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Quality of life of lung cancer patients

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Abstract

Lung cancer is one of the commonest cancers where the individual's quality of life is affected. **Objectives:** To assess the Quality of Life of Lung Cancer patients using quality of life rating scale. **Methods:** The descriptive survey method was used. The study was done among 30 patients of selected hospitals at Calicut, Kerala using EORTC QLQ C-30 quality of life questionnaire version 3 with lung cancer module EORTC- LC-13. **Results:** Findings show that the mean QoL of patients with lung cancer was 52.27, the mean cognitive function 76.70, the mean emotional function 53.70, the mean role functioning score was 40.0, the mean physical functioning was 38.60 and the mean social function score was 36.00. **Conclusions:** The study concluded that there is a decrease in QoL among patients with lung cancer that necessitates newer interventions in the treatment and management.

Keywords: Lung Cancer, Quality of Life, Oncology, Patients, Complications

Introduction

In India, in the last 20 years, behaviors related to lifestyle have resulted in increased cancer burden (Tiwari et al., 2015). The incidence of lung cancer among both genders had increased in Delhi, Chennai, and Bengaluru. The incidence and pattern of lung cancer vary depending on geographic location, ethnicity, and prevalence of smoking (Malik and Raina, 2015).

Quality of Life has been the endpoint for treatment comparisons in advanced cancer and a primary indicator of disease advancement. Quality of life depends on factors like functional stress, impairment, perceptions, and social opportunities (Heydarnejad, 2011). In a study conducted in Boston among 151 patients with metastatic nonsmall-cell lung cancer showed that prompt palliative care leads to improved QoL and longer survival than other patients who receive standard care (Temel et al., 2010).

A descriptive study (Ma et al., 2014) was done in 376 patients with advanced lung cancer who has never received chemotherapy. The patients were from 43 centers. The tools used were the Functional Assessment of Cancer Therapy-Lung (FACT-L) scale and Cloud QOL System. The result of the study showed a significant correlation between QoL and symptoms. Symptoms like loss of appetite, difficulty in breathing, and cough were identified. The study concluded that these symptoms had a negative effect on QoL. A similar descriptive study (Akin, 2010) was done in 154 patients with lung cancer undergoing chemotherapy. The tools used were the Memorial Symptom Assessment Scale and the Quality of Life Index-Cancer Version. The physical symptoms identified in this study were lack of energy, loss of appetite, pain, and nausea. Emotional symptoms like nervousness, insomnia, sadness, and worrying were identified. It is shown that as the symptom distress increases and quality of life score decreases. Females and those belonging to low-income groups experienced more symptom distress. The patients need frequent evaluation and rendering constant support.

Stigma, depression, and QoL were studied in 192 patients with lung cancer using online questionnaires. There is a negative impact on QoL due to stigma. There was no significant difference between smokers and no smokers. The study concluded that depression and lung cancer stigma have a role in making variations in the quality of life (Cataldo et al., 2012).

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Staff nurses are important in an oncology care unit as they try to create a therapeutic setting by environmental manipulations. Environmental manipulation may be curative, reduction of factors contributing to patient's problems, and even counseling. As a nurse, they should understand QoL from the patients' perspective. European Organization for Research and Treatment of Cancer (EORTC) scale enables us to get a perspective of QoL of patients and their needs. This study aims to create awareness on QoL and provide insight into measures that help increase patients' well-being and help nurses to deliver quality nursing care.

Objective

The objective of the study was to assess the Quality of Life of Lung Cancer patients using QoL rating scale.

Materials and Methods

Permission was obtained from the Quality of Life Unit, European Organization for Research and Treatment of Cancer (EORTC) Data Center, Brussels, Belgium.

EORTC-QLQ C30 quality of life questionnaire version 3 with lung cancer module EORTC- LC 13 was used for this descriptive survey (Bergman et al., 1994). The study was undertaken in selected hospitals of Calicut among 30 Lung Cancer patients. The patients were admitted to the hospital with the disease or associated discomfort, were taking chemotherapy from daycare units or attending the outpatient department. Patients who were disoriented or unconscious, not aware of their illness, unable to communicate to the researcher due to physical constraints (lack of time, anxiety, critically ill, pain, and discomfort of the patient) were excluded.

The EORTC QLQ-C30 is aimed at cancer patients and is supplemented by tumor-specific questionnaire modules for Lung Cancer (QLQ-LC13). Questions from those questionnaires relate to the functioning of subjects, the severity of symptoms, economic difficulties associated with disease and treatment, and overall QoL. The QLQ-C30 is composed of both multi-item scales and single-item measures (Aaronson et al., 1993). These include five functional scales, three symptom scales, a global health status / QoL scale, and six single items. The functioning of subjects is assessed in physical functioning, role functioning, emotional functioning, cognitive functioning, and social functioning areas. The symptoms specific for lung cancer questionnaire asks about the symptoms such as dyspnea, cough, hemoptysis, loss of appetite, fatigue, diarrhea, constipation, sleep disturbance, pain, difficulty with swallowing, nausea and vomiting and hair loss. The score ranged from 0 to 100. A high score for a functional scale represents a high level of functioning, a high score for the global health status / QoL represents a high QoL. A high score for a symptom scale represents a high level of symptomatology/ problems (Fayers et al., 2001).

Lung cancer patients admitted to these hospitals with the disease or associated discomfort or taking chemotherapy from Daycare units, or attending the outpatient department was taken for study. Ethical clearance was obtained from the selected hospital's institutional review board (Institutional Ethics Committee, Malabar institute of medical Sciences Ltd, Reg. No. ECR/301/inst/KL/2013). Patients with lung cancer who were disoriented or unconscious, not aware of their illness, and unable to communicate to the researcher due to physical constraints were excluded. To preclude issues of confidentiality, a pseudonym was chosen for each participant by the researcher. The self-reporting technique was used with a structured interview schedule. After a brief self-introduction about the study, the investigator established rapport with the subjects and assured the confidentiality of the responses. Written informed consent was collected from all patients. The investigator recorded the responses of the subjects. The analysis was done using SPSS 16 version.

Results

Out of 30 samples, most, 13 (43.3 %) of the patients were of 56-65 years, 25 (83.3%) were males. Most 15 (50%) of them were diagnosed between the last 6 months to one year, and 7 (23.3%) were diagnosed within the last 6 months. There were 8 (26.7%) with the disease duration of 1-3 years. Out of the 30 samples selected, 21 (70%) had a history of smoking. Among them, 16 (76.2%) were ex-smokers, and 1 (4.8) % was an occasional smoker, and 4 (19%) were frequent smokers. About 3(14.3 %) smoked cigarettes for <30years, a majority 13 (61.9%) smoked for 30-50 years, and 5(23.8%) smoked for >50 years. Most 7(33.3%) of the patients had started smoking at the age of 18-20 years, and 6 (28.6%) had started at 15-17 years, and about 2

(9.5%) had started smoking at an age less than 15 years old. About 6 (28.6%) had smoked equal to or above 20 years. Among the smokers, 9 (42.9%) used to smoke </= 10 cigarettes per day,9 (42.9%) used to smoke 11 to 20 cigarettes per day, and 3 (14.2%) of them used to smoke > 20 cigarettes per day. Most- 9 (42.9%) of them had quit smoking within 1 year. About 6 (28.5%) of them quit about 1-3 years back.

Among the 30 samples, about 5 (16.7%) had passive smoking, and 25 (83.3%) did not have any history of passive smoking. About 20 (66.7%) had occupational exposure, and 10 (33.3%) had no history of occupational exposure to gas, fumes, and dust. Only 1 (3.3%) patient was an industrial worker, and 29 (97%) had other types of occupation. About 15 (50%) had a family history of cancer.

About 15 (50%) patients with lung cancer had reported pain in the chest, 20 (66.7%) had cough and dyspnea. Only 8 (26.7 %) patients had hemoptysis. Most 17 (56.7%) of the patients had no voice problems. Among the patients, only 12 (40%) and 36.7% had stomatitis, and dysphagia respectively. Majority 28 (93.3%) had fatigue, 12 (40%) had recurrent chest infections. Majority 23 (76.7%) had peripheral neuropathy. Among the samples, 15 (50%) of them had alopecia, most 20 (66.7%) had pain in the arm or shoulder. Majority 24 (80%) had pain in other parts (throat and back).

About 19 (63.3%) received only chemotherapy, and 8 (26.7%) received had mixed therapies. Only 1 (3.3%) had undergone surgery for lung cancer, and 2 (6.7%) currently had only symptomatic treatment. Majority 28 (93.3%) were satisfied with the treatment they receive, and 2 (6.7%) were not satisfied with the treatment they received.

Table 1:

Quality of life of patients with Lung Cancer

Areas (N=30)	Mean	SD
Global health status/QoL	52.2	16.7
Functions		
Cognitive functioning	76.7	22.5
Emotional functioning	53.7	23.4
Role functioning	40.0	28.5
Social functioning	36.0	22.3

Table 1 shows that the mean quality of life of patients with Lung Cancer was 52.2. A marked decrease in quality of life in all functional areas except in cognitive function is noted.

Table 2:

Symptom scores of patients with Lung Cancer

Symptoms (N=30)	Mean	SD
Dyspnea	46.3	25.7
Cough	38.8	31.7
Hemoptysis	6.6	13.4
Sore mouth	16.6	25.8
Dysphagia	22.2	29.5
Peripheral neuropathy	41.1	30.0
Alopecia	38.8	41.1
Chest pain	33.3	34.0
Pain in arm or shoulder	41.1	34.7
Pain in other parts	41.2	37.9

Table 2 shows that the mean symptom scores of patients with Lung Cancer using QLQ LC -13. The mean score of scale dimensions ranged from 6.6 for hemoptysis to 46.3 for dyspnea. The more pronounced symptoms have a high mean score. Dyspnoea, pain on parts of the body other than arm and shoulder, followed by pain in arm or shoulder, were the most significant symptoms with mean scores of 46.3, 41.2, and 41.1, respectively. The QLQ-LC 13 scores of hemoptysis, sore mouth, and dysphagia were lower and less common.

The item 13 of the QLQ LC 13 scale is used if answered as yes' to medication intake. About 22 (73.3%) of the selected patients used pain medications, and 8 (26.7%) had not used any pain medications. Of the 22 samples which used pain medications, it was found to be helpful by many. The mean score for how far the pain medication was helpful was 65.45, with a standard deviation of 33.05. A score of 100 denotes 100% helpful.

Discussion

In this study, physical, social, and role functioning was not satisfactory compared to emotional function. The mean scores of physical, cognitive, and social functions and role performance in this study ranged from 36 to 76.7. The mean score of emotional function was 53.7. Cognitive function has a high mean of 76.7. The present study shows a marked decrease in quality of life in all functional areas except in cognitive function.

A study conducted by (Sawada et al., 2009) in Brazil to assess the QoL of 30 patients with cancer receiving chemotherapy using the EORTC QLQ-C30 questionnaire showed that mean scores of physical, cognitive and social functions and role performance ranged from 71.26 to 75.12. The mean score of emotional function was 55.46. On the symptoms scales, the mean score of 34.44, with the score for pain 23.33 and fatigue, was 22.31. The study concluded that the QoL was satisfactory except for the emotional function.

Another study was done (Benbrahim et al., 2016) in Morocco among 497 lung cancer patients. 91.8% of patients were males, and 76.9% were in stages III and IV cancers. The mean score of social functioning was 77.7, which was significantly higher. For the QLQ-LC13, Moroccan patients showed severe symptoms, especially for dyspnea, cough, and chest pain.

In this study, on the symptom scales of QLQ-LC 13 the mean hemoptysis score was 6.6 to mean dyspnea score 46.6. The patients showed severe symptoms for dyspnea, pain on parts of the body other than arm and shoulder, followed by pain in arm or shoulder were the most significant symptoms.

In another study (Hechtner et al., 2019) done in 657 non-small cell lung cancer patients using the EORTC tool shows poor global QOL. The main factor of poor QoL is mental distress, ongoing treatment, respiratory comorbidity, living on a disability pension. Better QoL is seen among people belonging to high-income groups and who are physically active.

In this study, the QoL in lung cancer patients is found to be low except in the cognitive domain, and this result show that supportive care is required for these populations. Furthermore, a prior assessment of QoL at the starting of their treatment provides baseline data for health professionals and can be used to see the variation in perceived QoL in later years.

Conclusions

The assessment of the quality of life in any cancer patients can serve as a baseline to assess the prognosis and survival. These assessments will help to develop new interventional research to prevent the illness, to promote health, and to alleviate the suffering. Many areas in the promotive, as well as restorative healthcare practices for patients with different stages of cancers undergoing different treatments in lung cancer, must be explored. Advanced studies will empower nurses to produce a therapeutic environment to overcome the disease.

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