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Assessment of Quality-of-Life in Cancer Patients at Tertiary Care Hospital in North India

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Abstract

Introduction Cancer is a disease that emerges as a result of abnormal cell proliferation and their propensity to spread from one bodily region to another. There are over a hundred different types of cancer that impact individuals all over the world. It is difficult to identify in the early stages, but there are certain warning signals that the cells will turn malignant. Quality of life (QOL) is described by the World Health Organisation as "individuals' perception of life, values, objectives, standards, and interests within the cultural framework of the social environment in which they live and in relation to their goals, expectations, standards, and concerns." QOL assessment in health system is a multidimensional construct that can be measured by evaluating objective levels of health status filtered by the subjective perceptions and expectations of the individual.

Aim and Objective To assess socio-demographic factors and quality of life among cancer patients in tertiary care hospital.

Materials and Methods A hospital-based prospective observational study was conducted at Guru Gobind Singh Medical College and Hospital Faridkot district, Punjab (India). The study was conducted for a period of six months after getting approval from Institutional Ethical Committee (IEC). Generic instrument, SF-36 was used to assess the QOL. The study was analyzed on SPSS version 26.0 software. Descriptive and analytical analysis was used to describe the results.

Results Linear regression was conducted to see the relationship of physical functioning score with age and weight of the patients. The descriptive statistics shows the mean and standard deviation of the variable. The mean of physical functioning score was found to be ($M = 27.82$, $SD = 15.635$). The physical functioning score and age, weight of the patients in linear regression shows that the age and weight explain 17.5%

Conclusion Treatment revealed that severe and moderate activities restricted nearly half of the assessed patients, with body pain interfering with employment and routine activities. According to the findings of the current study, QOL deteriorates as the disease progresses. Cancer unquestionably has a detrimental influence on patients' quality of life, which is connected to the illness process itself, the therapy administered, and the length of the disease.

Keywords
- quality of life
- sociodemographic
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- cancer
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Introduction

Cancer is a disease that emerges because of abnormal cell proliferation and their propensity to spread from one bodily region to another. Cancer symptoms include lump development, irregular bleeding, sudden weight loss, bowel movement changes, and a protracted cough. There are over a hundred different types of cancer that impact individuals all over the world. It is difficult to identify in the early stages, but there are certain warning signals that the cells will turn malignant. The prevention of apoptosis (planned cell death), the stimulation of blood vessel creation, continuous growth and division even when it is not required, and the production of metastases, which spread from the initial location to various secondary sites inside the host's body.[1] On average, one in every 1,000 pregnant women is affected by cancer, which also affects the foetus. The most frequent malignancies discovered during pregnancy include breast cancer, cervical cancer, leukaemia, melanoma, ovarian cancer, and colorectal cancer. Cancer is classified based on the type of cells seen in tumour cells. Carcinoma, lymphoma, sarcoma, germ cell tumour, and blastoma are examples of these cancers. Carcinoma: malignancy that develops from epithelial cells. The carcinoma form of cancer includes breast, lung, prostate, pancreatic, and colon cancer. Sarcoma develops from connective tissue and damages bone, cartilage, fat, and nerve cells. Normally, each cell grows from cells that begin in the mesenchyme. After leaving the bone marrow, hematopoietic cells develop in the blood and lymph nodes, giving birth to lymphoma and leukaemia. Germ cell tumours are produced from pluripotent cells and are difficult to anticipate at an early stage in both the testes and the ovary.[2] Similarly, blastoma arises from embryonic tissue or precursor cells. The terms carcinoma, sarcoma, or blastoma are used as suffixes, while the root is the Latin or Greek name for the organ or tissue of origin. Hepatocarcinoma, for example, refers to malignancies of the liver parenchyma generated from epithelial cells. However, for common cancers, the English names of the organs are used, such as ductal carcinoma, which is the most common cause of death in breast cancer due to metastasis.[3] Cancer is a complex condition, but the main causes are isogenetics and epigenetics. A cell with normal function and growth must be changed in genetics to produce cancer. Infected genes include oncogenes and tumour suppressor genes. Oncogenes stimulate cell growth and reproduction, whereas tumour suppressor genes prevent cell division and survival. Because tumour suppressing genes are disabled, oncogenes are overexpressed, resulting in the conversion of normal cells to tumour cells.[4]

Materials and Methods

Study Area

Department of Oncology in Guru Gobind Singh Medical College and Hospital, Faridkot (GGSMC&H), Punjab, a tertiary care hospital.

Study Duration

The study will be carried out for a period of six months.

Study Design

A prospective Observational study.

Study Data

Demographic characteristics of the patients.

Methodology

Questionnaire is developed and used as a material to collect information, data for analysis, interpretation of results and conclusions. Prospective and Observational study was performed and data was collected according to inclusion and exclusion criteria. A face-to-face interview guided by structured questionnaire with cancer patients was concluded. Generic instrument, SF-36 was used to assess the QOL. The study was analyzed on SPSS version 26.0 software. Descriptive and analytical analysis was used to describe the results. Assessment of QoL was done using SF-36 questionnaire. The SF- 36 contains 36 items combined in eight subscales: 1) physical functioning; 2) role-physical; 3) role emotion; 4) vitality; 5) social functioning; 6) bodily pain; 7) mental health; 8) general health. Two summary measures have been calculated from these eight domains: the Physical health dimension and mental health dimension. SF 36 questionnaire and general information including sociodemographic variables were completed following informed consent to participate in the study. The research was approved by the Ethics Committee for Research.

Results

Age of the Patient

Among 197 number of patients, minimum age of cancer patients was above 25years whereas maximum age was found to be 85years. The mean and standard deviation was observed to be ($M = 56.15$, $SD = 12.546$) years as shown in Table. (►**Table 1**)

In this research, it was observed that role limitations due to physical health score is 47.127, −0.057 and 0.137. Which suggest that if we have patient age and weight, we can calculate their role limitations by physical health score. It was determined that a substantial correlation exists between demographic (age and weight) and Role limitations due to physical health score. Here we got the value of the positive coefficient with age and weight that means an association between both the variable IV and DV is positive. Higher the value of age and weight higher is the Role

Table 1 (A) Descriptive statistics of age

Descriptive statistics of age	Measurement of central tendency
Mean	56.15
Median	57.00
Std. Deviation Skewness Kurtosis	12.546 -0.158 -0.673

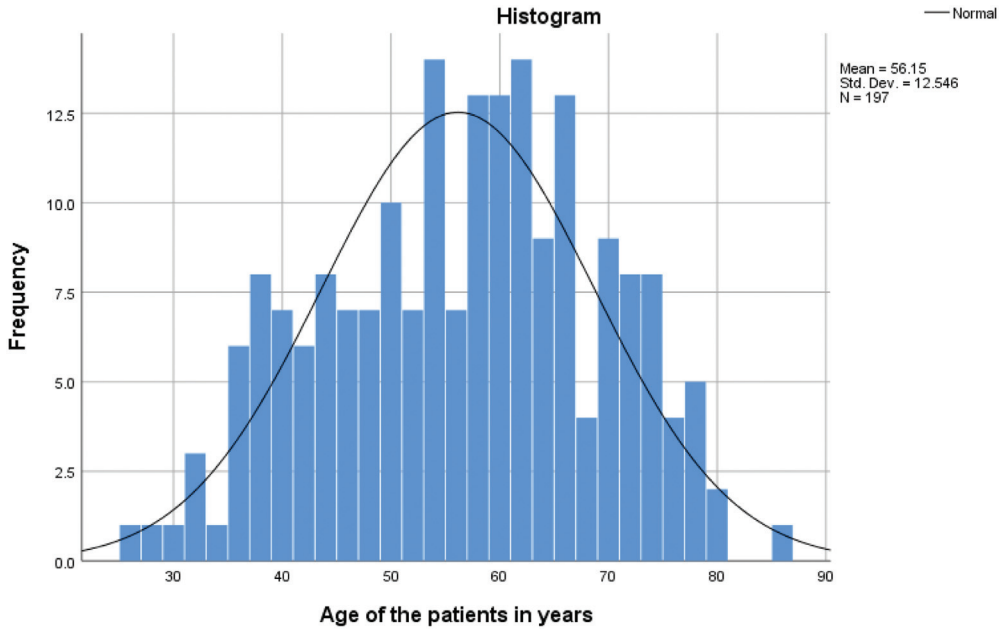

Fig. 1

limitations due to physical health score. Coefficient information is provided in table as both unstandardized and standardized coefficients. (►**Fig. 1**)

Physical Functioning

The model summary of the physical functioning score and age, weight of the patients in linear regression shows that the age and weight explain 17.5% in physical functioning score as R square was found to be 0.175 whereas the value of adjusted R square was found to be 0.166 as shown in table.

Linear regression was conducted to see the relationship of physical functioning score with age and weight of the patients. The descriptive statistics shows the mean and standard deviation of the variable. The mean of physical functioning score was found to be (M = 27.82, SD = 15.635) whereas the mean and standard deviation of the age was found to be (M = 56.15, SD = 12.546), and the mean and standard deviation of the weight was found to be (M = 62.87, SD = 11.583). During the study period, General Health of 197 patients who are under the age of 25-85 year. Mean (M) and standard deviation (SD) was found to be (M = 44.49, SD = 0.568). Skewness and Kurtosis are -0.550 and -0.108, respectively.

The test for normality distribution was performed to check the normality of the final score was found to be significant as per K-S test and S-W test (p= 0.001 and p = 0.001). (►**Table 2**)

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Discussion

There are numerous valid instruments used to measure quality of life in cancer patients. EORTIQ-C30 questionnaire (European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Core Cancer). Health-related quality of life is now considered an important aim in oncology trials. Studies conducted over the years have shown that the assessment of the quality of life in patients with cancer could improve the treatment and even was considered prognostic factor indicating the future directions useful for the implementation effective therapies.[5] So, a multitude of other reasons could be added. Therefore, the question formulated by many researchers becomes evident: to what extent the quality-of-life studies have improved therapeutic outcomes

Table 2 (A) Descriptive Statistics of physical functioning score, age and weight.

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Age	197	26	86	56.15	12.546
Weight	197	40	95	62.87	11.583
Physical Functioning Score	197	5	85	27.82	15.635
Valid N (listwise)	197				

and, ultimately, improve the quality of life of women with breast cancer? Assessing QOL is useful for documenting the patient's perceived burden of chronic diseases, tracking changes in health over time, assessing the effects of treatment and quantifying the return on health care investment. In our study, it was observed that 47.3% % study participants were males and 52.7% were females. Studies conducted by Arnold-Wörner et al. and Srinivas et al. reported that 56.5% and 50% were males, respectively.[6] General health (44.49 ± 19.21) domains had the minimum mean scores indicating that general health domains were the most affected. Bodily pain and social functioning were the least affected domains. Similar findings were reported in a study conducted by Gautam et al., where the overall mean score was 59.47 ± 18.70. These subjective domains are compared by patients to their earlier healthy states so these are always affected.[7]

Conclusion

The SF-36 questionnaire findings were used to measure quality of life in cancer patients. Treatment revealed that severe and moderate activities restricted nearly half of the assessed patients, with body pain interfering with employment and routine activities. Furthermore, physical or mental health impacted patients' social activities the majority of the time and part of the time for more than half of them. The presence of psycho-emotional traumas in patients' histories was found to be positively associated to present physical or emotional difficulties. According to the findings of the current study, QOL deteriorates as the disease progresses. Cancer unquestionably has a detrimental influence on patients' quality of life, which is connected to the illness process itself, the therapy administered, and the length of the disease. The need for repeated hospitalisations, bad emotions, and multiple somatic symptoms that alter over time all greatly diminish cancer patients' quality of life. Patients experience somatic symptoms at all stages of the disease, and they are related with greater disability and decreased quality of life. The elements that have the greatest effect on the incidence of symptoms are the stage of the disease, the treatment cycles, and the length of the disease. Age, gender, education, socioeconomic situation, and living style are among socio-demographic factors that influence QoL. additional research with a bigger sample size and follow-up surveys are needed to deliver additional knowledge in this sector.

Abbreviations

QOL Quality of life EORTIQ-C30 questionnaire European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Core Cancer

Authors Contributions

Mr. Bintoo Sharma is the major contributor to the manuscript writing, and Dr. Ranjeet Kumar given concept of title and review the manuscript, Dr. Amit Sharma, Mr. Harsh Tyagi is the major contributor in editing and drafting the manuscript.

Statement of Ethics

Not Applicable.

Conflict of Interest Statement

The authors have declared that no competing interests exist.

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