



Assessment of the Quality of Life among Patients Undergoing Chemotherapy

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Abstract

Background: Globally many countries and families are facing large scale of health-related problems which needed to addressed according to needs and issues of the person's condition. Cancer is one of non-communicable disease with causing more problems for many families. The cancer treatment is becoming nowadays very cost effective due to different modalities for treating the particular type of cancer.

Aim and objective: The aim of study to evaluate the life and factors influencing their live hood. The objective is to assess the level of quality of life among patients undergoing chemotherapy and to associate the quality of life among patients undergoing chemotherapy with selected demographic variables at selected hospitals, Puducherry.

Methodology: A quantitative approach with survey design was conducted among patients receiving chemotherapy in selected cancer hospitals, Puducherry. Totally 60 samples were recruited by using purposive technique of sampling. The data collection was carried out with modified quality of life among patients among chemotherapy using structured questionnaire 5-point rating scale with 25 items.

Results: The study results revealed that, majority 59 (98.33%) of patients had unsatisfactory and only 1 (1.67%) had uncertain quality of life. Further, the data was analyzed by using Chi-square test to associate the quality of life with selected demographic variables such as the participant undergoing number of chemotherapy cycles (Chi-square =60.0, df=3, p=0.0001) is statistically significant at p<0.001. Finally, the research findings indicate the awareness should be created among patients to get and utilize the resources available in governmental and non-governmental sector as a free of cost.

Keywords: Quality of Life, Chemotherapy, issues, treatment modalities.

1. Introduction

Health is a science which determines about the physical well-being, emotional stability, economic growth and family wellbeing. Physical health deals with the daily living activities Quality of Life and reduced physical disability the life determines about the outcome and stability in daily living ^(1,2). The quality-of-life deals with the psychological concept and

economic stability. Globally human being has a concept to words Quality of Life in the educational aspects and insight to words wellbeing in life⁽³⁾.

Now a days each and every person has the health wellness towards good health and illness⁽⁴⁾. Now a days resistance is facing severe economic crisis due to life style changes and comorbidity. Worldwide illness is raised due to non-communicable disease because the disease or the illness were caused by livelihood changes and excess amount of stress with or without non type of pathology⁽⁵⁾

In **Global Cancer Statistics 2020** which estimated that new female Patients that 2.3 % of Patients had lip & oral cancer, 05% of them had salivary cancer, 0.4 % had oropharynx cancer, 0.8% had nasopharynx, 0.3 % had hypopharynx, 3.6 % had esophagus cancer, 7 % had stomach cancer, 10 % had colon cancer, 5.6 % had rectum cancer, 0.6 % had anus cancer, 5.2 % had rectum cancer, 5.2 % cases of liver cancer, 1.4 % had gallbladder, 4.1 % had pancreas, 0.5 % had larynx, 14.6 % had lung, 3.0 % had melanoma of skin, 7.9% had nonmelanoma of skin, 0.2 % had mesothelioma, 47.8% had breast, 0.9 % had vulva, 0.4 % had vagina, 0.4 % had cervix uteri, 13.3 % had corpus uteri, 6.6 % had uterus cancer, 3.2 % had kidney, 2.4% had bladder, 3% had brain & nervous system, 10 % thyroid, 0.8% had Hodgkin lymphoma, 4.8 % non-Hodgkin lymphoma, 1.5 % had multiple myeloma and 4.5% cases are diagnosed with leukemia⁽⁶⁾.

2. Need for the study

When the person having wellness or illness which is determined according disease occurs^(7,8). Nowadays cancer is one important deadly disease which can lead many complications among the people⁽⁹⁾. globally 18.1 million new cases were reported in 2020, nearly 10 million people were death in 2020 (ratio of one in six deaths). Asian Surveillance in 2020 about cancer people is diagnosed is 169.1 per 100,000 accounting for 49.3%. Now, Tamil Nādu ranks 10 places in India as newly cancer diagnosed of 81814 cancer cases were estimated up to 2020⁽⁹⁾.

One of the studies conducted by **Nayak.G.M, George. A, Kamath.A (2019)** conducted a survey among oncology patient regarding their quality of life. In this study convenient sampling technique used to collect the data by using interviewed schedule. The study was conducted among 768 Patients who are affected by cancer and receiving treatment. Finally, the result revealed that the Patients had poor Quality of Life due to cancer and also because of treatment cost for prolonged period⁽¹⁰⁾.

Lavdaniti A, Zyga.S, Vlachou. E, Krepia.D.S (2017) conducted a descriptive study among chemotherapy patients regarding the Quality of Life. In this study the data was collected among 53 samples by using convivence sampling technique. The data collected by using functional assessment of cancer therapy scale with clinical characteristics. The result showed that the majority of participants were men (n = 27,50.9 %) who were married (n = 32,79.5 %) their men age was 70 almost half of the sample (n = 30, 50.6 %) had colon cancer. Finally the study concluded that statistical significant differences between men and women pertaining towards physical well-being (p = 0.004) and overall Quality of Life (p < 0.001) . The type of cancer affected overall Quality of Life (p < 0.001) and social / family wellbeing (p = 0.029)⁽¹¹⁾.

Cracia.A.C.M , Junior.B.C, Sarto.K, et.al (2021) conducted cross – sectional study about Quality of Life , compassion towards oneself and slow down thought process among Patients

receiving Chemotherapy at selected hospital, Brazil. The data collected from 183 Patients receiving Chemotherapy between August and December 2019. This study result revealed that the mean differences scores of the variables in this study were 4.23 (SD = 12.62) with Quality of Life. The study concluded raised level of self-compassion with relaxed mind is associated with the level of Quality of Life is good by using multiple regression and Spearman's rank correlation test⁽¹²⁾.

Moreira.D.P , Aimino.G.P.R, Reisand.A.I, et.al (2021) conducted a study regarding Quality of Life among chemotherapy Patients in selected hospitals, Belo Horizonte , Minas Gerais state and Brazil. Totally 230 Patients had participated in this study who were previously diagnosed under five different cancers (breast, colorectal, cervical, lungs etc.) among younger to late adulthood. The result revealed that when there is increase in patient's emotional function score ($p < 0.001$) with Quality of Life⁽¹³⁾.

Toija.A.S , Kettunen.T.H, Leidenius.M.H.K, et.al , (2019) Conducted a randomized control trial to assess Quality of Life among Patients with breast cancer. The study was conducted in the Helsinki University Hospital. The simple random techniques were used for collection of data among 260 participants. The SPSS version 22 was used to analyse the data under descriptive and inferential statistics. The results revealed that when the support from peer group is less peer support then quality of life will have no effect⁽¹⁴⁾.

During the clinical posting the researchers found that the most of cancer patients who were had poor satisfaction level with low self-esteem. Further they had low economic status, decreased level of attraction with their family members and determined to have psychological problems among cancer Patients due to the treatment modalities. So, the researchers were interested to determine the Quality of Life among cancer Patients who were under the treatment of Chemotherapy because each cycles made the Patients to have poor outcome towards coping up with their day today life.

Problem Statement

A Study to Assess the Quality of Life among Patients undergoing Chemotherapy at Selected Hospitals, Puducherry.

Objectives

1. To assess the existing level of Quality of Life among Patients undergoing Chemotherapy.
2. To associate the level of Quality of Life among Patients undergoing Chemotherapy with selected demographic variables

3. Research Methodology

The quantitative research approach was adopted for this study by using cross sectional descriptive survey design. Quality of life model (2023) was used as a conceptual theory in this study. The tool used in this study was modified quality of life 5-point Likert scale by the researcher after several reviews and incorporation of the opinions given by the experts in field of medical and nursing. The tool for the data collection was structured in two sections; Section -A; Demographic variable proforma of patients age, gender, education, occupation, total family income per year, and type of cancer. Section - B; It contains of modified questionnaire to assess Quality of Life among Chemotherapy using 5-point rating scale which includes psychological factors, physiological factors, self-confidence, family support and social support. Further, the researcher modified the quality-of-life scale as 5-point rating scale

with 25 statements which has equal scoring from 1 the lowest score till 5 is the highest score was given. The total score is 125. The data was collected for 15 to 20 minutes from each sample by using purposive sampling technique among 60 patients receiving chemotherapy. Then the informed consent will be obtained from each sample. The participants had freedom to participant and even withdraw from study at any point of research. Then data will be collected by using interview cum self-administered method data collection. Each day data was collected from 10 samples i.e., 5 samples from Pondicherry Cancer Trust Hospital at Pondicherry and 5 samples from Jayakody Hospital at Thiru Kannur. The data was collected up to the sample size.

Ethical Consideration

The research proposal was submitted to the IRC and IEC for ethical clearances. The prior permission was obtained from concert hospitals before the data collection. The subjects were recruited based on inclusion criteria. Moreover, informed consent was obtained from each sample. The participants were given freedom to withdraw at any point of study period.

4. Results and Discussion

Demographic variables distribution

Totally 60 samples were participated in this study, most of them 29 (48.4%) were at the age of 49 to 58 years old, secondly 14 (23.3%) subjects were 39 years to 49 years of age, (15%) samples of them belong to age group of 59 years to 69 years ,5 (8.3) participants at age of 29 years to 38 years ,2(3.3%) subjects and only one subject were above the age group of 69 years.

This study finding is consistent with **Eleni Kyriazidou, et.al, (2022)** which reveals that 80 (76.9 %) belong to the age group 65 years – 75 years, secondly 20 (19.2%) at 75 years – 85 years age group and least 3 (2.9%) samples are above 75 years of age ⁽¹⁵⁾.

Regarding Gender, most of them 37(61.7%) were females and least of them 23 (38.3%) were males.

Regarding educational status, most of them 20(33.3%) were illiterate, 19. (31.7%) were high school education, 7(11.7%) were completed middle schooling, 5(8.3) were primary school education, 4(6.7%) were Graduate and intermediate or Diploma and 1(1.7%) participant were completed their profession or Honours

The findings of study is consistent with **Eleni Kyriazidou, et.al, (2022)** which indicates that 37.5 % samples had completed primary level of schooling, 38.8 % of subjects had studied up to middle level of studies and 24 % of participants had completed higher level of schooling ⁽¹⁵⁾.

Regarding the occupation of participants, 18(30.0%) were unemployed, 11(18.3%) were elementary occupation and skilled workers and shop & Market sales workers, 6(10.0%) are skilled agricultural & fishery workers, 5(8.3%) are Technicians and Associates professionals, 4(6.7%) are professionals and craft & related trade workers.

The total income of family per year ,15(25.0%) having income of Rs.49,962 – Rs. 74,755, 13(21.7%) having family income between Rs .74,756-Rs.99,930, 12(20.0%) having less than 10,001, 11(18.3%) having income Rs.74,756- Rs 99,930, 6(10.0%) having income of Rs.10,002 – Rs.29,972, 2(3.3%) having more than Rs.199,862 and 1(1.7%) having income Rs.99,931 – Rs.199,861.

Regarding previously undergone surgery for cancer, most of them 39(65.0%) were didn't undergone any type of oncology surgery and least of them 21(35.0%) were had undergone surgery and then receiving Chemotherapy as per oncology protocol.

Regarding the previous history of cancer treatment most of them 58(96.7%) didn't had any history of previous cancer treatment and 2(3.3%) had previous treatment for cancer.

With regards to start of Chemotherapy for cancer Patients most of them 25(41.7%) were receiving Chemotherapy for past 2 months, 15(25.0%) were receiving Chemotherapy for past 6 months, 9(15.0%) were receiving Chemotherapy for past 4 months, 5 (8.3%) were receiving Chemotherapy for past 5 months, 3(5.0%) were receiving Chemotherapy for past 3 months, At the range of only 1(1.7%) were receiving Chemotherapy for past 7 months, 8 months and 1.5 years.

Regarding the treatment modalities 37(61.7%) were not taking in any previous treatment modalities, 18(30.0%) were cancer patient receiving radiotherapy and 5(8.3%) were cancer Patients receiving Chemotherapy.

With regards to number of Chemotherapy cycle received among cancer Patients 43(71.7%) were in the 3rd Chemotherapy cycle, 11(18.3%) were in the 4th Chemotherapy cycle, 5(8.3%) were in the 5th Chemotherapy cycle, 1(1.7%) were in the 6th Chemotherapy cycle.

The data analyzed according to the objectives were:

The first objective of the study is to assess the existing level of Quality of Life among Patients undergoing Chemotherapy.

Regarding Quality of Life among patients receiving Chemotherapy, majority 59(98.33%) had unsatisfactory Quality of Life and only 1(1.67%) had uncertain Quality of Life.(Table-1)

This study results are similar with the study conducted by **Huixia. X, et.al**, (2021) regarding nursing intervention towards life satisfaction among Chemotherapy Patients which revealed that Group – A (dissatisfied = 50%, satisfied = 3.3% and fully satisfied = 46.7%) and Group-B (dissatisfied = 53.3%, satisfied = 16.7% and fully satisfied = 30%)⁽¹⁶⁾.

Table 1: Frequency and percentage distribution of level of quality of life among patients undergoing chemotherapy.

N = 60

| Level of Quality of Life | No. | % |
|---------------------------------|------------|----------|
| Satisfactory (1 – 62) | - | - |
| Uncertain (63 – 93) | 1 | 1.67 |
| Unsatisfactory (94 – 125) | 59 | 98.33 |

The second objective of the study is to associate the level of Quality of Life among Patients undergoing Chemotherapy with selected demographic variables.

Regarding the association level of Quality of Life with selected demographic variables such as participant undergoing number of Chemotherapy cycles (Chi square = 60.0, df =3, p=0.0001) is statistically highly significant at p<0.001.

This study is consistent with the previous study findings conducted by **Huixia. X, et.al**, (2021) which stated that level of dissatisfied is increased in Group – B than Group – A which is significant at p < 0.05 level (chi-square = 5.926, P= 0.015)⁽¹⁶⁾. (Table-2)

Table 2: Association of level of quality of life among patients undergoing chemotherapy with their selected demographic variables.**N = 60**

| Demographic Variables | Satisfactory | | Uncertain | | Unsatisfactory | | Chi-Square Value |
|---|--------------|---|-----------|-----|----------------|------|---|
| | No. | % | No. | % | No. | % | |
| Age | | | | | | | $\chi^2=3.341$ d.f=5 p = 0.648 N.S |
| 19 years to 28 years | - | - | 0 | 0 | 2 | 3.3 | |
| 29 years to 38 years | - | - | 0 | 0 | 5 | 8.3 | |
| 39 years to 48 years | - | - | 1 | 1.7 | 13 | 21.7 | |
| 49 years to 58 years | - | - | 0 | 0 | 29 | 48.3 | |
| 59 years to 69 years | - | - | 0 | 0 | 9 | 15.0 | |
| Above 69 years | - | - | 0 | 0 | 1 | 1.7 | |
| Gender | | | | | | | $\chi^2=1.636$ d.f=1 p = 0.201 N.S |
| Male | - | - | 1 | 1.7 | 22 | 36.7 | |
| Female | - | - | 0 | 0 | 37 | 61.7 | |
| Education status | | | | | | | $\chi^2=2.194$ d.f=6 p = 0.901 N.S |
| Profession or Honours | - | - | 0 | 0 | 1 | 1.7 | |
| Graduate | - | - | 0 | 0 | 4 | 6.7 | |
| Intermediate or diploma | - | - | 0 | 0 | 4 | 6.7 | |
| High school | - | - | 1 | 1.7 | 18 | 30.0 | |
| Middle school | - | - | 0 | 0 | 7 | 11.7 | |
| Primary school | - | - | 0 | 0 | 5 | 8.3 | |
| Illiterate | - | - | 0 | 0 | 20 | 33.3 | |
| Occupation | | | | | | | $\chi^2=4.530$ d.f=7 p = 0.717 N.S |
| Legislators, Senior Officials and Managers | - | - | - | - | - | - | |
| Professionals | - | - | 0 | 0 | 4 | 6.7 | |
| Technicians and Associate Professionals | - | - | 0 | 0 | 5 | 8.3 | |
| Clerks | - | - | 0 | 0 | 1 | 1.7 | |
| Skilled Workers and Shop & Market Sales Workers | - | - | 1 | 1.7 | 10 | 16.7 | |
| Skilled Agricultural & | - | - | 0 | 0 | 6 | 10.0 | |

| Demographic Variables | Satisfactory | | Uncertain | | Unsatisfactory | | Chi-Square Value |
|--|--------------|---|-----------|-----|----------------|------|---|
| | No. | % | No. | % | No. | % | |
| Fishery Workers | | | | | | | |
| Craft & Related Trade Workers | - | - | 0 | 0 | 4 | 6.7 | |
| Plant & Machine Operators and Assemblers | - | - | - | - | - | - | |
| Elementary Occupation | - | - | 0 | 0 | 11 | 18.3 | |
| Unemployed | - | - | 0 | 0 | 18 | 30.0 | |
| Total family income per annum | | | | | | | |
| More than Rs.199,862 | - | - | 0 | 0 | 2 | 3.3 | $\chi^2=4.530$ d.f=6 p = 0.605 N.S |
| Rs.99,931 – Rs.199,861 | - | - | 0 | 0 | 1 | 1.7 | |
| Rs.74,756 – Rs.99,930 | - | - | 1 | 1.7 | 10 | 16.7 | |
| Rs.49,962 – Rs.74,755 | - | - | 0 | 0 | 15 | 25.0 | |
| Rs.29,973 – Rs.49,961 | - | - | 0 | 0 | 13 | 21.7 | |
| Rs.10,002 – Rs.29,972 | - | - | 0 | 0 | 6 | 10.0 | |
| Less than Rs.10,001 | - | - | 0 | 0 | 12 | 20.0 | |
| Type of surgery | | | | | | | |
| Yes | - | - | 0 | 0 | 21 | 35.0 | $\chi^2=0.548$ d.f=1 p = 0.459 N.S |
| No | - | - | 1 | 1.7 | 38 | 63.3 | |
| History of previous cancer treatment | | | | | | | |
| Yes | - | - | 0 | 0 | 2 | 3.3 | $\chi^2=0.035$ d.f=1 p = 0.851 N.S |
| No | - | - | 1 | 1.7 | 57 | 95.0 | |
| When chemotherapy does was started for you? | | | | | | | |
| 2 months | - | - | 0 | 0 | 25 | 41.7 | $\chi^2=3.051$ d.f=7 p = 0.880 N.S |
| 3 months | - | - | 0 | 0 | 3 | 5.0 | |
| 4 months | - | - | 0 | 0 | 9 | 15.0 | |
| 5 months | - | - | 0 | 0 | 5 | 8.3 | |
| 6 months | - | - | 1 | 1.7 | 14 | 23.3 | |
| 7 months | - | - | 0 | 0 | 1 | 1.7 | |

| Demographic Variables | Satisfactory | | Uncertain | | Unsatisfactory | | Chi-Square Value |
|---|--------------|---|-----------|-----|----------------|------|--|
| | No. | % | No. | % | No. | % | |
| 8 months | - | - | 0 | 0 | 1 | 1.7 | |
| 1.5 years | - | - | 0 | 0 | 1 | 1.7 | |
| Do you receive any other treatment modalities along with chemotherapy? | | | | | | | $\chi^2=2.373$ d.f=2 p = 0.305 N.S |
| Chemotherapy | - | - | 0 | 0 | 5 | 8.3 | |
| Radiotherapy | - | - | 1 | 1.7 | 17 | 28.3 | |
| No | - | - | 0 | 0 | 37 | 61.7 | |
| Chemotherapy cycle | | | | | | | $\chi^2=60.0$ d.f=3 p = 0.0001 S*** |
| 3 rd cycle | - | - | 0 | 0 | 43 | 71.7 | |
| 4 th cycle | - | - | 0 | 0 | 11 | 18.3 | |
| 5 th cycle | - | - | 0 | 0 | 5 | 8.3 | |
| 6 th cycle | - | - | 1 | 1.7 | 0 | 0 | |
| 7 th cycle | - | - | - | - | - | - | |

***p<0.001, S – Significant, N.S – Not Significant

5. Summary

The present study was to assess the quality of life among patients undergoing chemotherapy at selected hospital Puducherry. The objectives of the study were,

- To assess the existing level of quality-of-life patients undergoing chemotherapy.
- To associate level of the quality of life among patients undergoing chemotherapy with selected demographic variables.

The review and studies related to life quality among cancer patients receiving chemotherapy was used for preparation of the questionnaire. In this study the researchers used quantitative approach with cross descriptive survey design. The quality-of-life scale was modified into 5-point rating scale by the researchers after several literature reviews. The data was collected among 60 patients who were undergoing chemotherapy by using survey method. The collected data was organised in a master sheet and analysed by using descriptive and inferential statistics.

6. Conclusion

The study results relevant that the most of them are having unsatisfactory level of quality of life while receiving chemotherapy because poor cooperation and high cost of the treatment and also adverse effect of chemotherapy modalities. Finally, the researchers determined the importance's and need for conducting awareness program about treatment and also the scheme availability and accessibility in particular institutions.

Conflict of interest

The authors declare that they have no conflict of interest related to the journal publication of this article.

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