

Original Article

COMPARATIVE STUDY ON PATIENT COUNSELING USING PICTOGRAM Vs PATIENT INFORMATION LEAFLET AMONG COPD PATIENTS IN TERTIARY CARE HOSPITAL SALEM DISTRICT, TAMILNADU

Arul Prakasam.K.C*, Beny Margrat C.F, Sophy. S, Vidhyalakshmi.K.B

* Department of pharmacy practice, JKKMMRF'S Annai Jkk Sampoorani Ammal College of Pharmacy, Ethirmedi, B. Komarapalayam-638183, Namakkal District, Tamilnadu, The Tamilnadu Dr. MGR Medical University Chennai.

Received on: 31-10-2020; Revised and Accepted on: 30-11-2020

ABSTRACT

COPD is a lung disease characterized by chronic obstruction of lung airflow that interferes with normal breathing and is not fully reversible. Emphysema and chronic bronchitis are the two most common conditions that contribute to COPD.

Patient education has been defined as a systemic process of providing information, advice and behavior modification techniques to improve the patient's ability to make informed decisions regarding their disease and medications.

Objective: *To assess the knowledge attitude practice and to compare the effectiveness of patient counseling by using pictogram and patient information leaflet in COPD patients.*

Methods: *A total of 170 patients with COPD were enrolled in the study of 6 months duration, patients were divided in to two groups according to the counseling aids used. Knowledge, attitude, practice (KAP) of patient regarding COPD were assessed and recorded at baseline by using KAP questionnaire. The baseline KAP results suggested that patients had a poor perception about their disease. Then the patients were educated about their disease and treatment by using counseling aids either PIL or PIC. At the next follow-up, the KAP questionnaire was again given to the patient. It shows that patient education improved the KAP score of the patients and they were able to answer the same questions given at baseline. The usefulness assessment questionnaire was given to evaluate of PIL and PIC.*

Result: *It showed a significant improvement in KAP results after counseling in both groups. The usefulness assessment questionnaire shows greater significance in pictogram when compared to patient information leaflet.*

Conclusion: *The study concluded that the pictogram is effective in illiterate and literate people were patient information leaflet is helpful only for literate patients. The post knowledge attitude practice questionnaire score shows greater significance when compared to pre knowledge attitude practice questionnaire score and also it shows that patient counseling has a major role in disease management.*

Keywords: *Patient information leaflet (PIL), Pictogram (PIC), COPD, Knowledge Attitude Practice (KAP) questionnaire, Usefulness Assessment Questionnaire (UAQ).*

1. INTRODUCTION:

The American Thoracic Society (ATS) defines chronic obstructive pulmonary disease (COPD) as a disease state

characterized by the presence of airflow obstruction due to chronic bronchitis or emphysema. The air flow obstruction is generally progressive, may be accompanied by airway hyperactivity, and may be partially reversible¹.

***Corresponding Author:**

Arul Prakasam. K. C, Department of pharmacy practice, JKKMMRF'S Annai JKK Sampoorani Ammal College of Pharmacy, Ethirmedi, B. Komarapalayam-638183, Namakkal District, Tamilnadu, The Tamilnadu Dr. MGR Medical University Chennai, India

Email: benytinubt91@gmail.com

Phone: 91-9842778531

DOI: doi.org/10.46978/jpr.20.9.11.1

Chronic bronchitis is a clinical diagnosis defined by excessive secretion of bronchial mucus and is manifested by daily productive cough for 3 months or more than 2 consecutive years. It is inflammation of the lining of the bronchial tube, which carry air to and from the air sacs of the lungs. Emphysema is the condition in which the alveoli at the end of the smallest air passages of the lungs are destroyed as a result of damaging exposure to cigarette smoke and other irritating gases.

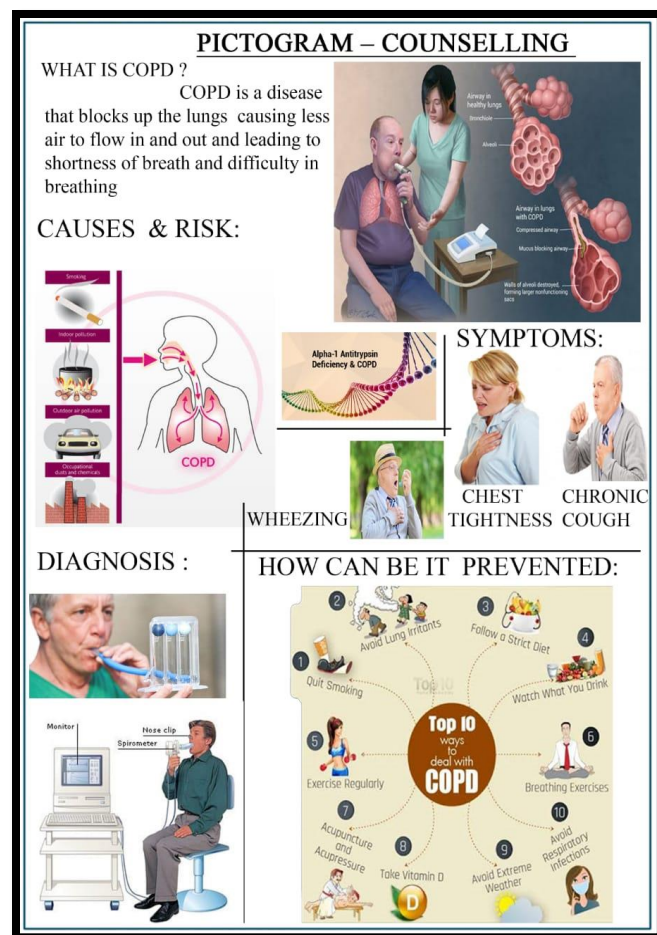
patient education has been defined as a systematic process of providing information, advice and behavioral modification techniques to improve the patient's ability to make informed decisions regarding their disease and medications. Patient education is also required to motivate patients to modify their lifestyle factors which may contribute to deterioration of their current health status 2.

Patient information leaflet are written information leaflets in simple language about the patient illness and its treatment including medications and relevant lifestyle changes. It is a printed material of the verbal advice and can serve as a valuable tool to educate patients and maximize their understanding.3

Pictogram also referred to as pictograms, pictograph or simply Picto. It is an ideogram that conveys its meaning through its pictorial resemblance to a physical objects. A simple picture can help people to understand their prescription and to avoid potentially deadly drug misadventures. Pictograms improve the comprehension of medical information and instruction people with language barrier or limited literacy improve patient understanding and efficacy of treatment of such individuals. Pictograms are descriptive symbols that help to convey information regarding medication and health, it can also be incorporated to emphasize key counseling.4

2. MATERIALS AND METHODS

The study was an observational comparative study conducted for a period of 6 months in which 170 patients were enrolled where all of them met inclusion criteria (February to July 2019). The study was conducted in the department of Pulmonology after receiving approval from ethical committee by submitting the study proposal with study title, aim and objective, plan of work and methodology. The study was carried out in different tertiary care hospital in Salem district. The patients were categorized into two groups. A questionnaire was prepared to collect the patient demographic details such as name, age, gender, level of education, complaints on admission, past medical history, past medication history social and family history, respiratory rate, spirometry reports and treatment plan. Guess ability study was carried out in 30 COPD patients and their response to pictogram was recorded in 3 point Likert scale. A knowledge attitude practice questionnaire with 16 questions were used to know the pre KAP and post KAP scores. The pre KAP was collected during baseline and post KAP was collected at first follow-up counseling with counseling aid either pictogram or patient information leaflet was given after pre KAP. Usefulness assessment questionnaire was used to assess the usefulness of pictogram and patient information leaflet.





2.1 Patient Information Leaflet of COPD

WHAT IS COPD?

COPD is a disease that blocks up the lungs causing less air to flow in and out leading to shortness of breath and difficulty in breathing

CAUSES AND RISK

- Asthma
- Pollution
- Smoking
- Advanced age
- Chemical exposure
- Alpha-1-AntiTrypsin deficiency
- Chronic bronchitis
- Biogas exposure

SYMPTOMS

- Chest tightness
- Chronic cough
- Wheezing
- Shortness of breath

DIAGNOSIS

- Spirometry

HOW CAN BE IT PREVENTED

- Avoid lung irritants
- Follow a strict diet
- Quit smoking
- Watch what you drink
- Breathing exercise
- Acupuncture
- Acupressure
- Tablet vitamin D
- Avoid extreme weather
- Avoid respiratory infections

2.2 Patient Counseling

DISEASE BASED

- Stay away from sick people
- Wear mask when you are in polluted area
- Take steam bath
- Stay away from crowded people
- Avoid industrial pollution
- Wipe the nose with towel not with hands

DRUG BASED

- Take your medicines at the right time

STEPS USED IN INHALER USAGE

- Remove the cap from the inhaler
- Shake the inhaler well for 5 seconds
- Hold the inhaler firmly by placing your index finger on top of the canister and thump on the bottom of the mouth piece
- Sit straight or standup
- Tilt your head back slightly
- Exhale away from the inhaler
- Put the inhaler in your mouth press the inhaler and start breathing in at the same time take a slow and deep breath
- Hold your breath for 10 seconds exhale slowly through your mouth or nose
- Gargle your mouth after inhalation

LIFESTYLE BASED

- Pursed lip breathing exercise
- Diaphragm breathing exercise
- Wash your hands properly
- Eat several small meals instead of 3 large meals
- Rest is essential
- Avoid junk foods
- Avoid smoking and alcohol consumption

DIET BASED

- Ginger, Orange and banana should be included in the diet
- Yogurt should be included in the diet
- Egg yolk & Fish should be included in the diet
- Maintain Low consumption of salt
- Drink large quantity of water.

Data analysis and interpretations

The study subjects are divided into two groups, based on the type of counseling aid used for counseling of patients namely group 1 (PIL used patients) and group 2 (PIC used patients). They were described in respect of their demographic and clinical profiles according to the type of variables such as continuous and categorical variables. The comparison of continuous variables between the groups was done by student independent "t" test and chi-square test, one way analysis of variance (ANOVA) was used for categorical variables. The above statistical procedure were under taken with help of the statistical package instant and prism version 6.0. The P-values less than or equal to 0.05 were fixed as level of statistical significant.

3. RESULTS

Table 1: The demographic details of the study population

On comparing both groups 1 has 58.8% males and 41.2% females and group 2 has 75.3% males and 24% females. This indicate that male patients are more susceptible for chronic obstructive pulmonary disease. Both groups has majority of patients belonging to the category of age group between 40-55. Majority of the patients in group 1 had primary level of education (29) and in group 2 the illiterate patients were greater among 85 patients.

Table 2: Average pre and post score

The average KAP score shows, there is greater significance in post KAP score in both group. Which indicates that patient counseling has a great impact in disease management. When comparing both group patients who answered correctly for post KAP is higher in group 2 (PIC). The patients of group 2 have a greater significant in KAP than group 1 for post KAP. Illiterate patients also could answer the post KAP in group 2 which indicates that the PIC was more useful even in illiterate patients.

Table 3: Comparison between pre-KAP and post-KAP score.

The post KAP score of group 2 was found to be much higher than group 1 in both the gender, age and education; it implies that the patients actually got benefit from the counseling. Majority of the patients in our study belongs to the age group of 40-55. The post KAP score of the patient information leaflet were observed only smaller improvement than pre KAP score. But pictogram shows higher difference in post KAP when compared to pre-KAP which implies that PIL is

not that much benefit compared to PIC. Among the 170 patients majority of population have primary level of education in group 1 while in group 2 majorities of the patients are illiterate. The post KAP score shows higher significance than pre KAP score.

Table 4: Overall comparison of usefulness assessment questionnaire

The usefulness and assessment questionnaire score was found to be high in group 2 when compared to PIL. The results of PIL and PIC usefulness assessment questionnaire suggest that majority of the study population found that amount of information provided in PIC was more useful when compared to the result of UAQ PIL. This indicates that PIC is more effective than in all category of patients.

4. DISCUSSION

This research is one of the rate attempt to evaluate pictogram and PIL in countries where is the role of pharmacist is limited solely to dispense medicines, pharmaceutical care is a rarity 5. Inadequate knowledge about COPD emerge as a risk factor for a majority of therapy regimen of COPD patients 6. In this study we have identified certain factors which may influence COPD treatment outcomes and effect the way of patients perceive their disease. Knowledge of these factors may be useful to understand the way of patients feel about their disease and its management. Among that illiteracy is considered as one of the important factor.

Majority of COPD patients in group 1 had primary level of education (29%) and illiterate in group 2 (29%). Lack of knowledge about the disease condition and treatment will definitely be reflected in the treatment outcome 7. The result of the study showed that pictograms are generally well understood even in patients with low literacy rate, where PIL are well understood by graduate patients 6. Disease specific knowledge attitude practice (KAP) questionnaire were given to both the groups at the time of enrollment. After period of one month a fresh KAP containing the same set of questions were given to both the groups 8. The baseline KAP result suggests that patients had a poor perception of their disease.

Most patients were not on regular treatment and take medication only during the time of acute exacerbations. Patient education improved the KAP of the patients and they were able to answer satisfactorily the same questions that were posed during baseline. The result showed a significant improvement after counseling 7.

In our study post KAP results of group 2 patients shows higher significance than post KAP results of group 1. Which implies that pictogram is more effective counseling aid than patient information leaflet (PIL). In addition to KAP questionnaire usefulness assessment questionnaire was also given to both the groups. UAQ contains a set of questions to evaluate the

usefulness of PIC and PIL 8. The result of UAQ suggest that in group one 37.6% of the study population found the amount of information provide in the leaflet was adequate. In group two 54.1% of the study population found the amount of information provided in the pictogram was adequate. In the question of usefulness 22.4% responded that information provided was very useful in group 1 and in group two, 51.8% responded that information was very useful. The result of understandability shows that 8.2% of the study population found that the leaflet is very easy to understand in group one. At the same time in group two 31.8% of the population found that pictogram is very easy to understand. The overall usefulness of PIL is 5.9% while for pictogram it is 42.4%.

5. CONCLUSION

The study concluded that the pictogram is effective counseling aid when compared to the patient information leaflet (PIL). From the study we can understand that the PIL is more effective in people with higher education and pictogram is useful for both literate and even illiterate patients. Among the male patients majority of them are smokers which indicate that patient with the social habit of smoking are more susceptible for COPD. The knowledge of patients in both groups was improved after the counseling. So we concluded that patient counseling has a relevant role for the better therapeutic outcome. The usefulness assessment questionnaire (UAQ) scale shows that the pictogram is more useful than the PIL.

Table 1

VARIABLES	GROUP 1 (PIL)	GROUP 2 (PIC)
GENDER		
Male	50(58.8%)	64(75.3%)
Female	35(41.2%)	21(24.7%)
AGE		
<40	0	0
40-55	26(30.6%)	21(24.7%)
56-65	23(27.1%)	19(22.4)
66-75	19(22.4%)	19(22.4%)
76-85	14(16.5%)	14(16.5%)
Above 85	3(3.5%)	12(14.1%)
EDUCATION		
Illiterate	10(11.8%)	29(34.1%)
Primary	29(34.1%)	22(25.9%)
Secondary	26(30.6%)	25(29.4%)
HSC	9(10.6%)	2(2.4%)
Graduate	11(12.9%)	7(8.2)

Table 2

Group 1(n=85)		GROUP 2(n=85)	
Avg.pre-KAP (%)	Avg.post-KAP (%)	Avg.pre-KAP (%)	Avg.post-KAP (%)
24.0	38.8	37.8	89.9

Table 3

VARIABLES	GROUP 1		GROUP 2		P-value
	Pre-KAP	Post-KAP	Pre-KAP	Post-KAP	
GENDER					
Male	11.8±6.3	13.8±7.2	25.3±5.9	58.5±3.5	GP 1=Pre KAP(M)&(F) 0.0027 Post KAP (M) &(F) 0.0964 GRP 2=Pre KAP (M)&(F) <0.0001 Post KAP (M)&(F)<0.0001
Female	6.2±2.7	10±5.1	7.2±1.4	17.9±1.7	
AGE					
<40	0	0	0	0	<0.001 considered extremely significant
40-55	5.5±2	9.8±3.8	11.3±2.3	19±1.5	
56-65	5.7±3.1	8±4.1	7.7±1.8	17.2±1.4	
66-75	3.8±2.2	3.2±2.8	5.2±1.9	16.6±1.5	
76-85	2.1±2	1.6±2	4.1±1.4	12.3±1.2	
Above 85	0.8±0.7	1.3±0.9	4.3±1.4	11.3±0.9	
EDUCATION					
Illiterate	0.4±0.6	0.4±0.6	1.2±1.2	25.5±2.5	<0.001 considered extremely significant
Primary	4.1±2.7	4.1±2.7	8.9±1.8	20.1±1.7	
Secondary	7.6±3	9.9±7.1	14.8±4.6	21.8±2.3	
HSC	3.5±1.4	7.9±1.7	1.7±0.6	2±0	
Graduate	4.8±2.6	10.6±0.7	5.7±1.4	7±0	

Table 4

UAQ Questions		Q1	Q2	Q3	Q4	Q5	TOTAL	DIFFERENCE B/W 2 GROUPS	RESULTS
PIL used patient	UAQ score	66	65	75	58	47	311	287(22.5%)	Chi-square :4.343 Df:4 P-value is 0.3616
	%	25.9	25.5	29.4	22.7	18.4	24.4		
PIC used patient	UAQ score	110	129	130	108	121	598		
	%	43.1	50.6	51.0	42.4	47.5	46.9		

6. REFERENCE

- Maxine A. Papadakis, Stephen J. McPhee Associated Editor Michael W. Rabow. Current Medical Diagnosis And Treatment: 2018 ;(57)262-268
- Poornima.D,Ramesh A, Assessment Of Patient Information Leaflets Usefulness In Selected Chronic Disease-A South Indian Based Study. Indian Journal of Pharmacy Practice: 2014; 7(1)23-28
- ParthasarathiG, Karin Nyfort-Hansen, Milap C. NahataText Book of Clinical Pharmacy Practice Essential Concept and Skill: 2012 ;(2) 61-66
- VeintramuthuSankar, RamyaKrishna, Vuyuru Krishna Reddy , Narmadha Muthu Mahendiran , SameerHussain And RamyaParthasarathy , Role Of Pictograms In Educating Diabetic Patients About Medication Use And Lifestyle Modifications. Indian Journal of Pharmacy Practice: 2015; 8(3)102-112
- PiotrMerks, Damian Swieczkowski, MarcinBalcerzak, EwelinaDrelich, KatarzynaBialoszezewska, Natalia cwalina, JerzyKrysinski, Milosz Jaguszewski, Annie Pouliot, Regis Vaillancourt, The Evaluation Of Pharmaceutical Pictograms Among Elderly Patients In Community Pharmacy Settings-A Multi Centre Pilot Study. Patient Preference And Adherence: 2018 ;(12)257-266

6. VeintramuthuSankar, Rinku Mary Joseph, Pinky MariyamThomas, Paul. C. Auguin, RittoThomas. Pictogram: A Better Tool For Counseling Tuberculosis Patients on Medication Use, Diet, A Lifestyle Modifications, Athens Journal Of Health: 2017; 4(1)61-82
7. Thomas Reema, RameshAdepu, Thomas Sabin. Impact of Clinical Pharmacist Intervention On Knowledge, Attitude And Practice (KAP) Of Patients With Chronic Obstructive Pulmonary Disease, International Journal Of Pharmacy And Pharmaceutical Science: 2010; 2(4)54-57
8. Mini Johnson Christudas, Noel M.Isaac, AdepuRamesh, Niphy Annie Varghese, Lisa Sara Abraham, Justin Kurian And Narahari M. G. Assessment Of Patient Information Leaflet Usefulness In Patients With Chronic Disease- A Randomized Control Study, World Journal Of Pharmacy And Pharmaceutical Science :2016;5(2)931-940f

Article Citation:

Authors Name. Arul Prakasam. Comparative study on patient counseling using pictogram vs patient information leaflet among copd patients in tertiary care hospital salem district, Tamilnadu. JPR 2020;9(11): 121-127

DOI: doi.org/10.46978/jpr.20.9.11.1