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QUALITY OF LIFE AMONG COPD PATIENTS : CROSS SECTIONAL STUDY IN TERTIARY CARE HOSPITAL OF ASSAM.

Nursing

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ABSTRACT

Background: Chronic obstructive pulmonary disease (COPD) is an obstructive lung disease which progressively decreases lung function. It adversely affects health related Quality of life among the population. This study was aimed to assess the quality of life among COPD patients and its association with socio demographic variables. **Materials and method:** Descriptive survey design was used with 30 subjects having COPD to assess QoL using 'COPD Assessment Test (CAT) score'. Socio-demographic data was recorded. The severity of dyspnea was assessed using 'Modified Medical Research Council Dyspnea Scale (MMRC)'.**Results:** QoL of COPD patients measured with CAT score showed that 46.67% of the population had fair QoL whereas 30% of them had poor QoL. There was significant association of QoL with gender. Significant association of QoL with smoking habit was found. Significant correlation between CAT score and MMRC Dyspnea scale was found indicating relation between QoL and level of dyspnea among COPD patients.**Conclusion**: In the present study, it was found that smoking habit and level of dyspnea has impact on QoL among COPD patients.

KEYWORDS

Quality of life, Chronic obstructive pulmonary disease COPD, COPD assessment Test (CAT) score.

Background:
COPD is one of the leading causes of morbidity and mortality in the world with a progressive deterioration and disability among the patients. In 2012, it ranked as the third leading cause of death, killing over 3 million people[1]. It is projected to become the third leading cause of death worldwide by 2030.[2]

COPD is a non curable disease, which progressively reduces breathing capacity and impairs patients' ability to carry out activities of daily living, thereby adversely affecting health-related quality of life (HRQOL).[3] Therefore, the treatment of patients with COPD and hypoxemia focuses primarily on relieving the symptoms of the disease, particularly dyspnea, reducing the need for hospital stays and improving or stabilizing health-related quality of life (HRQOL).[4]

In India more than 30 million victims suffer from serious respiratory conditions such as COPD and the number is fast increasing. [5] Also smoking causes 80% of COPD cases and with India being home to 250 million smokers, the risks are tremendous. Exposure to biomass fuel is another important cause. [6,7]

Many studies have been conducted across the world to study the HRQOL of COPD patients and the factors affecting it. However, studies from India and other developing nations are far fewer in number. The consequence of COPD on daily life, encapsulated by the term Quality of Life (QoL) are important in determining appropriate hospital and home based care for those patients. So taking these into consideration, a study was conducted to assess the Quality of life among COPD patients in a hospital setting.

Objectives of the study:
1. To assess the quality of life (QoL) among COPD patients by using the CAT Score.
2. To determine association of QoL among COPD patients with the selected variables like age, gender, socio-economic status, smoking habits and dyspnea.
3. To co-relate the CAT Score with the MMRC Dyspnea Scale.

Materials and methods:
This study was a Descriptive Cross sectional Research with 30 subjects admitted in Pulmonary Medicine ward of Gauhati Medical College & Hospital (GMCH), Assam.

Patients of age >18 years who are diagnosed with COPD and are admitted under Pulmonary Medicine ward in GMCH, Guwahati and able to give consent were included in the in the study. Patients who had history of other chronic lung diseases like tuberculosis, bronchiectasis, asthma, interstitial lung disease and any malignant condition and who were not willing to participate in the study were excluded from the study. Ethical approval was obtained from Institute ethical committee. The study subjects were selected using Purposive sampling technique. Subjects were informed about the nature and consequences of the study and their consents were taken. All the subjects diagnosed with COPD were assessed for their HRQOL using the COPD Assessment Test (CAT).

CAT Score is a patient completed questionnaire assessing the impact of COPD on health status. There are total eight number of items with unidimensional domain. Scaling of items is from 1 to 5 and scoring range is 0 to 40. Higher score denotes a more severe impact of COPD on the patient's life.

Other tools for data collection were for Demographic Data and Modified Medical Research Council (MMRC) Dyspnea Scale.

Modified Medical Research Council Dyspnea Scale stratifies severity of dyspnea in respiratory diseases, particularly COPD. It provides a baseline assessment of functional impairment attributable to dyspnea from respiratory diseases. It correlates with healthcare-associated quality of life, morbidity, and possibly mortality for patients with respiratory diseases (particularly COPD) and has been used for almost two decades in multiple different heterogeneous patient populations. It correlates with other clinical and research dyspnea indices. Inter-rater reliability of MMRC is very high.

Demographic data included age, sex, socioeconomic status, marital status and smoking habit

Statistical analysis:
Statistical analysis of data was performed using SPSS (Statistical package for social sciences) version 20. Descriptive statistics was used to calculate the percentage distribution of population according to demographic variables. To calculate the association of quality of life among COPD patients with demographic variables chi square test was used. Correlation between CAT score and MMRC Dyspnea scale was calculated using Pearsons Correlation Coefficient.

Result:
Fig 1 shows percentage distribution of gender which depicts 76.67% of the population was male and 23.33% were female. 43.3% of population was between 50-59 years of age, 30% were > 60 years of the age, 10% of population was between the age of 30-39 years and 16.67% of population was between the age of 40-49 years.

56.67% of population was smokers whereas 43.33% population was non smokers.

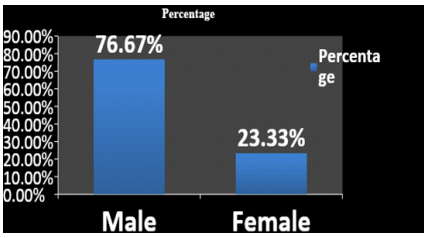

Fig 1: Bar diagram showing Percentage Distribution of Gender

N=30

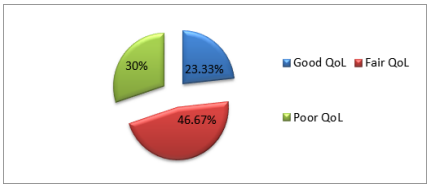

Fig2: Pie chart showing QoL as measured by CAT score

QoL of COPD patients as measured by CAT Score shows that 46.67% of population had fair QoL, 30% had poor QoL whereas 23.33% of population had good QoL.(fig 2)

On assessing Dyspnea by MMRC Dyspnea Scale, it was found that 43.33% of the population had 'grade 2' dyspnea, 30% had grade 3,13.33% had grade 1 , 6.67% had grade 4 and 6.67% had grade 0 level of Dyspnea.

On assessing the association of QoL with demographic variables it was found that, there was association of QoL with gender ($p<0.01$). Significant association was found between QoL and smoking habit ($p<0.01$). There was no association of QoL among COPD patients with age and socioeconomic status. Significant correlation was found between CAT score and MMRC Dyspnea scale.(**r=1.085 p=0.001). It indicates that QoL among patients is affected by level of dyspnea.

DISCUSSION:

Quality of life is adversely affected with chronic disease like COPD and it significantly deteriorates as the disease progresses. Increasing severity of COPD is associated with increase CAT score.

In the present study there was no association between QoL among COPD patients with respect to age. ($p<0.01$). Fletcher and Peto reported in their study that COPD is characterized by accelerated decline of FEV(Forced expiratory volume) with age.[8] Significant association of QoL among COPD patients was found with gender in the present study. 76.6% of the population were male. The high prevalence of COPD in males is due of smoking and male are more exposed to smoking than female.[9]

In the present study significant association was found between QoL and smoking habit. Various studies have reported that cigarette smoking is the most important risk factor for COPD.[10] Positive correlation was established between CAT Score for QoL and MMRC Dyspnea Scale.

It has been reported in various studies that smoking cessation has shown to improve QoL score and reduction of COPD related symptoms.[11] This signifies the importance and neccesity of interventions related to smoking cessation for proper management of COPD and improve patient's QoL.

Conclusion:

The present findings show the influence of gender and smoking habits on the QoL in patients with COPD. Moreover, due to their good correlation, CAT and MMRC Dyspnea Scale can be useful tools to measure health status during an exacerbation and to evaluate recovery in the hospital settings.

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