*IOSR Journal of Nursing and Health Science (IOSR-JNHS)*
*e-ISSN: 2320–1959.p- ISSN: 2320–1940 Volume 11, Issue 1 Ser. III (Jan. – Feb. 2022), PP 01-06*
*www.iosrjournals.org*

# Assess The Level Of Fatigue Among Patients With Chronic Obstructive Pulmonary Disease.

Mr. Tamilselvan Chinnadurai, *Ph.D. Scholar, Vinayaka Mission Research Foundation, Salem.*

Dr. G. Muthamilselvi, *Research Guide, Principal, Vinayaka Missions College of Nursing, Vinayaka Missions Research Foundation, Salem.*

Dr. R. Pajanivel, *Co Guide, Professor & Head of Department of Pulmonary Medicine, Mahatma Gandhi Medical College & Research Institute, Puducherry.*

***Abstract:***
*A descriptive non experimental study was conducted to assess level of fatigue among patients with chronic obstructive pulmonary disease. A total of 70 study participants who fulfils the inclusion criteria were selected by non probability convenient sampling technique at Government General Hospital, Vridhachalam. The data were collected through demographic & FACIT scale and analyzed through descriptive & inferential statistics. The result reveals that that majority of the subject 57.14% had mild fatigue. The study concluded that age of the patient was found to be highly associated with level of fatigue among patients with COPD.*

Date of Submission: 12-01-2022 Date of Acceptance: 27-01-2022

## I. Introduction:

Chronic obstructive pulmonary disease is a condition involving constriction of airways and results in breathing difficulty. COPD is currently fourth leading cause of death in the world, but is projected to be the 3rd leading cause of death by 2020 and expected to rise to become the fifth leading cause of loss of Disability Adjusted Life Year – GOLD 2020

World Health Organization estimates tobacco kills more than 8 million people each year, more than 7 million of those deaths are the result of direct tobacco use while around 1.2 million are the result of nonsmokers being exposed to second hand smoke. About 1.3 billion peoples use tobacco products, 80% of whom are in low and middle income countries where the burden of tobacco related to illness and death is heaviest.

Fatigue is an important symptom in COPD. In the 196 evaluated studies, prevalence of fatigue ranged from 17–95%. Physical, psychological and demographic factors are associated with fatigue in COPD. Further studies are needed to evaluate these underlying factors. So it is essential that COPD patients should have thorough knowledge about the impact of fatigue in order to take care for themselves and prevent complication to lead an independent quality of life especially in pandemic situation of COVID 19.

**NEED FOR THE STUDY:**

Chronic obstructive pulmonary disease (COPD) is affecting 251 million lives globally and it causes 3.15 million deaths per year. More than 90% COPD-related deaths happen in low and middle-income countries. In India, three out of five leading causes of mortalities constitute non-communicable diseases whereas COPD is the second biggest cause of death. The prevalence of COPD has increased by 29.2% by 2016 which is a serious public health concern.

Fatigue is considered the second most important symptom of COPD after dyspnea, and significantly impairs patients' functional performance and quality of life (QoL). In patients with COPD, prevalence estimates of mild-to-severe fatigue range between 47% and 72%. Fatigue is considered the second most important symptom of COPD after dyspnea, and significantly impairs patients' functional performance and quality of life (QoL).

Fatigue, defined as the subjective feeling of tiredness or exhaustion, is a common complaint in today's society. It is a major distressing and persisting symptom in many chronic diseases, including Chronic Obstructive Pulmonary Disease (COPD). Fatigue is considered the second most important symptom of COPD after dyspnoea, and significantly impairs patients' functional performance and quality of life (QoL). In patients with COPD, prevalence estimates of mild-to-severe fatigue range between 47% and 72%.

Despite the fact that fatigue is an important daily symptom in COPD, it is often ignored in clinical practice and research. Its etiology is understudied and therefore subject to dispute, complicating the

development of effective interventions to manage mild-to-severe fatigue in patients with COPD. Moreover, it remains unclear whether, and to what extent, fatigue is related to the lung function impairment itself. The association between fatigue and the degree of COPD severity has been studied before, but conclusions were contradictory. Based on the input of experts in the field of respiratory research and care, as well as patients with chronic lung disease, fatigue is prioritized as a research topic. These factors given impetus to an investigator to conduction research on this aspect.

**STATEMENT OF THE PROBLEM:** Assess the level of fatigue among patients with chronic obstructive pulmonary disease.

**OBJECTIVES:**

- Assess the level of fatigue on management of COPD among patients with chronic obstructive pulmonary disease.
- Find association between the levels of fatigue on management of chronic obstructive pulmonary disease with selected demographic variables.

**ASSUMPTION:**

- Chronic obstructive pulmonary disease patients may have chronic fatigue.
- Chronic obstructive pulmonary disease patients who are not following therapeutic regimen may get complications.
- Chronic obstructive pulmonary disease patients may have inadequate practice have influence on non compliance.
- Financial status and social support may have influence on compliance.
- Aging and psychological factors can cause non compliance.

**LIMITATIONS:**

- The sample size is limited to 45 COPD patients
- The period of study is limited to 4 weeks.
- This study is limited to population who are residing in and around Kurinjipadi & Vridhachalam
- This study is limited to population who are willing to participate in the study and able to communicate in Tamil or English.

**RESEARCH METHODLOLOGY:**

- **Research Approach** - Quantitative research approach
- **Research Design** - A descriptive non experimental study design
- **Setting** – Government General Hospital, Vridhachalam
- **Population** - Both male and female patients with COPD who were willing to participate in the study.
- **Sample** – Both male and female patients with COPD, who are residing in and around Vridhachalam, fulfils the inclusion criteria.
- **Sample size** - 70 male and female general population
- **Sampling Technique** - Non probability convenient sampling technique

**INCLUSION CRITERIA:**

- Peoples who are in the age group of 30 years and above.
- Peoples who are residing in and around Vridhachalam
- Peoples who are available during the data collection time.
- Peoples who are willing to participate in the study and able to communicate in English or Tamil.

**EXCLUSION CRITERIA:**

- Peoples who were not residing in and around of Vridhachalam
- Peoples who are below 30 years of age.
- Peoples with hearing impairment and mentally challenged.

**DESCRIPTION OF TOOL:**

The tool used for data collection was an interview technique. It consists of two parts:

- Part I - Demographic Data (10)
- Part II - Functional assessment of chronic illness therapy (FACIT) Fatigue scale

**DATA COLLECTION PROCEDURE:**

- **Formal written permission** for conducting the study was obtained from The Joint director of Medical and Rural Health Services and Family Welfare, Cuddalore District.
- **Ethical committee clearance** received from Government General Hospital, Vridhachalam
- **All participants were informed** about the study.
- **Informed consent** in written form was received from participants.
- The main study was conducted between **02. 11. 2020** at **30.11. 2020** at Government General Hospital, Vridhachalam.
- **Seventy study participants who met the inclusion criteria** were selected by using convenient sampling technique.

❖ The data were obtained from the demographic variables & Functional assessment of chronic illness therapy (FACIT) Fatigue scale
❖ The time spent for each study participant is 1 hour.

**DATA ANALYSIS & INTERPRETATIONS:**

**ORGANISATION AND PRESENTATION OF DATA:**
The analysis of data was organized and presented under the following sections.
❖ **SECTION A:** Distribution of the study participants by their demographic variables
❖ **SECTION B:** Level of fatigue among patients with COPD.
❖ **SECTION C:** Association between the levels of fatigue among COPD patients with selected demographic variables.

**SECTION A: Distribution of the study participants by their demographic variables**
**Figure No. 1: Distribution of the study participants by their demographic variables including age, gender, education & religion.**

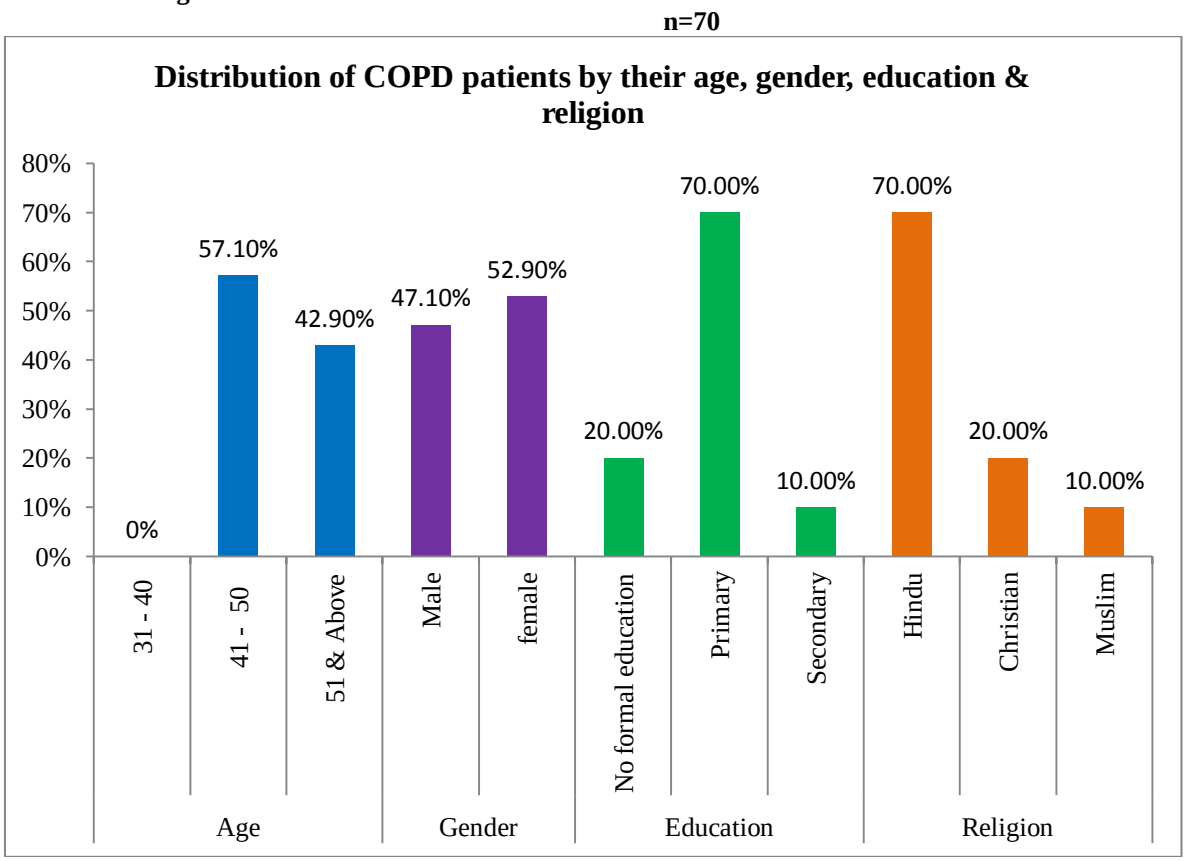


Figure No.1: Reveals that majority of the patients belongs to the (57.1%) age group of 41 – 50 years and most of them were female 52.9%. Most of the subjects (70%) were Hindu and had (70%) primary education.

**Figure No. 2: Distribution of the study participants by their demographic variables including occupation, income & family history of COPD.**

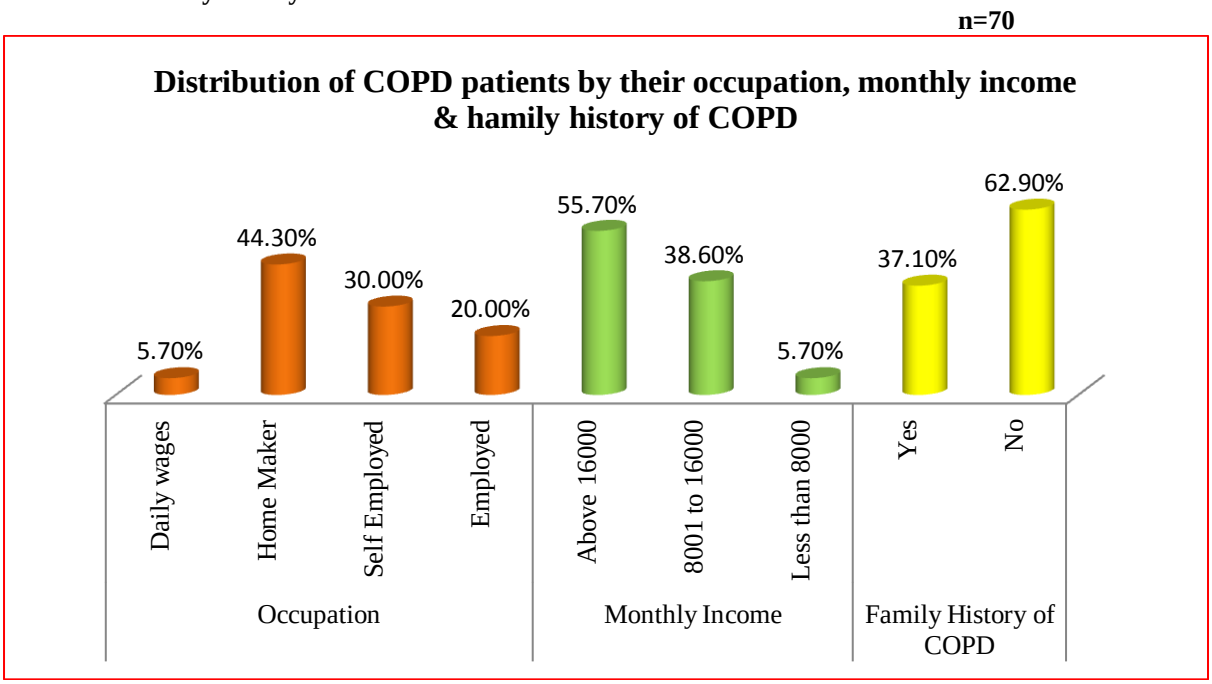


Figure No.2: With regard to the occupation majority of patients (44.3%) were homemakers and had a monthly income of (55.7%) earns more than Rs. 16000 and most of the subjects 62.90% were not had family history of COPD.

**Figure No. 3: Distribution of the study participants by their demographic variables including source of getting health information, diet & financial support.**

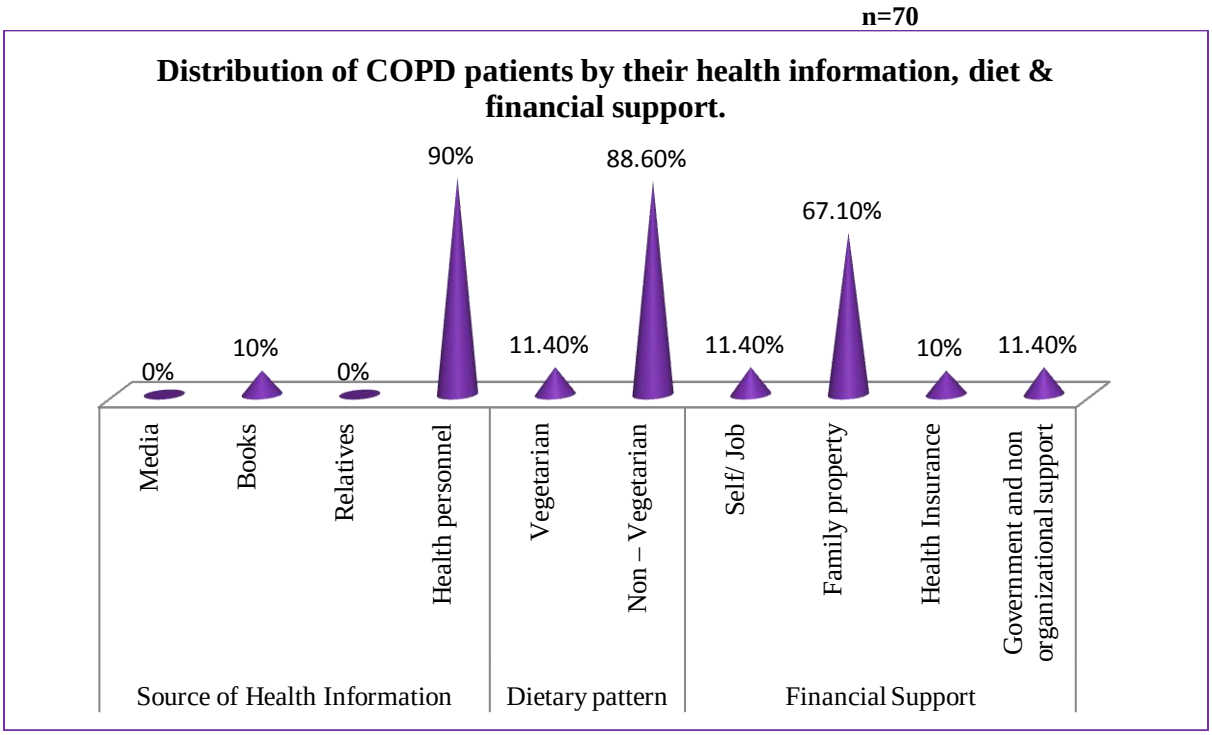


Figure No. 3: Shows that majority of the subjects 90% of them receive the health information through health personnel. Regarding diet most of them were non vegetarian 88.6% and had financial support 67.1% by family property.

**SECTION B: Assess the level of fatigue among patients with COPD**

**Table No.1: Distribution of COPD patient's level of fatigue.**

**n=45**

| Level of fatigue | No | % |
|---|---|---|
| Less than 30 – No fatigue | 5 | 7.14% |
| 30 to 38 – Mild Fatigue | 40 | 57.14% |
| 39 to 46 – Moderately Fatigue | 25 | 35.17% |

Table No.1: Reveals that majority of the subject 57.14% had mild fatigue among patients with COPD

**SECTION C: Association between the levels of fatigue on management of chronic obstructive pulmonary disease with selected demographic variables.**

**Table No 2: Association between level of fatigue among patients with COPD with selected demographic variables.**

**n=70**

| Variables | | No. of subjects | Mean | Standard deviation | Chi Square Test p-Value |
|---|---|---|---|---|---|
| Age | 41 – 50 Years | 40 | 17.8 | 1.63 | 0.002 |
| | Above 50 Years | 30 | 17.7 | 1.55 | **S** |
| Gender | Male | 33 | 18.1 | 1.41 | 0.213 |
| | Female | 37 | 17.5 | 1.71 | **NS** |
| Education | Non Literate | 14 | 18.1 | 1.29 | 0.238 |
| | Primary | 49 | 17.5 | 1.67 | **NS** |
| | Secondary | 7 | 18.6 | 1.27 | |
| Source of Health information | Books | 7 | 17.2 | 2.05 | 0.406 |
| | Health personnel | 63 | 17.8 | 1.53 | **NS** |
| Family History | Yes | 26 | 18.1 | 1.39 | 0.329 |
| | No | 44 | 17.6 | 1.68 | **NS** |
| Occupation | Daily wages | 4 | 18.2 | 1.50 | 0.348 |
| | Home maker | 31 | 17.5 | 1.75 | **NS** |
| | Self employ | 21 | 18.2 | 1.27 | |
| | Employ | 14 | 17.6 | 1.59 | |

**S – Significant** **NS – Non Significant**

Table No. 5: Chi square test was applied to assess the significant association exist between the pre test level of fatigue with selected demographic & disease related variables. Age of the patient was found to be highly associated with physical parameter fatigue.

## II. Discussion:

| OBJECTIVE | FINDINGS | SUPPORTIVE STUDIES |
|---|---|---|
| Assess the level of fatigue on management of COPD among patients with chronic obstructive pulmonary disease. | Reveals that majority of the subject 57.14% had mild fatigue among patients with COPD | The study findings were consistence with Cindy J Wong (2010), examined the dimensions of fatigue related to COPD patients participating pulmonary rehabilitation program. |
| Find association between the levels of fatigue on management of chronic obstructive pulmonary disease with selected demographic variables. | Age of the patient found to be highly associated with level of fatigue. | The study findings were similar with Ramin Baghai Ravary (2009), investigated the hypothesis that increased fatigue is related to physical inactivity and COPD exacerbations. |

## III. Conclusion:

The following conclusion was drawn from the findings of the study.

- Majority of the COPD patients had mild fatigue.
- Level of fatigue was statistically significant with the selected demographic variable age.

**IMPLICATIONS:**

| | |
|---|---|
| **Nursing Education** | An integration of the subjects in the curriculum which includes the technological advancement, changing trends and concept related to theory as well as practice of nursing care related to COPD. |
| **Nursing Service** | The staff nurses have an opportunity to learn and insist the factors influencing transmission of infection among COPD. and protect themselves from the threat & to prevent further transmission of COPD.. |
| **Nursing Administration** | In-service education should become a regular pattern to the nursing personnel to keep them abreast with the prevention of COPD.. Pamphlet, handouts, information booklet regarding COPD. should kept at health care set up for the use of patients, attendees and significant others. |
| **Nursing Research** | The essence of research is to build a body of knowledge in nursing as it is an evolving profession. The finding of the present study serves as a basis for the professionals to conduct further studies. Nurse researchers can motivate nursing students to do more studies on this particular aspect. |

**RECOMMENDATIONS:**

Based on the study findings the following recommendations have been made for the further study.

- ❖ A qualitative study can be conducted on lived experience of COPD patients.
- ❖ A study can be conducted regular walking exercise to reduce fatigue among patients with COPD.

## Bibliography:


[1]. Yvonne M J Goertz & et.al (2018), Fatigue in patients with chronic obstructive pulmonary disease, BMJ Open. 8(4): e021745.

**[2].** Magnus Kentson & et.al (2016), Factors associated with experience of fatigue, and functional limitations due to fatigue in patients with stable COPD, Therapeutic Advances in Respiratory Disease, Volume: 10 (5), Pg. no: 410 – 424.

[3]. Yvonne M J Goertz, Martijn A Spruit, Alex J Van (2019), Fatigue is highly prevalent in patients with COPD and correlates poorly with the degree of airflow limitation, Therapeutic Advances in Respiratory Disease, Published online: https://doi.org/10.1177/1753466619878128.

[4]. Zjala Ebadi & et.al (2021), The prevalence and related factors of fatigue in patients with COPD, European Respiratory review, Published Online: 10.1183/16000617.0298-2020.

[5]. Caroline Stridsman, My Svensson, Viktor Johansson Strandkvist (2018), The COPD Assessment Test (CAT) can screen for fatigue among patients with COPD, Therapeutic Advances in Respiratory Disease, Published online: https://doi.org/10.1177/1753466618787380.

[6]. Zumrut Akgun Sahin, Nuray Dayapoglu (2018), Effect of progressive relaxation exercises on fatigue and sleep quality in patients with chronic obstructive lung disease (COPD), Complementary therapies in Clinical Practice, Volume 21, Issue 4, Pg. No: 227 – 281.

**[7].** Mikael Andersson, Caroline Stridsman, Eva Pon Mark, Anne Lindberg, Margareta Emtner (2015), Physical activity and fatigue in chronic obstructive pulmonary disease, Respiratory Medicine, Volume 109, Issue 8, August 2015, Pages 1048-1057

[8]. Sabina Antonela Antonju, Elena Petrescu, Raluca Stanescu (2015), Impact of fatigue in patients with chronic obstructive pulmonary disease, Pubmed, Published online: https://doi.org/10.1177/1753465815617707.

[9]. Viktor Strandkvist & et.al (2018), Hand grip strength is associated with fatigue among men with COPD, Published Online: https://doi.org/10.1080/09593985.2018.1486490

[10]. Sema Ozoflu Aytac, Serap Parlar Kilic, Nimet Ovayolu (2018), Effect of inhaler drug education on fatigue, dyspnea severity, and respiratory function tests in patients with COPD, Patient education and counseling, Volume 103, Issue 4, Pg. No: 709 – 716.

[11]. Selda Arslan, Gursel Oztunc (2015), The Effects of a Walking Exercise Program on Fatigue in the Person with COPD, Rehabilitation Nursing, Volume 41, Issue 6, Pg. No: 1 – 10.

[12]. Hulya Arikan & et.al (2015), The relationship between cough-specific quality of life and abdominal muscle endurance, fatigue, and depression in patients with COPD, International Journal of Chronic Obstructive Pulmonary Disease, Volume: 10, Pg. No: 1829 – 1835.

[13]. Patricia Rebelo, Ana Oliveira, Lilia Andrade, Carla Valente, Alda Marques (2019), Patient reported outcome measures of fatigue in patients with COPD following pulmonary rehabilitation, European Respiratory Society International Congress, Volume: 158, Issue: 2, Pg. No: 550-561.

[14]. Pooya Seyedi & et.al (2018), The effect of progressive muscle relaxation on the management of fatigue and quality of sleep in patients with chronic obstructive pulmonary disease, Complementary Therapies in Clinical Practice, Volume: 31, Pg. No: 64 – 70.

[15]. Bangorn Peepratoom & et.al (2020), A structural equation model of health-related quality of life among Thai men with chronic obstructive pulmonary disease, Journal of Clinical Nursing – The international voice of nursing research, theory and practice, 29 (13 -14): 2638 – 2651.

[16]. Ying Yang, Qianqiu Li, Jing Mao, Zongfu Mao (2020), Fatigue and health-related quality of life among patients with chronic obstructive pulmonary disease in China, The clinical respiratory, 14(5), DOI: 10.1111/CRJ.1307.

[17]. Jean-Bernard Gruenberger, Jeffrey Vietri, Dorothy L Keininger, Donald A Mahler (2017), International Journal of chronic obstructive pulmonary disease, 12: 937–944.

[18]. Hye-Young Kwon, Eugene Kim (2016), Factors contributing to health-related quality of life (HRQOL) in COPD patients, International Journal of chronic obstructive pulmonary disease, 11: 103–109.

[19]. Zsofia Lazar, Alpar Horvath, Gabor Tomisa, Lilla Tamasi, Veronika Muller (2020), assessed the impacts of clinical factors on generic specific quality of life in COPD & Asthma COPD exacerbation patients, Journal of pulmonary medicine, 6164343.


Mr. Tamilselvan Chinnadurai, et. al. "Assess The Level Of Fatigue Among Patients With Chronic Obstructive Pulmonary Disease." *IOSR Journal of Nursing and Health Science (IOSR-JNHS)*, 11(01), 2022, pp. 01-06.