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Knowledge Regarding Pulmonary Function Tests (PFTS) Among Nursing Students

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ABSTRACT

Asthma is a chronic lung disease affecting people of all ages. It is caused by inflammation and muscle tightening around the airways, which makes it harder to breathe. Symptoms can include coughing, wheezing, shortness of breath and chest tightness. These symptoms can be mild or severe and can come and go over time. Although asthma can be a serious condition, it can be managed with the right treatment. People with symptoms of asthma should speak to a health professional. The approach used for this study was Descriptive survey approach. By using purposive sampling technique 60 sample were selected, tool consist of two parts, Part I is Socio demographic variable and Part II Knowledge on Pulmonary function tests. Findings revealed that that majority 55.0% of nursing students had Moderate Knowledge and 45.0% had In adequate Knowledge on pulmonary function tests (PFTs). The overall pulmonary function tests of respondents were found to be 51.33% with standard deviation 4.59.

Keyword: Knowledge, Asthma, Pulmonary function tests.

INTRODUCTION

An essential tool for the examination and follow-up of patients having respiratory disease is the pulmonary function test (PFTS). They offer crucial details on the pulmonary parenchyma, the pulmonary capillary bed's dimensions and integrity, and the big and small airways. Different kinds of abnormalities are observed in diverse respiratory disorders, which aids in the establishment of a diagnosis even if they do not offer a diagnosis per se. We outline the circumstances under which PFTS should be performed, explain anomalous findings, and connect them to underlying pathophysiology.

The most recent national guidelines for the measurements and interpretation of PFT were developed by the international joint Task force from the European Respiratory Society and the American Thoracic Society (EUR/ATS) and published in 2022. Pulmonary function tests (PFTs) allow doctors to evaluate the respiratory function of their patients in numerous clinical scenarios and when there are risk factors for lung disease, occupational exposures, and pulmonary toxicity.

The patient's exertion has an impact on the PFT readings. PFT values should be compared with pertinent medical history, physical examination, and laboratory data in order to make a diagnosis, as they do not offer a precise diagnosis. PFTs also enable medical professionals to monitor lung diseases over time, evaluate their severity, and gauge how well they are responding to therapy.

Mycobacterium tuberculosis is the primary cause of pulmonary TB, also referred to as the "white plague," which is a chronic infectious illness mostly spread through the respiratory system. The World Health Organization reports that hundreds of thousands of people worldwide contract pulmonary tuberculosis each year, with up to 3 million dying from the disease. As a result, pulmonary tuberculosis is one of the infectious illnesses with the greatest rates of mortality and incidence worldwide, with China having one of the highest incidence rates. Currently, the most important factor in the medical management of pulmonary TB is medicine. However, there are drawbacks to long-term drug treatment, such as bad responses and difficulties healing injured tissues. Respiratory functioning nursing has gained clinical recognition as a non-pharmacological treatment in recent years. It entails efficient respiratory functional workouts that help patients' immunity, body tolerance, and dyspnea.

In our nation and across the world, chronic obstructive pulmonary disease, or COPD, is a major cause of both death and morbidity. The aging of the population and persistent risk factors are expected to lead to a rise in the prevalence of COPD. CODP is the third leading cause of mortality worldwide and the fourth leading cause in our nation due to its preventable and controlled nature. The primary causes of the poor diagnosis rate are patients' delayed or delayed realization of symptoms, delayed onset of symptoms over the course of the illness, low use of pulmonary function tests, and ambiguity around the diagnostic criteria.

Despite the fact that COPD is a condition that is best treated by specialists in respiratory medicine, primary healthcare professionals should also be aware of its symptoms its diagnostic standards given its financial impact. Prior to the disease progressing to severe stages that need symptomatic and costly therapies, early detection of the illness and helping individuals stop smoking - the most significant etiological factor - are crucial. Nonetheless, COPD is not well understood, underdiagnosed, and undertreated, which is consistent with research findings from both domestic and international studies. In the Turkish BOLD COPD Pilot Study, which was carried out in Adana, the incidence of patients with a physician-diagnosed case of COPD was 5.6%, while the prevalence of the disease in those over 40 years of age was 19.1%.

A comprehensive, evidence-based therapy method used to treat patients with patient-specific symptoms is called pulmonary rehabilitation (PR). Its primary goals are to lessen symptoms, improve the standard of life and involvement in everyday activities by enhancing emotional well-being, and lower health-related costs by reversing the stabilizing the disease's systemic consequences. Since the 1990s, it has been utilized in the management and treatment of COPD patients. PR helps people with COPD at level A feel better about their dyspnea, their daily life, ability to exercise, hospitalization rate, anxiety, and sadness.It has also positive effects on mortality. Objectives of study: - To assess the knowledge regarding pulmonary function tests (PFTs) among nursing students. To determine the association between the mean knowledge scores of the nursing students regarding pulmonary function tests (PFTs) with their selected socio-demographic variables.

MATERIALS & METHODS

A non-experimental descriptive design was used to assess the knowledge regarding pulmonary function tests (PFTs) among nursing students in selected hospital of Raichur, among 60 samples chosen using a non-probability purposive sampling procedure. The research variable of the study is Knowledge of d pulmonary function tests (PFTs) and Demographic variables such as age, Gender, Religion, Type of family, residence and type of diet and sources of information. Structured

interview schedule consists of two sections i.e. Step-I: Socio-Demographic variables of the nursing students. Step-II: Structured knowledge questionnaire Consists of the Questionnaire with 40 items related to general concept, types of lung function test, Indications, steps involved pulmonary function tests (PFTs), complication of pulmonary function tests (PFTs) and nurses' responsibility and the data obtained was analyzed using descriptive and inferential statistics.

Sampling criteria

The samples were selected with the following predetermined set of criteria.

Inclusion criteria:

1] Nursing students who are willing to participate in the study.
2] Nursing students who are present at the time of data collection.
3] Both male and female nursing students are included in this study.

Exclusion criteria:

1] Nursing students who refuse to participate in the study.
2] Nursing students who are not present at the time of data collection.
3] Nursing students who is sick on the day of data collection

RESULT

The data were analyzed on the basis of the study objectives, using both descriptive and inferential statistics. Findings are organized in the following headings.

Table – 1: frequency and percentage distribution of Demographic profile of nursing students

Age	Frequency	Percentage
18 years	13	21.7
19 years	26	43.3
20 years	15	25.0
21 years	6	10.0
Gender		
Boy	16	26.7
Girl	44	73.3
Religion		
Hindu	32	53.3
Christian	28	46.7
Hindu	32	53.3
Christian	28	46.7
Hindu	32	53.3
Type of family		
Nuclear Family	54	90.0
Joint Family	6	10.0
Residence		
Urban	60	100.0
rural	0	0.0
Type of Diet		
Non Vegetarian	60	100.0
Vegetarian	0	0.0
Sources of Information		
News paper	8	13.3
Friends	19	31.7
Teacher	13	21.7
Television	7	11.7
Seniors	7	11.7
Staff Nurses	6	10.0
Previous knowledge		
Yes	41	68.3
No	19	31.7
Total	**60**	**100%**

The distribution of the subjects by age revealed that the majority of nursing students (43.3%) belong to 19 years and only (10.0 %) were belongs to 21 years. Gender shows (73.3%) were females and only (26.7 %) were boys. Religion of nursing students (53.3%) was Hindus and only (46.7 %) were Christian. The nursing students (90%) belong to nuclear family and only (10.0 %) belongs to joint family. All nursing students (100%) were residing at urban area, (100%) were Non Vegetarian and majority of nursing students (31.7%) were add information from friends and only (68,7%) were had loss of previous knowledge.

Table – 2: Knowledge scores of nursing students N=60

Selfie taking behavior level		
	Frequency	Percent
In adequate Knowledge	27	45.0
Moderate Knowledge	33	55.0
Adequate Knowledge	0	0.0
Total	60	100

According to the above table it is evident that majority 55.0% of nursing students had Moderate Knowledge and 45.0% had In adequate Knowledge on pulmonary function tests (PFTs)

Table – 3: mean, mean percentage and standard deviation of nursing students on pulmonary function tests (PFTs) N=60

Sl. No.	Pulmonary function tests (PFTs)	No. of Items	Max Score	Mean	Mean %	SD
1	*General concept,*	7	28	14.75	52.67	1.856
2	Types of lung function test	7	28	14.7	52.5	1.759
3	Indications, steps involved pulmonary function tests (PFTs),	8	32	16.98	53.06	2.266
4	Complication of pulmonary function tests (PFTs)	3	12	5.67	47.25	0.968
5	Nurses responsibility	3	12	5.4	45.0	0.848
Overall		28	112	57.5	51.33	4.597

The maximum mean percentage obtained by the subjects is found in the aspect of Indications, steps involved pulmonary function tests (PFTs), (53.06%) followed by General concept, (52.67%), Types of lung function test (52.5%), Complication of pulmonary function tests (PFTs) (47.25%) and least mean score (45.0%) found in the aspect of Nurses responsibility. The overall pulmonary function tests of respondents were found to be 51.33% with standard deviation 4.59.

Association of the knowledge scores of nursing students with the selected demographic variables

It is evident that the obtained $\chi 2^{\text{value}}$ is greater than the table value at 0.05 levels of significance. Therefore there is significant association between selected demographic variables such as religion and sources of information with knowledge scores of nursing students and remaining were not associated between selected demographic variable.

DISCUSSION

The data analysis produced the following conclusions: The purpose of the current study was to ascertain nursing students' understanding of pulmonary function tests.The majority of nursing students—55.0%—had moderate knowledge of pulmonary function tests (PFTs, while 45.0% had inadequate knowledge, according to the findings. The results of the respondents' total pulmonary function tests showed a 51.33% result with a 4.59 standard deviation.

This finding of the study was in consistent with study conducted by Ranu, 2011on Pulmonary Function Tests and found Pulmonary function tests are valuable investigations in the management of patients with suspected or previously diagnosed respiratory disease. They aid diagnosis, help

monitor response to treatment and can guide decisions regarding further treatment and intervention. The interpretation of pulmonary functions tests requires knowledge of respiratory physiology. In this review we describe investigations routinely used and discuss their clinical implications.

Limitations

- Study was conducted in specific geographic area imposes limits on generalization
- The findings could be generalized only to the population which fulfilled the criteria in the study.
- The study limited to assessment of Knowledge
- The sample was limited to 60 only
- Long-term follow-up could not be carried out due to time constraints.

Recommendations

On the basis of the findings of the present study the following recommendations have been made for the further study.

- A similar study can be replicated on a large sample to generalize the findings.
- A similar study may be conducted in different setting.

CONCLUSION

This study showed that the level of knowledge of nursing student on pulmonary Function Tests was inadequate. It is recommended that the curriculum plan and conduct the necessary education/training of student nurses on the steps involved in pulmonary function test Additionally, it is necessary to develop and implement the pulmonary Function Tests manual in the hospital and implement the placement provisions of nurses according to their training and specialty.

Declaration by Authors

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