 |
| 12. | Stage of illness | 19.51 | 26 | .814 |
| 13. | Receiving radiation therapy | 12.70 | 13 | .471 |
| 14. | Duration of Radiation | 22.08 | 26 | .684 |
| 15. | Duration Of Chemotherapy | 10.66 | 13 | .639 |
| 16. | Type of cancer | 38.66 | 30 | .133 |
| 17. | Duration Of Illness | 10.66 | 10 | .384 |
| 18. | Stage of illness | 16.38 | 20 | .693 |
| 19. | Receiving radiation therapy | 8.88 | 10 | .543 |
| 20. | Duration of Radiation | 18.60 | 20 | .548 |
| 21. | Duration Of Chemotherapy | 10.66 | 10 | .384 |

**Table 4: MEAN, S.D., MAX. MIN. Score of Quality of Life**

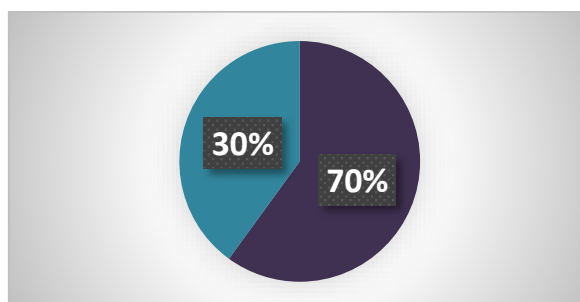| variable | Max. Score | Range | | Mean ± SD | Median | Mode |
|---|---|---|---|---|---|---|
| | | MIN. | MAX. | | | |
| Quality Of Life | 1oo | 49 | 83 | 68.65±8.393 | 71.00 | 71 |

## 12. MAJOR FINDINGS OF THE STYDY



**Fig. 2: Quality of life**

- The pilot study findings showed that 70% of cancer patients have average quality of life.
- 30 % of cancer patients were below average quality of life.
- There was no significant association between socio demographic variable with quality of life among cancer patients.
- There was no significant association between clinical variable with quality of life among cancer patients.

## 13. RECOMMENDATIONS
- The study can be replicated on different cancers with various demographic variable.
- Increase caregiver's awareness about the improvement of quality of life
- A comparative study to assess the quality of life and life style among male and female patients with cancer.
- A study to evaluate the effectiveness of educational programme to improve the quality of life of cancer patients.

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