A STUDY TO ASSESS THE PERCEIVED FATIGUE AND QUALITY OF LIFE AMONG PATIENTS WITH COPD IN KMCH, COIMBATORE.

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A DISSERTATION SUBMITTED TO THE TAMILNADU DR.M.G.R.MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILLMENT OF REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

APRIL 2012

CERTIFICATE

This is to certify that the dissertation entitled **A STUDY TO ASSESS THE PERCEIVED FATIGUE AND QUALITY OF LIFE AMONG PATIENTS WITH COPD IN KMCH, COIMBATORE,** is submitted to the faculty of Nursing, **The Tamilnadu DR.M.G.R. Medical University**, **Chennai** by **Ms.NEETHU MATHEWS** in partial fulfillment of requirement for the degree of Master of Science in Nursing. It is the Bonafide work done by her and the conclusions drawn are her Own. It is further certified that this project or any part thereof has not formed the basis for award of any degree, diploma or similar titles.

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CHAPTER-I

INTRODUCTION

World is presently facing the global problem of environmental pollution,due to urbanization,industrialization and increased use of vehicles,which pollutes the environment.Environmental pollution adds on to the risk of development of Chronic obstructive pulmonary disease(COPD), commonly existing disease of the lungs in which the airways become narrowed.

COPD is projected to be the 4th leading cause of death worldwide by 2030 due to an increase in smoking rates and demographic changes in many countries .The economic burden of COPD in U.S in2007 was $42.6 billion in health care costs and cost productivity. In India COPD is equally, prevalent in rural and urban areas .Males are more affected than females .

In India COPD is one of the most common lung disorders secondary to pulmonary tuberculosis.COPD constitutes nearly 25-30% of cases.In England,an estimated 842,000 of 50 million people were diagnosed to have COPD. It is prevalent world over and the disease is so common in western countries thus at one time it was known as the “The Englishman’s Disease”.

Kay,A.B (2011) explains that allergy rates are high in all industrialized areas among which Coimbatore being an industrial city is also a target place. COPD encompasses chronic obstructive bronchitis with the obstruction of small airways,with enlargemuent of air spaces and destruction of lung parenchyma,loss of lung elasticity and closure of small airways.Black,J.M (2009)

Boulangerl, M.J et al.,(2008) states that Chronic Pulmonary disease poses enormous burdens to society both interms of direct cost of health care services and indirect costs to society through loss of productivity.The exact prevalence of COPD is difficult to determine because of the problems with definition and coding,despite the high prevalence and enormous cost to health care society.COPD is thought to be a self inflicted disease and affects more elderly people.COPD is not such an obvious killer like lung cancer therefore receives a less emotional response.

Lewis,S.M et.al.,(2007) describes that COPD mainly occurs due to environmental pollution,industrialization,smoking tobacco,mining and mill dust exposure,over crowding. The chronic nature of the illness lead an individual to loose control over his own life and they become dependent and experience low esteem and social isolation which affects their quality of life. Carolyn and Lynn(1996) states that among the respiratory diseases, COPD is the commonest disease.Chronic obstructive lung disease is a general term refers to number of chronic pulmonary conditions,the main diseases include chronic bronchitis and emphysema.

High levels of Fatigue is a common feature among patients with COPD.It can be described as the lack of energy and motivation(both physical and mental).It is the weariness from bodily labour or mental exertion; lassitude or exhaustion of strength. It may be aggravated by COPD, physical and emotional aspects of work environment, worries or mental conflict. Fatigue is a state of awareness describing a range of afflictions, usually associated with physical or mental weakness, though varying from a general state of lethargy to a specific work-induced burning sensation with one's muscles.

Golring,J.J et. al.,(2009) states that increased perception of fatigue in COPD was associated with reduced health status.Bidgood,P.L(2009) explains that fatigue in COPD impairs functional status and all dimensions of fatigue were higher in COPD. Mador, M.J and Jobin, J (2000) reported that contractile fatigue of the quadriceps muscle occurs after cycling exercise in patients with COPD.Leg fatigue is commonly seen in patients with COPD.

Lindberg,A et.al; (2005) states that quality of life in COPD deteriorates with disease severity which was obtained by lung function test and with age. Many patients are suffering from COPD these days. Knowledge on life style modification is essential for all patients to prevent the risk of complications in future. WHO warns that a sedentary life style, inadequate physical activity, smoking status, gender, age and socioeconomic group are the components of a life style which contributes to ill health and eventually to death.

Pulmonary function test is a worldwide used test to assess the lung function. They are used to diagnose, assess the functional impairment, and monitor treatment or progression of disease. Airway narrowing, lung volume and gas exchange capacity are quantified and

compared with normal values adjusted for age,gender,height and ethnic origin. The main parameters are FEV1, FVC and FEV1/FVC ratio. It specifically measures the amount (volume) and speed (flow) of air that can be inhaled and exhaled.

NEED FOR THE STUDY

Coimbatore, well known for cotton mills, is also known as the Manchester of Southern India. The people who are residing in Coimbatore are constantly exposed to fine dust contributes to respiratory disorders mainly COPD.

In K.M.C.H, Coimbatore nearly 50 COPD patients attend the outpatient department every month. Generally all the COPD patients have breathing difficulty on exertion and shallow breathing and thus to sweep off the CO2, accessory muscles are used for breathing.

Ravery,R et. al.,(2009) conducted a study regarding the determinants and impact of fatigue in patients with COPD.Their objectives were to investigate increased fatigue related to physical inactivity and COPD exacerbation. They conducted a study in 107 COPD patients within a range of 43-86yrs by using functional assessment of chronic illness Therapy-fatigue scale, Centre for Epidemiological Studies Depression Scale. Then the results showed that the perception of fatigue is increased in patients with COPD.

Miravitles,M et al.,(2007) have conducted a study on factors determining the quality of life in patients with COPD in primary care facility. Their objectives were to describe the health related quality of life among COPD patients in primary care. The samples were divided into two sub-groups; high and low quality of life and they used ST.George Respiratory Questionnaire to measure quality of life. The study concluded that COPD controlled in primary care demonstrated impairment in quality of life

STATEMENT OF THE PROBLEM

A study to assess the perceived fatigue and quality of life among patients with COPD in KMCH, Coimbatore.

OBJECTIVES

The objectives of the study were to

1. assess the perceived fatigue and quality of life among patients with COPD.

2. identify the relationship between perceived fatigue with quality of life.

3.associate the pulmonary function test measures with perceived fatigue and quality of life.

4.associate the clinical variables with pulmonary function test measures

OPERATIONAL DEFINITION

Fatigue

The subjective report of weariness or exhaustion from labour, exertion or stress as measured by multidimensional fatigue symptom inventory-short form (MFSI-SF).

Quality of life

It is a perceived report of on how much the COPD affects the life of patients as measured by Medical outcome studies short form 36 item questionnaire [SF-36].

Chronic Obstructive Pulmonary Disease

It is characterized by chronic airflow obstruction of lungs and is irreversible which is diagnosed through pulmonary function test.

Pulmonary Function Test

It refers to a group of procedures that measure the function of the lungs; gas exchange capacity, monitor treatment and progression of disease .The main parameters are FEV1, FVC and FEV1/FVC ratio. It specifically measures the amount (volume) and speed (flow) of air that can be inhaled and exhaled.

ASSUMPTION

Breathlessness associated with COPD imposes activity limitation.

CONCEPTUAL FRAMEWORK

Conceptual framework for this study was developed on the basis of Martha Roger's Science of Unitary Human Beings. She presented her evolutionary model in 1970 with the publication of an introduction to the theoretical bases of nursing. Her concepts were derived from the view of the universe as a collection upon systems of which we interact independently and continuously.

According to Martha Rogers, human being is a unified whole possessing his own integrity and manifesting characteristics that are more than and different from the sum of his parts.

Martha Roger's model describes the concept by identifying the attributes, their antecedent. Each aspect represents the specific aspects of quality of life.Antecedants and consequences are defined by Rogers as "situations, events or phenomenon that directly precede or follow an example of the concept"

In the present study the attributes used by the investigator were the physical health, mental health and fatigue .Under physical health, pain and general health. Under mental health the 4 domains included were role limitation due to emotional problems, energy/fatigue, emotional well being and social functioning. Under the fatigue the components are General, Physical, Emotional, Mental and Vigor.

Physical components: Includes characteristics such as self-care, physical, social, role activities, bodily pain and tiredness.

Mental components: This refers to psychological stress, social and role disability due to emotional problems

Fatigue components: It includes fatigue such as general, physical, emotional, mental and vigor.

These domains and their sub facets determine the overall quality of life and perceived fatigue. It is evident that each domain and their sub facets are interrelated independently and continuously.

Antecedents represent the information collected from the respondents regarding the demographic variables and clinical profile namely Age, Education, Occupation,Habit of smoking and History of allergy.

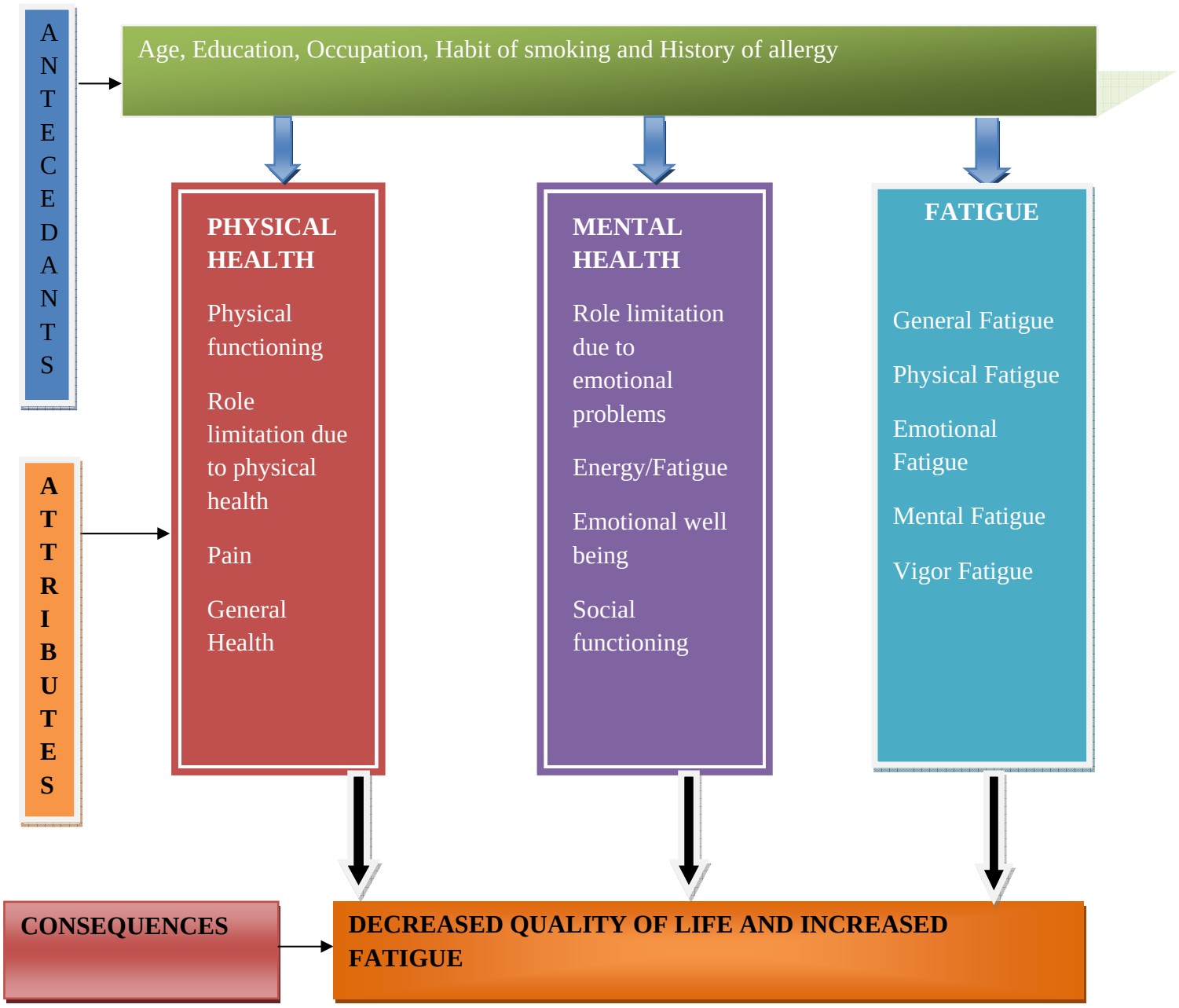

Figure 1.Conceptual Frame Work Based on Modified Martha Roger's Science of Unitary Human Being (1970)

CHAPTER-II

REVIEW OF LITERATURE

The review of literature entails systematic location, scrutiny and over view of materials that contains information pertaining to the study. An extensive review of literature was done to develop a strong knowledge base and insight for laying the foundation relevant to the present study.

This chapter deals with a broad view of related studies in India and abroad.

Literature reviewed as follows.

1. SECTION A: Literature related to patients with COPD

2. SECTION B: Literature related to fatigue among patients with COPD

3. SECTION C: Literature related to quality of life among patients with COPD\

SECTION A: LITERATURE RELATED TO PATIENTS WITH COPD

Makker et.al.,(2009)conducted a study on prevalence and predictors on breathlessness on bending down in COPD patients. They conducted a cross sectional study on 62 stable COPD patients. They used Global Initiative for Obstructive Lung Disease (GOLD) and Modified Research Council (MRC) scales and prevalence of shortness of breath and bending down was assessed by questionnaire .The result showed that there was a significant association of self-reported breathlessness on bending forward with baseline score of Medical Research council (MRC) grade (2.70, p=0.008), but no association with age, sex, BMI, smoking or FEV1. The study concluded that breathlessness on bending down is a common symptom in COPD.

Papandreon et.al.,(2008)conducted a study on impact of age in clinical expression of COPD in Greek patients. The purpose of their study was to investigate age related difference in COPD patients. The participants were 136(mean age 65years).they measured by using Spirometry,Body Mass Index(BMI) and Health related quality of life according to SGRQ and SF-12 Questionnaire and their result showed that no significantly association was found between Health Related Quality of Life (HRQL)and SGRQ scores [symptoms scale (p=0.480) activity scale (p=0.520), impact scale (p=0.690) and total score (p=0.670)] or SF-12 scores [PCS (p=0.335) and MCS (p=0.054)] at different age groups. It was concluded that HRQL was not associated with age in population and younger Greek population with COPD had worse general health status than older people.

Cucak et.al., (2007) have conducted study on fatigue severity and health related quality of life in elderly COPD patients. The objective of the study was to assess the degree of fatigue severity in COPD outpatients settings at home based and its relationship with patients health related quality of life and the number of patients were 36 with mean age 70.5years. They used standardized fatigue scale and total fatigue score. HRQL as measured by ST.George Respiratory Questionnaire. The result showed that the highest degree of correlation was noticed between PFS and the SGRQ symptoms domain and 15D scores ($r= 0.523$, $p = 0.01$ and $r = -0.776$, $p < 0.01$, respectively).The study concluded that fatigue in elderly COPD patients and clearly impaired their health related quality of life.

Pajares et.al., (2007) was conducted a study for the purpose to assess the impact of COPD in physical and psychological functions. Their objectives were to assess the impact of COPD to rule out in fatigue, quality of sleep, activities of daily living and psychological aspects. Total number of participants was 408. They used COPD and Asthma Fatigue Scale COPD and Asthma Sleep Impact Scale, Hospital Anxiety and Depression Scale and Socio-demographic and Clinical data. The result showed that COPD has a great impact on different aspects on health status.

Batura et.al.,(2006) was conducted a study on co- morbidities in COPD and their prevalence and correlation with BODE Index. Their objectives were to evaluate prevalence of concomitant diseases and its correlation with BODE Index and to determine which co-existing diseases may had highest negative influence on COPD. The number of participants was 129.

They used self- prepared Questionnaire and BODE Index. The result showed that subjects with higher scores in BODE index had higher prevalence of COPD exacerbations ($p<0.05$).The study concluded that high prevalence of co-morbidity and their influence on COPD exacerbation and hospitalizations and which may increase risk of mortality.

Fernanda et.al.,(2006) were conducted a study regarding the quality of life measured with Generic Instrument (short form 36) improves following pulmonary rehabilitation in patients with COPD. The purpose of the study was to evaluate the effect of 3weeks comprehensive pulmonary rehabilitation programme of quality of life in patients with COPD. The numbers of participants were 37. The scales used were Health Status Index (sf-36) and 6 min walk test completed before and after rehabilitation. The result showed that quality of life has been improved followed by an intensive 3 weeks pulmonary rehabilitation programme on COPD patients.

Katsura et.al., (2005) were conducted a study on the impact of dyspnoea and leg fatigue during exercise on Health Related Quality of Life in patients with COPD. The objectives of the study were to assess whether dyspnoea and leg fatigue during exercise affect the HRQL patient with COPD. The participants were 90 patients with stable COPD by using ST.George Respiratory Questionnaire , Pulmonary Function Testing, Arterial Blood Gas Analysis and 6 min Walking Distance (6MWD). The result showed that the degree of dyspnoea and leg fatigue during exercise was influenced by HRQL of patients with COPD.

Ergstrom et.al., (1996) were conducted a descriptive and comparative study on functional status and well being in COPD with regard to clinical parameters and smoking. The objective of the study was to measure the functional and affective consequences of COPD. The numbers of participants were 68 COPD patients. They used Mood Adjective Check List (MACL) and Hospital Anxiety and Depression Scale (HAD). The result showed that quality of life was not significantly affected in patients with mild to moderate loss of pulmonary function due to copying or pulmonary reserve capacity it also suggested that self assessment questionnaire for limited value for detecting consequences of COPD.

SECTION B: LITERATURE RELATED TO FATIGUE AMONG PATIENTS WITH COPD

Donaldson et.al., (2011) conducted a study regarding the effect of breathing exercises to reduce the fatigue intensity in COPD patients. They took 60 COPD patients in which 30 in the breathing group and 30 in the control group. Then they taught pursed-lips breathing, diaphragmatic breathing and effective coughing, 4 times a day for 10 days. Then the result showed a reduction in the fatigue intensity among COPD patients and there was a meaningful reverse relationship between the fatigue intensity and the rate of respiratory exercises and also showed that it was the change of respiratory pattern that caused the reduction of fatigue intensity in COPD patients.

Baltzan (2010) conducted a study regarding the prevalence and effect of fatigue in COPD on outcomes in pulmonary rehabilitation. They conducted an observational study on randomized control trial among COPD patients. The participants were undergone 3 months of pulmonary rehabilitation including education and exercise training. They used St. George's and Chronic Respiratory questionnaires (SGRQ, CRQ) and the response to pulmonary rehabilitation was evaluated using changes in these measures at 3 months and 1 year after entry. The result of the study showed that high fatigue patients were younger, had more depressive symptoms, greater dyspnea and poorer SGRQ scores ($p < 0.01$). The study concluded that high levels of fatigue are a common feature among COPD patients and they have a lower exercise capacity and poor health status and they got benefitted from pulmonary rehabilitation.

Wong, et.al.,(2010) was conducted a study regarding fatigue in patients with COPD participating in a pulmonary rehabilitation programme. They selected 42 pulmonary rehabilitation participants with COPD and measured the dimensions of fatigue using Multi dimension Fatigue Inventory, anxiety and depression scale and sleep quality using the Pittsburgh sleep quality index. The result of the study showed that almost all (95.3%) participants experienced high levels of physical fatigue. High levels of fatigue were also reported for the dimensions of reduced activity (88.1%), reduced motivation (83.3%), mental fatigue (69.9%),

and general fatigue (54.5%).They have concluded that fatigue was experienced by almost all participants with COPD attending this pulmonary rehabilitation programme.

Lewko et.al., (2009) conducted a study regarding evaluation of psychological and physiological predictors of fatigue in patients with COPD.They selected 74 COPD patients and age between 49-87 yrs. They used Multidimensional Fatigue Inventory (MFI -20) and also assessed lung function, BMI and muscle strength. The result showed that significant differences ($p < 0.01$) were found between the COPD and healthy subjects for all MFI 20 dimensions.The study concluded that all dimensions of fatigue were higher in COPD than healthy aged subjects.

Ravary R.B et.al.,(2009) conducted a study regarding the determinants and impact of fatigue in patients with COPD.Their objectives were to investigate increased fatigue related to physical inactivity and COPD exacerbations. They conducted study in 107 COPD patients within a range of 43-86 yrs by using Functional Assessment of Chronic Illness Therapy-Fatigue Scale, Centre for Epidemiological Studies Depression Scale. Then the results showed that fatigue in COPD patients was significantly increased compared to control subjects (mean 35.3 units (SD 11.0) versus 43.2 (10.5), p=0.001).The study concluded that the perception of fatigue is increased in patients with COPD compared to control group.

SECTION C: LITERATURE RELATED TO QUALITY OF LIFE AMONG PATIENTS WITH COPD

Miravatles et.al., (2010) was conducted a study on factors determining the quality of life of patients with COPD primary care. Their objectives were to describe the health related quality of life among COPD patients in primary care.The study showed that the median total SGRQ score was 39.5 and patients with a high score had a longer evolution of COPD ($p < 0.0001$), more severe dyspnea ($p < 0.0001$) and a worse FEV1(%) (46.3% vs. 51.9%; $p = 0.008$).The study concluded that COPD controlled in primary care demonstrate and impairment in heath related quality of life with chronic cough and dyspnoea.

Koblizek et.al.,(2010) was conducted a study regarding relationship between quality of life and Multi Factorial Prognostic Index(BODE) of stable ex-smokers with chronic pulmonary

disease. The objectives of the study were to assess the relationship between quality of life and disease severity by Multi Factorial Prognostic Index (BODE) in ex-smokers suffered from COPD. The participants were 98 COPD patients. They used SGRQ for quality of life and BODE Index. The result proved that lower QOL and higher BODE score were associated with a higher stages of COPD ($p < 0,001$)and concluded that there was a closed correlation of quality of life and multi dimensional prognostic score in stable COPD patients.

Coto et.al.,(2009) was conducted a study on predictors of quality of life in elderly patients with COPD. The objectives of the study were to determine the factors that can predict HRQL in elderly with COPD. The number of participants was 158. They analyzed spirometric data, Multi Factorial Prognostic Index (BODE) and ST.George Respiratory Questionnaire and functional status was evaluated by Kamofsky Performance Scale and Barthel's Index. The result showed that there was a worsening of HRQL in elderly patients with COPD.

Hajro et.al.,(2009) was conducted a comparative study on dyspnoea Vs disease severity in indicating the Health –Related Quality of Life of patients with COPD.The objectives of the study were to compare categorization of level of dyspnoea with staging of disease representing how the health related quality of life is distributed in patients with COPD. The participants were 129 male patients with stable, mild to severe COPD. The score distribution was used by ST.George Respiratory Questionnaire and Medical Research Council Dyspnoea Scale and result showed that HRQL of patients with COPD was more clearly separated by level of dyspnoea than by the disease staging.

Ekici et.al.,(2008) was conducted a study regarding the quality of life and frequency of bronchiectasis in COPD and its effect on quality of life. The aim of the study was to assess the frequency of bronchiectasis in COPD and its effect on quality of life. They selected 62 patients (mean age 59.2 years) with clinically stable COPD. They used PFT, Arterial Blood Gases, Dyspnoea Measurements using modified research council dyspnoea scale (MMRC) and Quality of life was measured by ST.George Respiratory Questionnaire, to assess the presence and extension of bronchiectasis and they used modified Bhalla score. The result showed that there was only borderline difference in effect score of SGRQ quality of life ($p=0.05$) between patients

with COPD.The study concluded that bronchiectasis and COPD quality of life was negatively affected by bronchiectasis.

Lindberg et.al.,(2005) was conducted a study for the purpose of assessing the disease severity of COPD related to quality of life. Their objectives were to evaluate the association between health related quality of life and disease severity using lung function measures. They conducted a study in 168 patients (mean age 64.3 years) by using HRQL Questionnaire and ST.George Respiratory Questionnaire. The result showed that HRQL in COPD deteriorates with disease severity and with age and also there was a relationship between HRQL and Disease severity.

Breslin et.al., (1998) conducted a study regarding clinical investigations on perception of fatigue and quality of life in patients with COPD. The purpose of the study was to determine the relationship between fatigue and pulmonary function, exercise tolerance, depression and quality of life in patients with COPD. The number of participants were 41 patients (mean age 62 years). They used Multi- Dimensional Fatigue Inventory, ST.George Respiratory Questionnaire, and Epidemiological Studies Depression Scale. The result of the study showed that General fatigue correlated with FEV1,percent predicted($r=-0.32, p<0.05$)exercise tolerance($r=-0.05, p<0.05$),depression($r=0.04, p<0.01$) and overall quality of life ($r=0.75, p<0.01$).Study concluded that the relationship between dimensions of fatigue and pulmonary function, fatigue is an important symptom in patients with COPD and it also clarified the relationship between depression and fatigue in COPD.

CHAPTER -III

METHODOLOGY

This chapter deals with research design, variables under the study, setting of the study, population of the study ,sample size, criteria for the selection of sample, sampling technique, description of the tool, content validity and reliability of the tool and procedure followed for data collection. It further deals with plan for data analysis

RESEARCH DESIGN

Descriptive design was adopted to assess the perceived fatigue and quality of life among patients with chronic obstructive pulmonary disease in KMCH

VARIABLES UNDER THE STUDY

Fatigue and quality of life are the attribute variables focused in this study.

SETTING OF THE STUDY

The study was carried out at the pulmonology out patient department of Kovai Medical Centre Hospital ,Coimbatore. KMCH is an 800 bedded multi -specialty hospital and it has separate pulmonology department for treating respiratory problems.

POPULATION OF THE STUDY

All the patients who were diagnosed to have chronic obstructive pulmonary disease and attended the pulmonology outpatient department were the population of the study.

SAMPLE SIZE

The sample size was 50.

SELECTION CRITERIA

The subjects were selected on the basis of the following criteria

INCLUSION CRITERIA

- ✓ The patients who were diagnosed to have chronic obstructive pulmonary disease
- ✓ Adult male patients aged 30 years and above.

EXCLUSION CRITERIA

- ❖ Mentally ill and physically handicapped patients with chronic obstructive disease
- ❖ COPD patients admitted in hospital

SAMPLING TECHNIQUE

All eligible patients attended pulmonology outpatient department during data collection period were enrolled as samples for the study

DESCRIPTION OF THE TOOL

The tool for data collection consists of 4 sections

SECTION A: Demographic variables such as age, education and occupation

SECTION B: CLINICAL PROFILE

It consists of habit of smoking, history of allergy and pulmonary function test measures.

1. Habit of smoking

2. History of allergy

3. Pulmonary Function Test Measures: The main 3 parameters FEV1, FVC and FEV1/FVC (ratio) were assessed.

SECTION C -The Multidimensional Fatigue Symptom Inventory-Short Form (MFSI-SF) questionnaire is a four point rating scale which was developed by Jacobsen P.B. (1998).It consists of a 30 item questionnaire with 5 dimensions namely General fatigue ,Physical fatigue,Emotional fatigue,Mental fatigue and Vigor.The questionnaires has been used widely to measure fatigue among COPD patients.

SCORING PROCEDURE

Possible responses to the 30 questions assessing fatigue include 0-Not at all,1-A little,2-Moderately ,3-Quite A Bit,4-Extremely.Higher scores indicate a high level of fatigue.

Each subscale consists of 6 items.

The subscales are General,Physical,Emotional,Mental and Vigor.The general scale score is the sum of items 10,12,14,17,18 and 28.The physical scale score is the sum of items 2,4,6,16,19 and 26.The emotional scale score is the sum of items 3,8,13,21,23 and 30.The mental scale score is the sum of items 1,11,15,20,25 and 27.The vigor scale score is the sum of items 5,7,9,22,24 and 29 and the Total score is the sum of scales 1 to 4 minus Vigor scale score.

SECTION D- Short form 36 item questionnaire was used to measure the quality of life.

This scale was developed by John,E and Ware,J.R;(1988).It consists of 36 items and were grouped in two components.

1. Physical components

2. Mental components

The physical components consist of 4 domains. The numbers of items under each domain varies.

a.Physical functioning:10 items

b.Role limitations due to physical health:4 items

c.Pain:2 items

d.General health:6 items

The mental components consist of 4 domains and the numbers of items under each domain were as follows:

a.Role limitation due to emotional problems:3 items

b.Energy/fatigue:4 items

c.Emotional well being:5 items

d.Social functioning:2 items

SCORING PROCEDURE

Research and Development (RAND) recommends the following straight forward approach to score the RAND SF-36 Item health survey .All questions are scored on a scale from 0 to 100, with 100 representing the highest level of functioning possible and 0 representing the lowest level of functioning .

The scores from those questions that address each specific area of functional health status are then averaged together, for a final score within in each of 8 dimensions measured.

VALIDITY AND RELIABILITY OF TOOL

The reliability of the MFSI-SF was evaluated by computing the internal consistency of scales. The alpha coefficients were 0.85-0.96(Stein et al.,2004)

SF-36 scales have been shown to achieve about 80-90% of their empirical validity in studies involving physical and mental health "criteria" (McHorney et al., 1993).The SF-36 reliability estimates for physical and mental summary scores exceed .90(Ware et al;1994).

The investigator translated the tool to tamil version and it was validated by 5 experts from the field of Nursing,Psychology and Medicine.

The investigator translated the tool to tamil version.The reliability of the tool was tested by using test and retest method.The reliability score was .78

PILOT STUDY

In order to find out the feasibility of the tool, pilot study was conducted at the pulmonology department of Kovai Medical Centre and Hospital for a period of one week. The sample size was five.

PROCEDURE FOR DATA COLLECTION

Prior to data collection ,permission was obtained from college of nursing and hospital authorities and pulmonology department of KMCH.Data had collected for one and half months.The respondents were analysed according to the demographic and clinical variables and were given response after 15 minutes completion of self administered questionnaires of fatigue and quality of life.

STATISTICAL ANALYSIS

The collected data was analyzed by using descriptive and inferential statistics. Percentage analysis was used for the distribution of respondents according to their demographic and clinical variables. Mean and standard deviation was used for the description of quality of life and fatigue according to domains. Correlation was used to find out the relationship between fatigue and quality of life. Independent‘t’ test was used to prove the association of clinical variables and pulmonary function test measures with perceived fatigue and quality of life.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis of the data collected which are tabulated and described as follows:

Section-A Distribution of respondents according to demographic variables and clinical Variables.

Section -B Description of the domains of Perceived Fatigue among patients with COPD

Section- C Description of the domains of Quality of life among patients with COPD

Section- D Relationship between Perceived Fatigue and Quality of life

Section- E Association of pulmonary function test measures with Perceived Fatigue and Quality of life

Section- F Association of pulmonary function test measures with clinical variables

Section-A Distribution of respondents according to demographic variables and clinical variables

Table: 1 Distribution of respondents according to the demographic variables

SL.NO	DEMOGRAPHIC VARIABLES	NUMBEROF SAMPLES (N=50)	PERCENT (%)
1.	**Age**		
	a) 30-40 years	5	10
	b) 41-50 years	10	20
	c) 51-60 years	10	20
	d) 61-70 years	14	28
	e) 71-80 years	11	22
2.	**Education**		
	a)Illiterate	3	6
	b)Middle School	16	32
	c)High School	7	14
	d)Higher Secondary	5	10
	e)Graduate	16	32
	f)Post graduate	3	6
3.	**Occupation**		
	a)Skilled laborer	20	40
	b)Teaching profession	3	6
	c)Business	8	16
	d)Clerical staff	8	16
	e)Unemployed dependents	11	22

The table 1 depicts the distribution of respondents according to the demographic variables of 50.Out of 50 respondents, 5(10%) were in the age group of 30-40 years,10(20%) were in the age group of 41-50 years,10(20%) were in the age group of 51-60 years,14(28%) were in age group of 61-70 years,9(18%) were in the age group of 71-80 years,2(4%) were in the age group of 81-90 years.

Regarding the educational status, out of 50 respondents, 3(6%) were illiterates, 16(32%) had middle school education, 7(14%) had high school education, 5(10%) were educated up to higher secondary level, 16(32%) were graduates, 3(6%) were post graduates.

Considering the occupation, out of 50 respondents, 20(40%) were skilled labourers,3(6%) were in teaching profession, 8(16%) were in business field, 8(16%) were clerical staffs, 11(22%) were unemployed dependents.

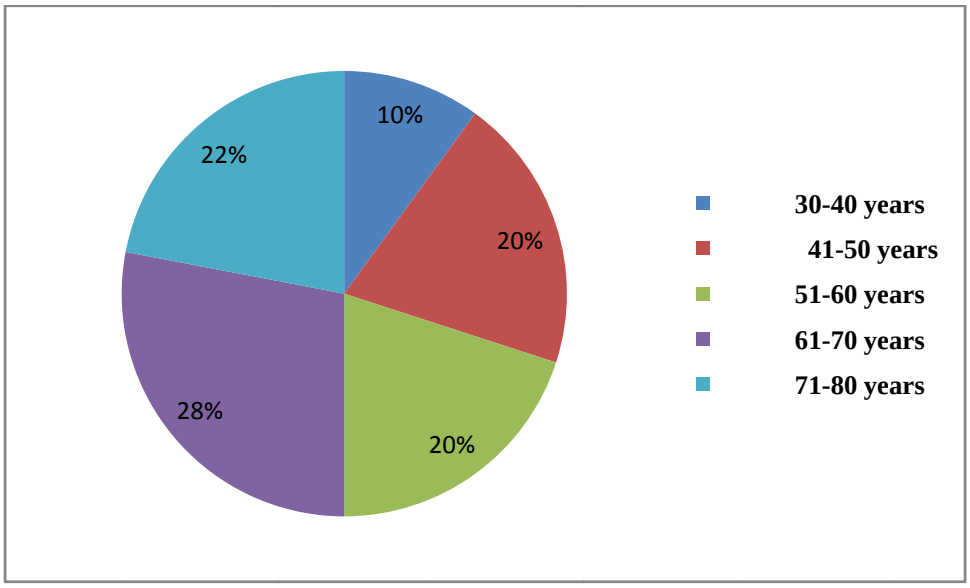

Figure: 1 Distribution of respondents according to their age

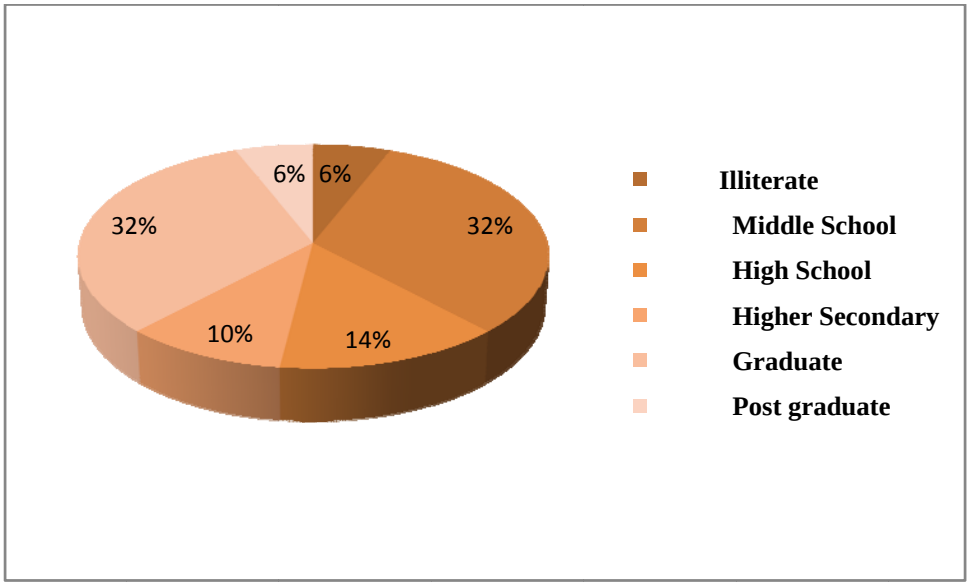

Figure: 2 Distribution of respondents according to their education

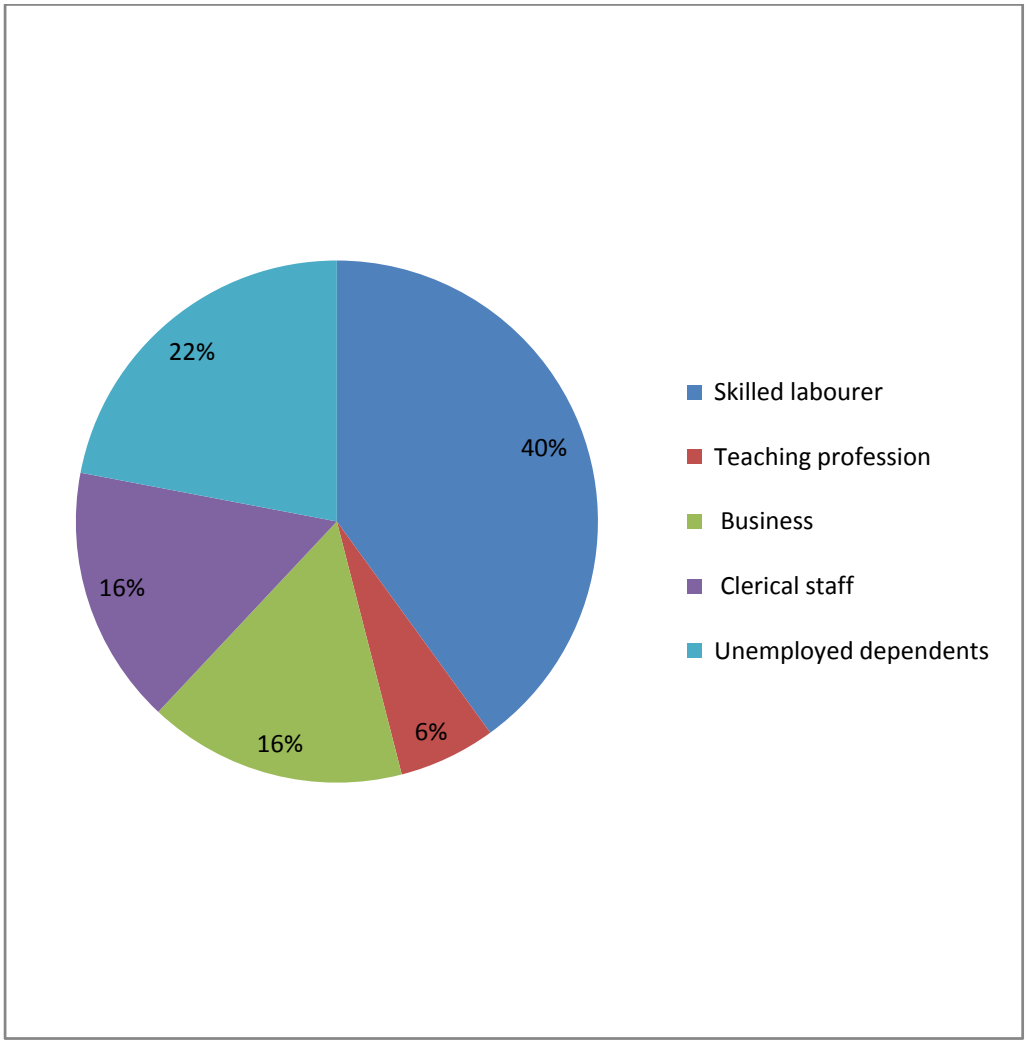

Figure: 3 Distribution of respondents according to their occupation

Table: 2 Distribution of respondents according to clinical profile

SL.NO	CLINICAL PROFILE	NUMBER OF SAMPLES (N=50)	PERCENT (%)
1	**Habit of Smoking**		
	a)Smoker	34	68
	b)Non-smoker	16	32
2	**History of Allergy**		
	a)Allergic	16	32
	b)Non-allergic	34	68

Table 2 shows that out of 50 respondents, 34 (68%) were Smokers and 16 (32%) were Non-smokers and 16 (32%) were allergic and 34 (68%) were non- allergic.

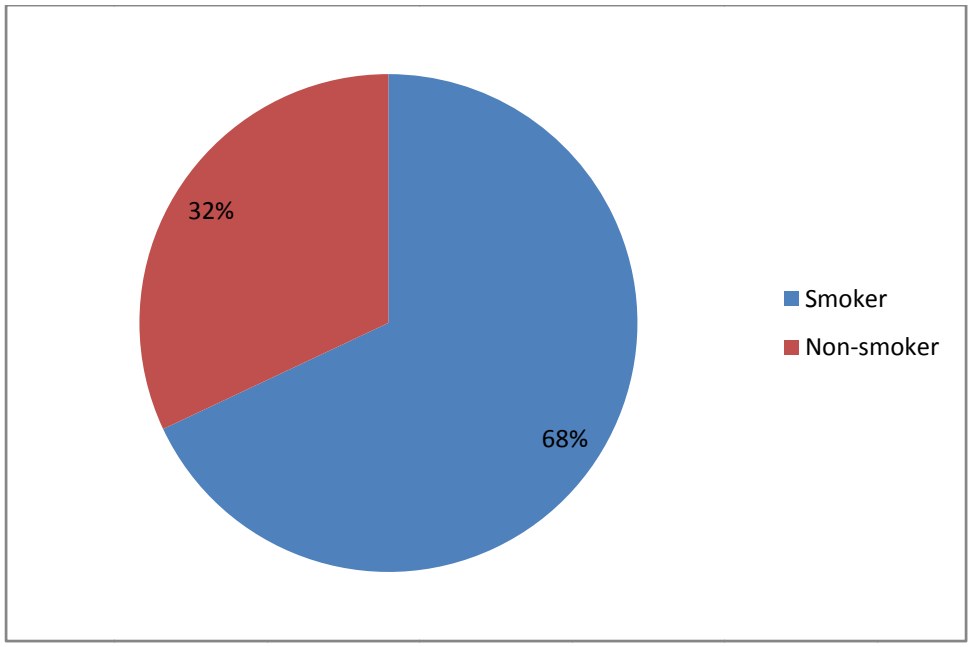

Figure: 4 Distribution of respondents according to Habit of smoking

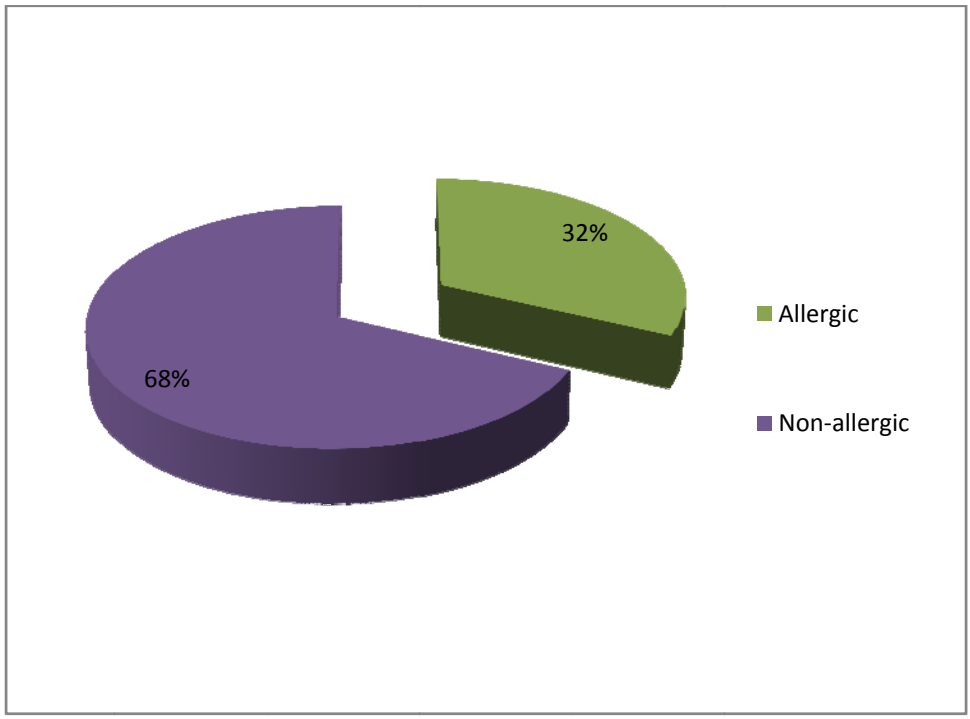

Figure: 5 Distribution of respondents according to history of allergy

Section -B Description of Perceived Fatigue according to various domains among patients with COPD

Table: 3 Description of Perceived fatigue according to various domains among patients with COPD

N=50

DIMENSIONS OF FATIGUE	MEAN	SD
General Fatigue	10.26	2.50
Physical Fatigue	9.52	4.23
Emotional Fatigue	9.20	3.59
Mental Fatigue	8.06	4.49
Vigor Scale Score	5.12	3.32
Total fatigue	32.32	9.37

NS-Not significant ($p>0.05$)

Table 3 shows that mean score of general fatigue is 10.26, physical fatigue is 9.52, emotional fatigue is 9.20, mental fatigue is 8.06 and vigor scale score is 5.12. The total mean score of fatigue is 32.32 (SD=9.37). The higher scores indicate high levels of fatigue among COPD patients.

Section-C Description of Quality of life according to various domains among patients with COPD

Table 4: Description of Quality of life according to various domains among patients with COPD

N=50

Sl. No	DIMENSIONS OF QUALITY OF LIFE	MEAN	SD
1	Physical functioning	44.00	16.13
2	Role limitation due to physical functioning	45.00	27.20
3	Role limitation due to emotional problems	56.33	26.49
4	Energy/Fatigue	39.70	11.71
5	Emotional well being	43.14	17.96
6	Social functioning	66.25	20.56
7	Pain	68.40	21.12
8	General Health	25.09	11.27

NS-Not significant ($p>0.05$)

Table 4 shows that mean score of physical functioning is 44, role limitation due to physical health is 45, role limitation due to emotional problems is 56.33, energy / fatigue is 39.70, emotional well being is 43.14, social functioning is 66.25, pain is 68.4 and general health is 25.09. Lowest scores of quality of life showed poor quality of life among COPD patients.

Section-D Relationship between perceived fatigue and quality of life

Table: 5 Relationship between perceived fatigue and quality of life

N=50

Variables	Mean	Std. deviation	Physical functioning	Role limitation due to physical functioning	Role limitation due to emotional problems	Energy/ Fatigue	Emotional well being	Social functi-oning	Pain	General Health
General Fatigue	10.26	2.497	-.292*	-.108	-.133	.006	-.083	-.034	-.077	.225
Physical Fatigue	9.52	4.234	-.071	.014	.046	.073	.068	-.076	-.249	.116
Emotional Fatigue	9.20	3.586	.005	-.073	-.024	.138	-.284	.145	-.052	-.249
Mental Fatigue	8.06	4.488	.142	.157	.037	.193	.099	-.235	-.020	.117
Vigor Fatigue	5.12	3.324	.120	.131	.041	.087	-.309*	.143	.117	.075
Total. Score	32.32	9.373	-.117	-.018	.015	.178	-.173	-.143	-.266	.055

*p< 0.05 level.

Table 5 shows that there is a significant negative correlation exists between general fatigue and physical functioning(r=-.292) at 0.05 level and shows that increased general fatigue resulted in a declined physical functioning and also shows that there is a significant positive correlation exists between vigor and emotional well being (r=.309) at 0.05 level. When vigor is increased emotional well being is also increased.

Section-E Association of pulmonary function test measures with Perceived Fatigue and Quality of life

Table 6: Association of pulmonary function test measures with perceived fatigue

N=50

Sl. No	**Variables**	**Correlation "*r*"**	
		FVC	**FEV 1**
1	General Fatigue	-0.10	-0.082
2	Physical Fatigue	0.006	0.013
3	Emotional Fatigue	0.155	0.139
4	Mental Fatigue	-0.031	-0.009
5	Vigor scale	0.122	0.101
6	Total scale score	0.037	0.046

*p< 0.05

Table 6 shows the association between perceived fatigue and pulmonary function test measures (FVC & FEV1).General,physical,Emotional ,Mental and Vigor scales are poorly substantiated with FVC and FEV1.Physical,emotional and vigor scales are positively correlated with FVC and FEV1 while General and Mental fatigue scores are negatively correlated with FVC and FEV1. From the above table it is evident that there is no significant correlation exists between perceived fatigue and pulmonary function test measures at 0.05 level.

Table 7: Association of pulmonary function test measures with quality of life

N=50

Sl. No	Variables	Correlation "r"	
		FVC	FEV1
1	Physical functioning	-0.152	-0.185
2	Role limitation due to physical functioning	-0.089	-0.187
3	Role limitation due to emotional problems	-0.128	-0.173
4	Energy/Fatigue	-0.025	-0.046
5	Emotional well being	-0.211	-0.284
6	Social functioning	-0.011	-0.026
7	Pain	-0.025	-0.028
8	General Health	-0.179	-0.252

*p< .05 level.

Table 7 shows that "r" value for various domains is not significant at 0.05 level. Emotional well being shows fair correlation with FVC and FEV1.Physical functioning, Role limitation due to emotional problems, Energy/Fatigue, Social functioning and Pain shows poor and negative correlation with FVC and FEV1 . It implies that the pulmonary function test measures does not influence on quality of life.

Section-F Association of pulmonary function test measures with clinical variables

Table 8: Association of pulmonary function test measures with clinical variables

SL NO	VARIABLES		PFT		t
			MEAN	SD	
1	Habit of smoking	Smoker	66.24	11.26	0.162 (NS)
		Non-Smoker	66.78	10.03	
2	History of allergy	Allergic	70.08	8.43	1.680 (NS)
		Non-allergic	64.69	11.43	

NS-Not significant

Table 8 shows that the obtained “t” value for smoker and non-smoker is 0.162 which is not significant at 0.05 level. It reveals that there is no significant association between habit of smoking and pulmonary function test measures and for allergic and non-allergic is 1.680 which is not significant at 0.05 level. It reveals that there is no significant association between history of allergy and pulmonary function test measures.

CHAPTER-V

DISCUSSION, SUMMARY, CONCLUSIONS, IMPLICATIONS, LIMITATIONS AND RECOMMENDATION

This chapter deals with discussion, summary and conclusion drawn. It also clarifies the limitation of the study, the implications and recommendations given for different areas of nursing practice, nursing administration, nursing research and nursing education.

The present study was designed to assess the perceived fatigue and quality of life among patients with COPD.

Descriptive study design was adopted for this study.

The major findings of the study are discussed in light to the formulated objectives, which are as follows,

Demographic variables of COPD patients:

Out of 50 respondents, 5(10%) were in the age group of 30-40 years,10(20%) were in the age group of 41-50 years,10(20%) were in the age group of 51-60 years,14(28%) were in age group of 61-70 years,9(18%) were in the age group of 71-80 years,2(4%) were in the age group of 81-90 years

Regarding the educational status, out of 50 respondents, 3(6%) were illiterates, 16(32%) had middle school education, 7(14%) had high school education, 5(10%) were educated up to higher secondary level, 16(32%) were graduates, 3(6%) were post graduates.

Considering the occupation, out of 50respondents, 20(40%) were skilled labourers, 3(6%) were in teaching profession, 8(16%) were in business field, 8(16%) were clerical staffs, 11(22%) were unemployed dependents.

Clinical variables of COPD patients:

Out of 50 respondents, 34 (68%) were Smokers and 16 (32%) were Non-smokers. 16 (32%) had history of allergy and 34 (68%)reported no allergy to any major allergensin the past.

The first objective of the study was to assess the perceived fatigue and quality of life among patients with COPD

The investigator found that out of 50 respondents mean score of general fatigue was 10.26, physical fatigue was 9.52, emotional fatigue was 9.20, mental fatigue was 8.06 and vigor scale score was 5.12. The mean total scale score of fatigue was 32.32(SD=9.37).In the present study, the higher scores indicated high levels of fatigue among COPD patients.

The investigator found that the mean score of physical functioning was 44, role limitation due to physical health was 45, role limitation due to emotional problems was 56.33, energy / fatigue was 39.70 indicated low energy with high fatigue , emotional well being was 43.14, social functioning was 66.25, pain was 68.4 and general health was 25.09.So in this study,the lowest scores of quality of life showed poor quality of life among COPD patients.

The second objective of the study was to identify the relationship between perceived fatigue with quality of life

The findings of the study indicated that there was a significant negative correlation existed between general fatigue and physical functioning(r=-.292) at 0.05 level and showed that increased general fatigue resulted in a declined physical functioning and also showed that there was a significant positive correlation existed between vigor and emotional well being (r=.309) at 0.05 level. Increased vigor resulted in increased emotional well being.The present study finding substantiates the findings of Breslin and Associates(1998).

They conducted a study regarding clinical investigations on perception of fatigue and quality of life in patients with COPD. The purpose of the study was to determine the relationship between fatigue and pulmonary function, exercise tolerance, depression and quality of life in patients with COPD. The number of participants were 41 patients (mean age 62 years). They

used Multi- Dimensional Fatigue Inventory, ST.George Respiratory Questionnaire, and Epidemiological Studies Depression Scale. The result of the study showed that General fatigue correlated with FEV1,percent predicted ($r=0.32$,$p<0.05$)exercise tolerance($r=-0.05$,$p<0.05$),depression($r=0.04$,$p<0.01$) and overall quality of life ($r=0.75$,$p<0.01$).Study concluded that the relationship between dimensions of fatigue and pulmonary function, fatigue is an important symptom in patients with COPD .

The third objective was to associate the pulmonary function test measures with perceived fatigue and quality of life.

The findings of the present study showed the association between perceived fatigue and pulmonary function test measures (FVC & FEV1).General fatigue,Physical fatigue,Emotional fatigue ,Mental fatigue and Vigor were poorly substantiated with FVC and FEV1.Physical fatigue,emotional fatigue and vigor were positively correlated with FVC and FEV1 while General and Mental fatigue were negatively correlated with FVC and FEV1. It was evident that there was no significant correlation existed between perceived fatigue and pulmonary function test measures at 0.05 level.

The findings of the present study indicated that “r” value for various domains were not significant at 0.05 level. Physical functioning, Role limitation due to emotional problems, Energy/Fatigue, Social functioning and Pain showed poor and negative correlation with FVC and FEV1 .Emotional well being showed fair correlation with FVC and FEV1.It implied that the pulmonary function test measures did not have influence on quality of life.

Lindberg et.al.,(2005) was conducted a study for the purpose of assessing the disease severity of COPD related to quality of life. Their objectives were to evaluate the association between health related quality of life and disease severity using lung function measures. They conducted a study in 168 patients (mean age 64.3 years) by using (Health Related Quality of Life) HRQL Questionnaire and ST.George Respiratory Questionnaire. The result showed that HRQL in COPD deteriorates with disease severity and with age and also there was a relationship between HRQL and Disease severity.

Ravary R.B et.al.,(2009) conducted a study regarding the determinants and impact of fatigue in patients with COPD.Their objectives were to investigate increased fatigue related to physical inactivity and COPD exacerbations. They conducted study in 107 COPD patients within a range of 43-86 yrs by using Functional Assessment of Chronic Illness Therapy-Fatigue Scale, Centre for Epidemiological Studies Depression Scale. Then the results showed that fatigue in COPD patients was significantly increased compared to control subjects (mean 35.3 units (SD 11.0) versus 43.2 (10.5), p=0.001).The study concluded that the perception of fatigue is increased in patients with COPD.

The fourth objective was to associate the clinical variables with pulmonary function parameters.

The investigator found that the obtained "t" value for smokers and non-smokers were 0.162 which was not significant at 0.05 level. It revealed that there was no significant association between habit of smoking and pulmonary function test measures

It was also found out that the obtained "t" for allergic and non-allergic was 1.680 which was not significant at 0.05 level. It revealed that there was no significant association between history of allergy and pulmonary function test measures.

SUMMARY

The study was conducted to assess the perceived fatigue and quality of life among patients with COPD at Kovai Medical Centre Hospital, Coimbatore.

The objectives of the study were to,

2. assess the perceived fatigue and quality of life among patients with COPD.

2. identify the relationship between perceived fatigue with quality of life.

3. associate the pulmonary function test measures with perceived fatigue and quality of life.

4. associate the clinical variables with pulmonary function test measures.

The conceptual framework was Martha Roger's Science of Unitary Human beings model. A descriptive cross sectional design was adopted for this study. The sample size was 50 COPD patients. Non-randomized sampling technique adopted for the selection of sample in this study. The data collection period was 6 weeks. Demographic variables and the collected data were analyzed by descriptive and inferential statistics.

MAJOR FINDINGS OF THE STUDY

- The mean score of general fatigue was 10.26, physical fatigue was 9.52, emotional fatigue was 9.20, mental fatigue was 8.06 and vigor was 5.12. The total mean score of fatigue was 32.32. (SD=9.37).In the present study, the higher scores indicated high levels of fatigue among COPD patients.
- The mean score of physical functioning was 44, role limitation due to physical health was 45, role limitation due to emotional problems was 56.33, energy / fatigue was 39.70, emotional well being was 43.14, social functioning was 66.25, pain was 68.4 and general health was 25.09 Lowest scores of quality of life showed poor quality of life among COPD patients.
- There was a significant negative correlation existed between general fatigue and physical functioning at -.292 level
- There was a significant positive correlation existed between vigor and emotional well being at .309 level
- From the "r" value it was evident that there was no significant correlation between perceived fatigue and pulmonary function test measures.
- The "r" value for various domains was not significant at 0.05 level. It implied that the pulmonary function test measures did not have any influence on quality of life.
- The "t" value for smokers and non-smokers were 0.162 which was not significant at 0.05 level. It revealed that there was no significant association between habit of smoking and pulmonary function test measures

- The “t” value for allergic and non-allergic were 1.680 were not significant at 0.05 level. It revealed that there was no significant association between history of allergy and pulmonary function test measures.

CONCLUSION

This study shows that there was significant negative relationship exists between general fatigue and physical functioning domains of quality of life of COPD patients.Similarly with increase in vigor there was increase in emotional well being($p<0.05$). The respondents in this study were reported to have high fatigue with poor quality of life.

IMPLICATIONS

Today nurses use advanced assessment skills to determine the health status of the patients.The quality of health care improves when research results are used to guide clinical practice.

This study has various implications in nursing practice, nursing practice, nursing education, nursing education, nursing administration and nursing research.

Nursing Practice:

This study provides valuable information that can indicate areas in which a person is most affected and helps the nurse in making the best choices in patient care while working in pulmonology department. Smoking is the major factor which leads to COPD resulting in increased fatigue and poor quality of life .Therefore; attempts should be made to discourage the patients to smoke and to follow a healthy living style .Increased attention must be directed to client education regarding the importance to reduce the fatigue and to improve the quality of life.

Nursing education:

Learning the concepts and evidence based research findings will help the learners to be more enthusiastic and creates enormous interest to learn. This study will motivate the learners to develop observational skills and do systematic assessment to evaluate the emotional stability of

the patients which will help them to identify areas most affected and provide better choices in patient care. The nurse educators can encourage the students who were posted in pulmonology department to assess the perceived fatigue and quality of life and provide supportive care for the patients.

Nursing administration:

Nurse administrator can arrange in service education based on this study findings. She motivates the nurses to repeat the same study on large sample. She can also disseminate the research findings to nurses in other areas so that more patients will be benefited.

Nursing research:

This present study helps to conduct the same study in on other areas. This study results can also be utilized to conduct a study on large sample. The present study findings can be used for evidence based practice, further study can be conducted to analysis and find out the causative factors for increased fatigue and poor quality of life.

LIMITATIONS

- This study was conducted on a very limited number of patients only.
- This study conducted only in one setting.
- COPD patients admitted in hospital were not included.

RECOMMENDATIONS

- A similar study can be replicated with a large sample.
- A similar study can be replicated to other hospital or at multicenter.
- Same study can be replicated as a longitudinal study.
- An innovation nursing strategy can be developed and tested to improve using experimental design.

ABSTRACT

The present study entitled study to assess the perceived fatigue and quality of life among patients with COPD in KMCH, Coimbatore was undertaken by Register number 30104406, during the year 2011-2012 in partial fulfillment of the requirement for the degree of Master of Science in Nursing which is affiliated to Dr.M.G.R University, Chennai.

Objectives: 1.assess the perceived fatigue and quality of life among patients with COPD.**2.**identify the relationship between perceived fatigue with quality of life.**3.**associate the pulmonary function test measures with perceived fatigue and quality of life.**4.**associate the clinical variables with pulmonary function test measures.**Design:**Descriptive cross sectional design was adopted for this study.**Setting:**pulmonology outpatient department at Kovai Medical Center and Hospital,Coimbatore.**Sample:**sample size was 50.**Approach:**The research approach was descriptive in nature. **Conceptual Framework:** Modified Martha Rogers 'Science of Unitary Human Being (1970) was adopted for this study. **Data collection:** First, the demographic profile of the respondent was taken and then clinical profile was taken. Pulmonary function test measures were assessed by the regular spirometer.The respondent's fatigue was assessed by the Multidimensional Fatigue Inventory Short- Form questionnaire. The Quality of Life was measured by the SF-36 questionnaire. **Result:** The mean score of fatigue especially, general fatigue was 10.26, physical fatigue was 9.52, emotional fatigue was 9.20, mental fatigue was 8.06 and vigor was 5.12. The mean total scale score of fatigue was 32.32. . (SD=9.37).In the present study, the higher scores indicated high levels of fatigue among COPD patients. The mean score of quality of life in physical functioning was 44, role limitation due to physical health was 45, role limitation due to emotional problems was 56.33, energy / fatigue was 39.70, emotional well being was 43.14, social functioning was 66.25, pain was 68.4 and general health was 25.09. The lowest scores of quality of life showed poor quality of life among COPD patients. **Conclusion:** This study showed that there was significant negative relationship existed between general fatigue and physical functioning domains of quality of life of COPD patients.Similarly with increase in vigor there was increase in emotional well being($p<0.05$). The respondents in this study were reported to have high fatigue with poor quality of life.

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APPENDICES

APPENDIX-A

DEMOGRAPHIC PROFILE

Sample number ——————

1. Age:

a)30-40 years

b)41-50 years

c)51-60 years

d)61-70 years

e)71-80 years

2. Education:

a)Illiterate

b)Middle School

c)High School

d)Higher Secondary

e)Graduate

f)Post graduate

3. Occupation:

a)Skilled laborer

b) Teaching profession

d)Clerical staff

e)Unemployed dependents

APPENDIX-B

CLINICAL PROFILE

1. Habit of smoking: 1) Yes

If yes, how many years?

2) No

2. History of allergy: 1) Yes

If yes, allergic to what substance?

2) No

Pulmonary Function Test Measures

PFT PARAMETERS	VALUES
FVC	
FEV1	
FEV1/FVC(Ratio)	

APPENDIX –C

The Multidimensional Fatigue symptom Inventory -Short Form (MFSI-SF)

S. No	Questions	Not at all	A little	Moderately	Quite a bit	Extremely
1	I have trouble remembering things	0	1	2	3	4
2	My muscles ache	0	1	2	3	4
3	I feel upset	0	1	2	3	4
4	My legs feel weak	0	1	2	3	4
5	I feel cheerful	0	1	2	3	4
6	My head feels heavy	0	1	2	3	4
7	I feel lively	0	1	2	3	4
8	I feel nervous	0	1	2	3	4
9	I feel relaxed	0	1	2	3	4
10	I feel pooped	0	1	2	3	4
11	I am confused	0	1	2	3	4
12	I am worn out	0	1	2	3	4
13	I feel sad	0	1	2	3	4
14	I feel fatigued	0	1	2	3	4
15	I have trouble paying attention	0	1	2	3	4
16	My arms feel weak	0	1	2	3	4
17	I feel sluggish	0	1	2	3	4
18	I feel run down	0	1	2	3	4
19	I ache all over	0	1	2	3	4
20	I am unable to concentrate	0	1	2	3	4
21	I feel depressed	0	1	2	3	4
22	I feel refreshed	0	1	2	3	4
23	I feel tense	0	1	2	3	4

24	I feel energetic	0	1	2	3	4
25	I make more mistakes than usual	0	1	2	3	4
26	My body feels heavy all over	0	1	2	3	4
27	I am forgetful	0	1	2	3	4
28	I feel tired	0	1	2	3	4
29	I feel calm	0	1	2	3	4
30	I am distressed	0	1	2	3	4

gphpt[- <

jp ky;obkd;#dy; ngl;of;a{ rpk;lk; ,d;btd;lhp - #hl; ghh;k;

t.vz;	nfs;tp	,y;iy	rpwpjst[	Xust[	njitahd mst[	kpFjpahf
1	ehd; "hgfj;jpy; itg;gJ f#;lkhf ,Uf;Fk;.	0	1	2	3	4
2	vdf;F jir typ	0	1	2	3	4
3	ehd; ftiyahf cs;sjhf czh;fpnwd;.	0	1	2	3	4
4	vd;Dila fhy;fs; gytPdkhf ,Ug;gjhf czUfpnwd;.	0	1	2	3	4
5	ehd; re;njh#khf ,Uf;fpnwd;.	0	1	2	3	4
6	vd;Dila jiy ghukhf ,Uf;fpwJ.	0	1	2	3	4
7	ehd; cy;yhrkhf czUfpnwd;.	0	1	2	3	4
8	ehd; gag;gLfpnwd;.	0	1	2	3	4
9	ehd; ,w;f;fkpy;yhJ ,Uf;fpnwd;.	0	1	2	3	4
10	ehd; nrhh;thf ,Uf;fpnwd;.	0	1	2	3	4
11	ehd; FHg;gj;jpy;	0	1	2	3	4

	,Uf;fpnwd;.					
12	ehd; nrhh;tile;J ,Uf;fpnwd;.	0	1	2	3	4
13	ehd; ftiyahf ,Uf;fpnwd;.	0	1	2	3	4
14	ehd; fisg;gha; ,Uf;fpnwd;.	0	1	2	3	4
15	ehd; ftdpg;gJ f#;lkhf ,Uf;fpwJ.	0	1	2	3	4
16	vd;Dila iffs; gyfPdkhf ,Uf;fpwJ.	0	1	2	3	4
17	ehd; ke;jkhd epiyapy; ,Uf;fpnwd;.	0	1	2	3	4
18	ehd; cw;rhfkw;W ,Uf;fpnwd;.	0	1	2	3	4
19	vdf;F cly; KGtJk; typahf ,Uf;fpwJ.	0	1	2	3	4
20	ehd; cw;rhfkhf ,Uf;fpnwd;.	0	1	2	3	4
21	ehd; tUj;jkhf ,Uf;fpnwd;.	0	1	2	3	4
22	ehd; ,isg;ghWjyhf ,Uf;fpnwd;.	0	1	2	3	4
23	ehd; r';flkhd epiyapy	0	1	2	3	4

	,Uf;fpnwd;.					
24	ehd; cw;rhfkhf ,Uf;fpnwd;.	0	1	2	3	4
25	ehd; kpft[k; mjpfkhf jtW bra;fpnwd;.	0	1	2	3	4
26	vd;Dila cly; KGtJk; gSthf ,Uf;fpwJ.	0	1	2	3	4
27	ehd; "hgfkw;W ,Uf;fpnwd;.	0	1	2	3	4
28	ehd; nrhh;thf ,Uf;fpnwd;.	0	1	2	3	4
29	ehd; mikjpahf ,Uf;fpnwd;.	0	1	2	3	4
30	ehd; tUj;jkhf ,Uf;fpnwd;.	0	1	2	3	4

APPENDIX –D

QUALITY OF LIFE ASSESSMENT (SF-36) SCALE

1. In general, would you say your health is:
    1. Excellent
    2. Very good
    3. Good
    4. Fair
    5. Poor
2. Compared to one year ago, how would you rate your health in general now?
    1. Much better now than one year ago
    2. Somewhat better now than one year ago
    3. About the same as one year ago
    4. Much worse now than one year ago

The following terms are about activities you might do during a typical day. Does your health now limit your in these activities? If so, how much?

Activity	**Yes, limited a lot**	**Yes, limited a little**	**No, not limited at all**
3. Vigorous activity, such as running, lifting heavy objects, or participation in strenuous sports			
4. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling or playing golf			
5. Lifting or carrying groceries			
6. Climbing several flights of stairs			
7. Climbing one flight of stairs			
8. Bending, kneeling, or stooping			

9. Walking more than a mile			
10. Walking several blocks			
11. Walking one block			
12. Bathing or dressing yourself			

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

	Yes	**No**
13. Cut down on the amount of time you spent on work or other activities		
14. Accomplished less than you would like		
15. Were limited in the kind of work or other activities		
16. Had difficulty performing the work or other activities		

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result any emotional problems (such as feeling depressed anxious)

	Yes	**No**
17. Cut down on the amount of time you spent on work or other activities		
18. Accomplishment less than you would like		
19. Didn't work or other activities as carefully as usual		

20. During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?
    1. Not at all
    2. Slightly

3. Moderately
4. Quite a bit
5. Extremely

21. How much bodily pain have you had during the past 4 weeks?
    1. None
    2. Very mild
    3. Mild
    4. Moderate
    5. Severe
    6. Very severe
22. During the past 4 weeks, how much did pain interfere with you normal work (including both work outside the home and housework)?
    1. Not at all
    2. A little bit
    3. Moderately
    4. Quite a bit
    5. Extremely

These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks.

	All the time	**Most of the time**	**A good bit of the time**	**Some of the time**	**A little of the time**	**None of the time**
23. Did you feel full of pep?						
24. Have you been a very nervous person?						
25. Have you felt so down in the dumps that nothing could cheer you up?						

26. Have you felt calm and peaceful?						
27. Did you have a lot of energy?						
28. Have you felt downhearted and blue?						
29. Did you feel worn out?						
30. Have you been a happy person?						
31. Did you feel tired?						

32. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with you social activities (like visiting with friends, relatives, etc).
    1. All of the time
    2. Most of the time
    3. Some of the time
    4. A little of the time
    5. None of the time

How TRUE or FALSE is each of the following statement for you?

	Definitely True	**Mostly True**	**Don't know**	**Mostly false**	**Definitely false**
33. I seem to get sick a little easier than other people					
34. I am as healthy as anybody I know					
35. I expect my health to get worse					
36. My health is excellent					

SCORING KEY OF SF-36 QUESTIONNAIRE

Scoring the questions:

QUESTION NUMBER	ORIGINAL RESPONSE	RECORDED VALUE
1,2,20,22,34,36	1	100
	2	75
	3	50
	4	25
	5	0
3,4,5,6,7,8,9,10,11,12	1	0
	2	50
	3	100
13,14,15,16,17,18,19	1	0
	2	100
21,23,26,27,30	1	100
	2	80
	3	60
	4	40
	5	20
	6	0
24,25,28,29,31	1	0
	2	20
	3	40
	4	60
	5	80
	6	100
32,33,35	1	0
	2	25
	3	50
	4	75
	5	100

Averaging the items to 8 domains:

SCALE	NUMBER OF ITEMS	AFTER RECORDING AS PER TABLE 1.AVERAGE THE FOLLOWING
Physical functioning	10	3,4,5,6,7,8,9,10,11,12
Role limitation due to physical health	4	13,14,15,16
Role limitation due to emotional well being	3	17,18,19
Energy/fatigue	4	23,27,29,31
Emotional well being	5	24,25,26,28,30
Social functioning	2	20,32
Pain	2	21,22
General health	6	1,2,33,34,35,36

gphpt[-c

cly; eyj;ijg; gw;wpa Ma;t[

fPH;fz;l nfs;tpfs; j';fs; cly;eyj;ijg;gw;wpaJ. j';fSf;F tpilapy; bjspt[,y;iybadpy; j';fshy; ,ad;w rpwg;ghd tpilia mspf;ft[k;.

1. bghJthf c';fsJ cly; eyk; vg;go cs;sJ?

    m) kpf kpf ed;W
    M) kpf ed;W
    ,) ed;W
    <) guthapy;iy
    c) nkhrk;

2. brd;w tUlj;njhL xg;gpLk;nghJ c';fsJ cly;epiy vg;go cs;sJ>

    m) brd;w tUlj;njhL xg;gpLk;nghJ ,g;bghGJ kpf ed;whf cs;sJ.

    M) ed;whf cs;sJ.

    ,) ,g;bghGJk; mnjnghy; jhd; cs;sJ.

    <) nkhrkhf cs;sJ.

    c) kpft[k; nkhrkhf cs;sJ

j';fspd; cly;epiyf; fhuzkhf/ fPnH bfhLf;fg;gl;Ls;s jpdrhp bray;fis bra;a Koahky; nghfpwjh> mJ ve;j mstpw;F cs;sJ.

bray;fs;	**Mk; Kw;wpYk; bra;a Koatpy;iy**	**Mk; rpwpjst[bra;a KofpwJ**	**,y;iy vy;yhnk bra;a KofpwJ**
3. fodkhd ntiyfs;/ XLjy;/ tpisahl;Lfspy; fye;J bfhs;Sjy;			
4. rhjhuz tPl;L ntiyfs;/ bghUis efh;j;Jjy;			

tPRjy;			
5. vil J}f;Fjy;			
6. gy khog;gofs; VWjy;			
7. rpy khog;gofs; VWjy;			
8. Fdpjy; kw;Wk; tisjy;			
9. xU iky; J}uk; elj;jy;			
10. mjpf J}uk; elj;jy;			
11. Fiwe;j J}uk; elj;jy;			
12. Fspj;jy; kw;Wk; cilazpjy;			

fle;j ehd;F thu';fshf/ c';fs; cly;epiy fhuzkhf eP';fs; gzpg[hpak; ,lj;jpnyh my;yJ jpdrhp ntiyapnyh VjhtJ gpur;rid ,Ue;jjh>

	Mk;	**,y;iy**
13. eP';fs; jpdrhp bra;a[k; ntiyapd; neuk; Fiwe;Js;sjh>		
14. eP';fs; epidg;gij tpl Fiwthd neuk;jhd; ntiy bra;aKofpwjh>		
15. c';fs; ntiyia c';fshy; bra;a Koahky; ,Uf;fpwjh>		
16. eP';fs; bra;a[k; ntiy fodkhf cs;sjh>		

fle;j ehd;F thu';fshf/ c';fspd; kdepiy (kd nrhh;t[my;yJ ftiy) fhuzkhf eP';fs; gzpg[hpa[k; ,lj;jpnyh my;yJ jpdrhp ntiyapnyh VjhtJ gpur;rid ,Ue;jjh>

	Mk;	**,y;iy**
17. eP';fs; jpdrhp bra;a[k; ntiyapd; mst[Fiwe;Js;sjh>		

18. eP';fs; epidg;gij tpl Fiwthd neuk;jhd; ntiy bra;aKofpwjh>		
19. eP';fs; ntiy bra;ahky; ,Uf;fpwPh;fsh my;yJ bra;a[k; ntiyapy; ftdk; ,y;yhky; ,Uf;fpwPh;fsh>		

20. fle;j 4 thu';fshf c';fSila cly; eyk; my;yJ kd ey gpur;ridfs;/ j';fSila ,ay;ghd rKjha bray;fs;/ FLk;gk;/ ez;gh;fs; kw;Wk; cwtpdh;fis vt;thW ghjpf;fpwJ>
    m) ghjpg;gjpy;iy
    M) kpfr; rpwjhf
    ,) Xust[
    <) mjpfkhf
    c) kpf mjpfkhf
21. fle;j 4 thu';fshf c';fsJ cly;typ vg;go cs;sJ>
    m) typapy;iy
    M) nyrhf
    ,) kpff; Fiwthf
    <) Fiwthf
    c) mjpfkhf
    C) kpf mjpfkhf
22. fle;j 4 thu';fshf c';fSila cly;typ vt;thW j';fspd; rhjhuz ntiyfis ghjpf;fpwJ>
    (btsp ntiyfs; kw;Wk; tPl;L ntiyfs;)
    m) ghjpf;ftpy;iy
    M)kpff; Fiwthf
    ,) Xust[
    <) mjpfkhf
    c) kpf mjpfkhf

fle;j 4 thu';fshf jh';fs; vt;thW czh;fpwPh;fs; vd;W bjhptpf;ft[k;.

	vy;yh neuKk;	mjpf neuk;	Fiwthd neuk;	xU rpy neuk;	kpf Fiwthd neuk;	xUnghJk; ,y;iy
23. cw;rhfkhf czh;fpwPh;fsh>						
24. czh;r;rp trg;gl;oUf;fpwPh;fsh>						
25. j';fis vJt[k; kfpH;r;rpg;gLj;Jtjhf ,y;iy vd;W jhH;ikahf czh;fpwPh;fsh>						
26. mikjpahf ,Ug;gjhf czh;;e;jpuf;fpwPh;fsh>						
27. c';fSf;F mjpf rf;jp ,Ug;gjhf czh;fpwPh;fsh>						
28. vg;bghGjhtJ kdk; cile;jjhf czh;e;jpuf;fpwPh;fsh>						
29. fisj;jiyg; nghd;W czh;e;jpUf;fpwPh;fsh>						
30. kfpH;r;rpahf ,Ue;jpUf;fpwPh;fsh>						
31. nrhh;thf ,Ue;jpUf;fpwPh;fsh>						

32. fle;j 4 thu';fshf tUk; cly; hPjpahf/ kdhPjpahf tUk; gpur;ridfs; c';fspd; rhjhuz ntiyia vt;thW jil bra;fpwJ> (ez;gh;fs;/ cwtpdh;fs; kw;Wk; ghh;itahsh;fs)

m) vy;yh neuKk;

M) mjpf neuk;

,) xU rpy neuk;

<) rpy neuk;

c) xUbghGJk; ,y;iy

fPnH bfhLf;fg;gl;Ls;s thf;fpa';fis thrpj;J j';fspd; rhpahd epiyia bjhptpf;ft[k;.

	epr;rakhf cz;ik	mnefkhf cz;ik	bjhpahJ	mnefkhf jtW	epr;rakhf jtW
33. kw;wth;fisf; fhl;oYk; kpf vspjhf neha;tha;g;gLfpnwd;.					
34. ehd; kw;wth;fisg; nghy; eykhapUf;fpnwd;.					
35. vd; cly; epiy nkhrkhf ,Ug;gjhf epidf;fpnwd;.					
36. ehd; kpft[k; Mnuhf;fpakhf cs;nsd.					

APPENDIX-E

REQUISITION FOR CONTENT VALIDITY

From

Neethu Mathews,

II year Msc.Nursing,

KMCH College of Nursing,

Coimbatore-641014.

To

Through,

The Principal,

KMCH College of Nursing,

Coimbatore-641014.

Respected Sir/Madam,

Sub: Seeking Expert opinion for content validity

I wish to undertake a study titled, **"A STUDY TO ASSESS THE PERCEIVED FATIGUE AND QUALITY OF LIFE AMONG PATIENTS WITH COPD IN KMCH,COIMBATORE".**It will be of immense help to me if you could peruse the proposal and the research tool.Herewith,I am enclosing the copy to the same.

Kindly do the needful.

Thanking you,

Place:Coimbatore Yours obediently,

Date: (Neethu Mathews)

APPENDIX F

CERTIFICATION OF CONTENT VALIDITY

This is to certify that I have perused the research proposal submitted by Ms.Neethu Mathews. **'A STUDY TO ASSESS THE PERCEIVED FATIGUE AND QUALITY OF LIFE AMONG PATIENTS WITH COPD IN KMCH COIMBATORE.'**

I found that the methodology and Instruments are appropriate.

Place:

K. Balasubramanian.

Signature and Seal

Prof. K. BALASUBRAMANIAN
M. Sc. (Nursing)
Dept of Medical Surgical Nursing
KMCH College of Nursing, Cbe-19

Date:

K M C H COLLEGE OF NURSING

(Recognised by the Govt of Tamil Nadu, INC, New Delhi & The Tamil Nadu Nurses & Midwives Council, Chennai.)
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Ref : KMCT/ 2397/ /07/11

12-07-2011

To

Dr. V.R. Pattabhi Raman, M.D., DIPNB
(Respiratory Diseases)
Consultant in Pulmonary, Sleep Medicine &
Intenventional Pulmonology
Kovai Medical Center and Hospital,
Coimbatore – 14

Dear Sir

Greetings to you from KMCH College of Nursing.

I submit that one of our M.Sc(N) final year students by name Ms. Neethu Mathews specializing in Medical Surgical Nursing in our College desires to conduct a study titled "A study to assess the perceived fatigue and quality of life among patients with COPD in KMCH Coimbatore" as part of her M.Sc(N) curriculum.

As she is in need of Medical Expert to complete the study, I request you to guide the student.

Thanking you

Yours Truly,

Prof. DR. S. Madhavi, M.Sc(N)., Ph.D.,
Principal

The Principal
K.M.C.H. College of Nursing,
P.B.No : 3209, Avinashi Road,
Coimbatore - 641 014.

V A Pattabhi Ram

DR. V.R. PATTABHIRAMAN, M.D., DIPNB.
(Respiratory Diseases)
Reg. No. 54057
Consultant Pulmonary & Sleep Medicine
Kovai Medical Center and Hospital
COIMBATORE-641 014.

APPENDIX-G

LIST OF EXPERTS

1. **Prof.DR.S.Madhavi,M.Sc(N).,Ph.D.,**
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