



## AN IMPACT OF PATIENT COUNSELING AMONG COPD PATIENTS IN THE TERTIARY CARE TEACHING HOSPITAL

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### ABSTRACT

The aim of this study is to provide patient counseling among the COPD patients and assess its impact. This prospective questionnaire based study conducted for the period of 6 months among COPD patients. The data collected from 146 enrolled subjects with the help of questionnaire, appropriate patient counseling by providing patient information leaflets and followed by the assessment with the help of feedback form. Majority of patients were male n=108 (74%), and female were n=38 (26%). The occurrence was higher in age group of 61-80yrs n=79 (54%). COPD with co-morbidities were n=93(63%). Among 146 subjects n=78(53%) were smokers and n=68(46%) were non-smokers. Patients' symptoms, physical & psychological status severity have been assessed by the help of using the CCQ (Clinical COPD Questionnaire). This study reveals that the impact of patient counseling among COPD patients were highly beneficial. Moreover, it was highly helpful to create the awareness about disease and medication management among the hospitalized COPD patients and can reduce the hospital stay. So, this study concluded that patient education is important and crucial for appropriate and comprehensive patient care.

**Key Words:-**Counseling of COPD, Impact of Counseling, Quality of Life, COPD.

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### INTRODUCTION

Chronic Obstructive Pulmonary Disease (COPD) is characterized by chronic airflow limitation and range of pathological changes in the lung, some significant extra pulmonary effects and important co-morbidities which may contribute to severity of the disease in individual

patient. COPD generally refers to emphysema or chronic bronchitis (Koda K, 2012)

Indeed, in 2012, more than 3 million people worldwide died of COPD, equating to 6% of all deaths globally in that year. Although preventable and treatable, the burden of COPD is set to continue or worsen, with estimates from the World Health Organization (WHO) predicting that it will be third leading cause of mortality worldwide by 2030 (Molen TV *et al.*, 2017).

In India a median prevalence of 5 percent in men and 2.7 per cent in women was calculated which accounted for a total burden of 8.15 million male and 4.21 million Female patients in a population of 944.5 million in 1996 (Ramanath KV *et al.*, 2011). India also contributes a significant and growing percentage of COPD mortality estimated to be amongst the highest in the world; i.e. more than 64.7 estimated age standardized death rate per 100,000 amongst both sex WHO Global InfoBase Updated on 20<sup>th</sup> January 2011 (Bhome BA *et al.*, 2012)

COPD currently is considered 11<sup>th</sup> leading cause of disability worldwide current projections suggest that by the year 2020, COPD will be the 5<sup>th</sup> leading cause of

disability worldwide, behind on ischemic heart disease, major depression, traffic accidents and cerebrovascular disease (Koda Kimble and Young's Applied Therapeutics: The Clinical Use of Drugs). According to NCMH estimates; in 2006 there were around 17 million COPD patients in India and in the next 10 years this figure is likely to reach around 22 million.

In near future, assessment of COPD should become as basic, an observation as measuring pulse and blood pressure (Bhome BA *et al.*, 2012). This increase the prevalence of COPD is believed to be related to the aging of the population and past smoking behavior because COPD death rates and prevalence lag behind smoking rates by several decades. Because the smoking rates for women peaked later than rates for men (Koda Kimble and Young's Applied Therapeutics: The Clinical Use of Drugs, 10<sup>th</sup> Edition, 2012). Several environmental exposures such as air pollution, and in people with dusty Occupations such as foundry workers, coal miners, and the areas which are highly industrialized general have the highest incidence of COPD (Roger Walker and Cate Whittlesea Clinical Pharmacy and Therapeutics). Despite the burden of disease, there is lack of recognition of the disease illness among the general public and with the under diagnosis and inadequate management of COPD (Maher RK *et al.*, 2009).

Patients with COPD should receive education about their disease, treatment plans, and prevent complications. Advice and counseling about smoking cessation are essential. Smoking cessation counseling is the most effective method to reduce the risk of COPD and to reduce disease progression. Pharmacists have an ideal position to provide patient education programs and optimize risk of developing disease. Knowledge about the illness and a change of attitude and practice would give better therapeutic outcome. This type of educational study is helpful to COPD patients for their improvement in their quality of life. This study creates awareness among COPD patients to control the progression of disease by providing patient counseling.

## MATERIALS AND METHODS

A Prospective observational study conducted in a period of six months by considering the inclusion and exclusion criteria. The data were collected from general medical ward [male and female] of VIMS, Ballari. A total of 146 patients are enrolled in this study. Ethical approval was obtained from the institutional ethics committee of the TVM College of pharmacy, Ballari. Patients those who diagnosed as COPD and known case of COPD (Male and Female) patients with or without co morbidities, Hospitalized COPD patients, Patients who are willing to participate in this study and signed in the consent form were included in this study. Retrospective COPD, Outpatients, Emergency visits were excluded from the study. The data was collected from the inpatient case

medical records. The counseling impact was analyzed using Microsoft excel 2007. The comparative variables are presented using descriptive statistics such mean and standard deviation. By using t-test the association between the variables was tested. At the CI=95% and P=0.05 the null hypothesis is rejected. So, we concluded that the patient counseling impact shows the significant results on COPD patients.

## RESULTS AND DISCUSSION

A total no. of 146 patients had been participated during the study period.

### Age and Gender

Out of 146 subjects 108 (74%) were male and 38 (26%) were female. In this study among 146 subjects, occurrence of COPD was more in the age group of 61-80 years (n=79) around 54%. In this study the occurrence of COPD was higher in male 108 (74%) compared to female patients 38 (26%) which was supported by the similar study conducted by Kaakinen P *et al.* where male (70%) and female (30%). Around 54% of patients were of age group 61-80 yrs as similar to the study conducted by Kaakinen P *et al.* (46%).

### Distribution of Smokers and Non Smokers

In our study, among the 146 patients 78(54%) subjects were smokers among them 76(97%) were male and 2 (3%) were female. 68 (46%) subjects were non smokers among them 32 (47%) were male and 36 (52%) were female. In comparison with the Khmour R. M. *et al* their studies 90% were smokers.

### Distribution of COPD with or without co-morbidities

In our study, among 146 patients 93(64%) patients were admitted with co-morbidities, among them 69 (74%) were male and 24 (26%) were female. 53(36%) patients were admitted without co-morbidities among them 39 (74%) were male and 14 (26%) were female comparing with Kaakinen. P *et al.* their study shows 82% co-morbidities and our study shows 64%.

### Distribution Among Co-Morbidities

Among 93 patients, 77 (54%) were cardiovascular diseases, 24 (17%) were respiratory diseases, 11 (8%) were renal diseases, 10 (7%) were central nervous system diseases, 10 (7%) were Diabetes, 6 (4%) were hematological disease, 4(3%) were other diseases. In our study the co-morbid condition of COPD which have supported by Ramanath KV *et al.* study.

### Smoking Cessation Counseling

In our study, 78 patients with the habit of smoking among them 68 patients have taken smoking cessation counseling, 66 (98%) were male and 02 (2%) female. 10 patients have refused to take counseling.

Smoking cessation counseling may helpful to quit the smoking which have an impact on increased health benefits and decreases the occurrence of COPD which was supported by the Williams TM et al. studies.

### Severity Assessment Of COPD

According to Clinical COPD Questionnaire (CCQ), severity had been assessed based on three categories symptom status, physical status and psychological status. Based on this the mean values of the above each category was divided into mild, moderate and severe which was supported by the Molen TV et al. study.

### Distribution of Symptoms

Among the symptom status, we categorized the different symptoms that effect on COPD. Each symptom is divided into mild, moderate, severe. We categorized severity of different symptoms of COPD who participated

in our study. This study correlates with Molen TV et al that particularly they categorized the severity of different symptoms.

### Assessment of the Impact of Patient Counseling

To find out the impact of patient counseling in COPD patients we compared the perception responses and feedback responses by using t-test.

Perception response =  $79 \pm 30.37762$  (mean  $\pm$  SD)

Feedback response =  $95.833 \pm 29.65412$  (mean  $\pm$  SD)

t-test = -4.51595

P value=0.05

P (T<=t) one tail=0.003153141

At the CI=95% and P=0.05 the null hypothesis is rejected so we conclude that the patient counseling provided to the patients shows the significant impact on COPD patients.

**Table 1. Gender wise distribution of patients**

GENDER	TOTAL NUMBER(n=146)	PERCENTAGE (%)
Males	108	74%
Females	38	26%

**Table 2. Age wise distribution of patients**

AGE GROUP ( In YEARS)	MALE (n=108)	FEMALE (n=38)	TOTAL (n=146)
21-40	2	3	5
41-60	46	12	58
61-80	57	22	79
81-100	4	1	5

**Table 3. Distribution of smoker**

GENDER	TOTAL NUMBER(n=78)	PERCENTAGE
Male	76	97%
Female	2	3%

**Table 4. Distribution of Non smoker**

GENDER	TOTAL NUMBER(n=68)	PERCENTAGES
Male	32	47%
Female	36	53%

**Table 5. Distribution of patients with co-morbidities**

GENDER	TOTAL NUMBER(n=93)	PERCENTAGES
Male	69	74%
Female	24	26%

**Table 6. Distribution of patients without co-morbidities**

GENDER	TOTAL NUMBER(N=53)	PERCENTAGE
Male	39	74%
Female	14	26%

**Table 7. Distribution among Co-morbidities.**

DISEASE	PERCENTAGE
CVS	54%
RS	17%
RENAL SYSTEM	8%
CNS	7%
DIABETES	7%
HEMATOLOGY	4%
OTHERS	3%

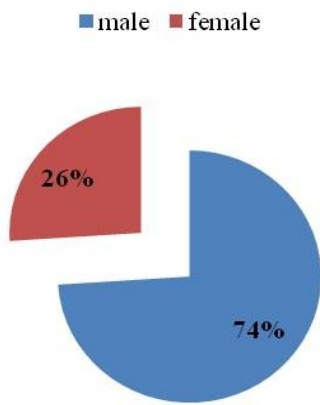
**Table 8. Smoking Cessation Counseling.**

GENDER	TOTAL NUMBER(n=68)	PERCENTAGE
Male	66	97%
Female	02	3%

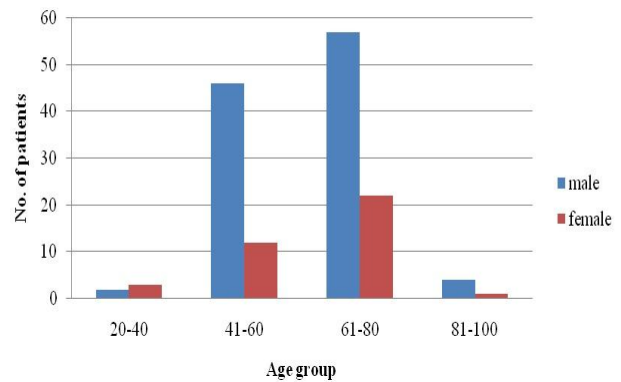
**Table 9. Assessment of the impact of patient counseling**

Question numbers	Perception responses	Feedback responses
1	54	88
2	96	110
3	130	144
4	60	68
5	52	64
6	82	101

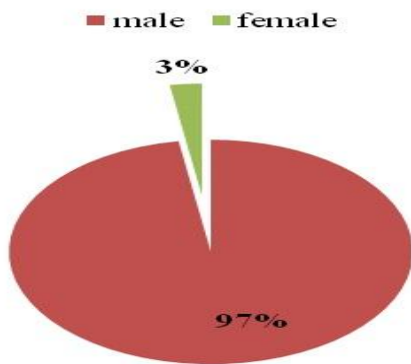
**Fig 1. Gender wise distribution of patients**



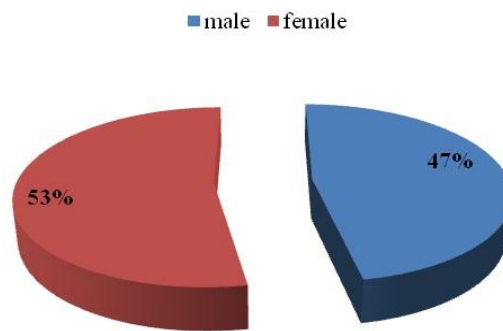
**Fig 2. Age wise distribution of patients.**



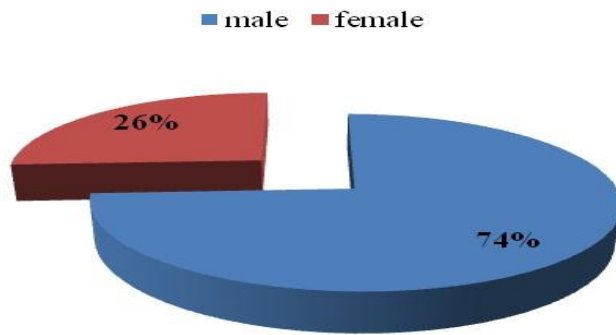
**Fig 3. Distribution of smoker.**



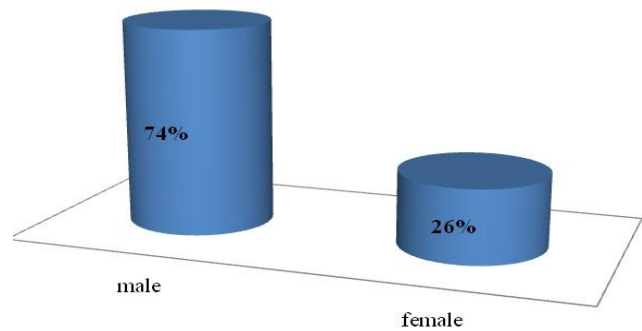
**Fig 4. Distribution of Non-smoker.**



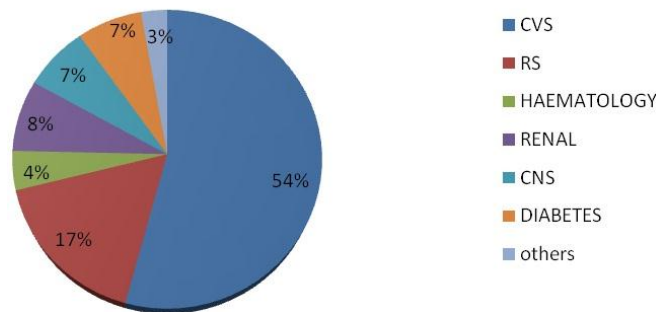
**Fig 5. Distribution of co-morbidities**



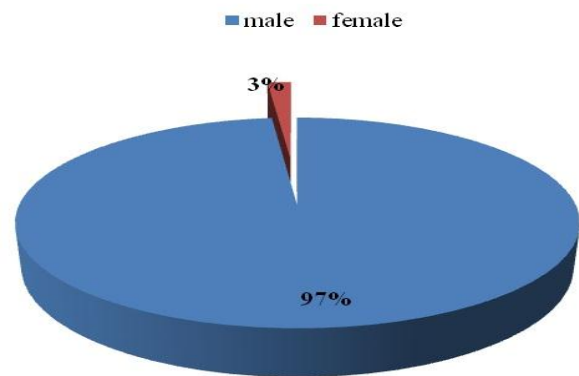
**Fig 6. Distribution of patients without co-morbidities**



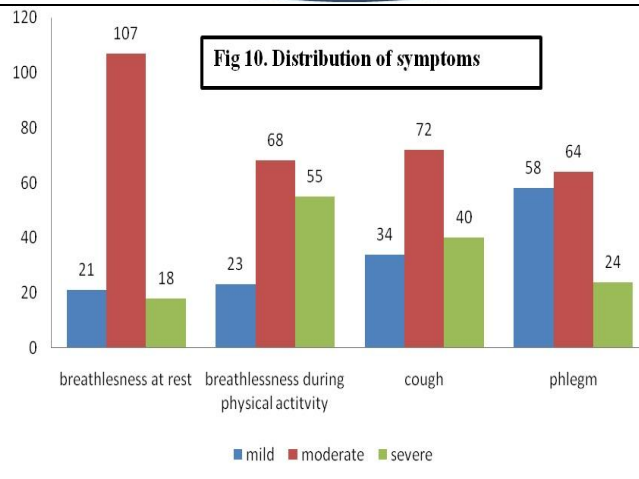
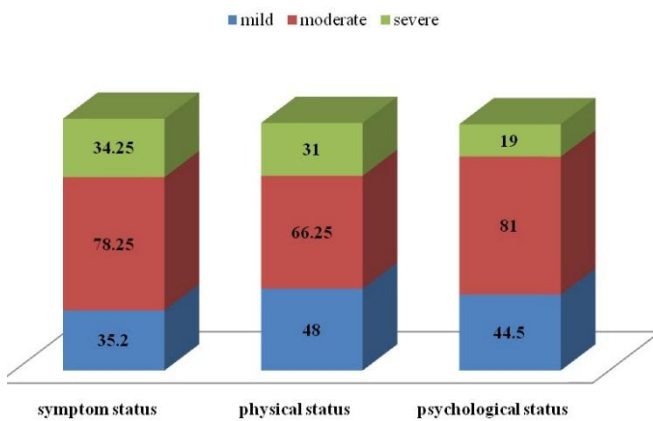
**Fig 7. Distribution among Co-morbidities**



**Fig 8. Smoking Cessation Counseling**



**Fig 9. Comparison of symptom, physical, psychological status of patients**



**CONCLUSION**

The present study shows that Patient education facilitates to achieve desired outcome by providing medications counseling and non pharmacological counseling to measures and manage the COPD. Multidisciplinary approach and high quality counseling is crucial for appropriate comprehensive patient care.

In this study we assessed Knowledge, attitude and Perception of participated subjects and provided patients counseling which was having its impact statistically. This study revealed the need of patient

counseling among the COPD patients which improved the patient medication adherence and helps to quit the smoking and created positive attitude towards COPD management, decreased hospital stay and improved quality of life.

Further, our study observed that the need of patient counseling should be required to the hospitalized patients as well as outpatients. Moreover this study suggested that to conduct educational programme among the public to create the awareness and patient education has more potential to improve the patient quality of life.

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#### CONFLICT OF INTEREST

No interest

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