

Market Assessment of Anti-COPD Drugs in Different Areas of Rajasthan

By

Ankur Raghuvanshi

*Dissertation submitted for the partial fulfillment of the
MBA Pharmaceutical Management*

Academic year, 2018-2020



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TO WHOMSOEVER MAY CONCERN

This is to confirm that **Ankur Raghuvanshi**, understudy of MBA Pharmaceutical Management from IIHMR University, Jaipur has experienced entry level position preparing at **Cipla Pharmaceuticals** from **March 12, 2020 to June 12,2020**

The Candidate has effectively done the examination assigned to him during entry level position preparing and his way to deal with the investigation has been true, logical, and systematic.

The Internship is in satisfaction of the course prerequisites.

Dean, Academics and Student Affairs
The IIHMR University, Jaipur

Professor
The IIHMR University, Jaipur

IIHMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to guarantee that the dissertation paper titled **Market Assessment of Anti-COPD Drugs in different areas of Rajasthan** and presented by Ankur Raghuvanshi Enrollment No. IIHMR-U/02/2018-20/0125 under the management of Dr. Arpita Basak during the period from March 12, 2020 to June 12, 2020 which exemplifies my unique work and has not shaped the reason for the honor of any degree, recognition partner transport, cooperation, titles in this or some other organization or other comparative foundation of higher learning.

Signature

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Preface

Any data is inadequate while not direct aptitude with respect to it. Inside the wellbeing area especially to get to know the extremely basic as its issues square measure confused and profound unmoving. To deal with the issues inside the wellbeing segment MBA understudy of pharmaceutical administration need to get a handle on the working of the different associations be it non-open or open, for this reason postulation of a quarter of a year is booked written to second year.

For the point of postulation, I'm happy that I got opportunity to figure underneath **CIPLA PHARMACEUTICALS** as I accepted, I may get the chance to get a handle on the working of deals division that prepared the elevating group the best approach to handle their clients.

Purpose of Dissertation

Paper is partner essential a piece of the graduate degree course of study. As an area of the course, understudies of Second year space uncaused in holds at any alleged association to actuate intensive presentation of different offices at stretches the association and better comprehension of the medicinal services framework and its capacities.

The significant goals of the late spring program unit of estimation as follows:

- To higher comprehend this wellbeing conveyance framework related to open and individual segments.
- To watch the execution of different national wellbeing segments at national/state/locale levels.
- To comprehend differed elements of wellbeing framework by cooperation's with key partners, approach producers, program chiefs, academicians and specialists.
- To deal with the undertaking/task doled out by summer work association.

ACKNOWLEDGMENT

I am most importantly appreciative to my establishment, Indian Institute of Health Management Research, Jaipur for giving me an open door as summer preparing, which helped me increase an inside and out information on the working of an emergency clinic.

I might want to stretch out my earnest respects to **Mr. Dipak Sharma (RSM, Cipla Pharmaceuticals)** for giving me such an incredible learning opportunity and for directing me at each progression, for giving me chances of reasonable learning by distributing me anticipates and continually being open for productive conversations and for demonstrating distinct fascination for my late spring preparing and being agreeable and supportive all through my time at Cipla Pharmaceuticals.

I might want to stretch out my note of gratitude to my guide at IIHMR University, **Dr. Arpita Basak (Assistant Professor, The IIHMR University)** for being my steady guide and continually being accessible at whatever point I required her direction.

INTRODUCTION

The **World Health Organization (WHO)** characterizes Chronic Obstructive Pulmonary Disorder (COPD) as: 'a lung disease depicted by steady square of lung wind flow that intrudes with commonplace breathing and isn't totally reversible'. This is as opposed to the variable aviation routes impediment found in asthma which can be turned around by sedate treatment. The wind stream check in COPD is because of harm to the lung structure and decimation of lung tissue (emphysema). This is regularly because of smoking, however repetitive disease likewise adds to the procedure. While preventable (COPD is fundamentally brought about by smoking) and progressively treatable, the wind current check seen in COPD is generally dynamic. All the more as of late the fundamental impacts of progressively serious COPD have been perceived, including weight reduction, dietary unsettling influences and anomalous skeletal muscle work. COPD is additionally every now and again connected with, and may contribute towards, various coinciding sicknesses, for example, coronary illness, osteoporosis and diabetes, which impact grimness and mortality.

'COPD is a main source of Morbidity and Mortality Worldwide that incites a financial and social weight. COPD pervasiveness, horribleness and mortality shift across nations and furthermore between various areas in the nations. COPD is the consequence of an intricate interaction of long haul total introduction to toxic gases and particles, joined with assortment of host factors including hereditary qualities, aviation route hyper-responsiveness and poor lungs development during adolescence. Regularly the commonness of COPD is straightforwardly identified with the predominance of tobacco smoking, in spite of the fact that in numerous nations open air, word related and indoor air contamination are major COPD chance variables. The predominance and weight of COPD are anticipated to increment over the coming a long time because of proceeded with introduction to COPD hazard factors and maturing of the World's populace. Data on the weight of COPD can be found on International Websites for instance:

- i. World Health Organization (WHO)
- ii. World Bank/WHO Global Burden of Disease Study

The Global Burden of Disease (GBD) Study Report 2017 reveals that after Ischemic Heart Disease, COPD is the second leading cause of disease burden in India. In India, COPD contributes to 75% of the total healthy life years lost due to disease due to any Respiratory Disease.

COPD across the globe:

There are roughly **384 million COPD cases worldwide** with a commonness of 11.7% (GOLD 2019 report). However it is often seen that the disease remains unrecognised until the major symptoms are seen.

It is the third biggest reason for death on the planet and executes almost 3 million individuals consistently. COPD mortality in females has dramatically increased throughout the most recent 20 years.

COPD in India:

The complete weight of COPD in India was evaluated to be 55 million out in 2016. India positions 1st on the planet in wording of commonness of COPD . The complete number of deaths due to COPD in India are evaluated to be 8,48,000 each year. The predominance of COPD had expanded from 3.3% in 1990 to 4.2% in 2016 (Global Burden of Disease Report, 2016)

COPD results in increasing economic and social burden.

COPD in Indian States:

- Uttar Pradesh and Maharashtra are the leading states for COPD burden in India.
- Rajasthan and Uttar Pradesh have the highest population affected that have lost healthy life years due to a compromised health state due to COPD.
- Rajasthan and Uttar Pradesh have the highest mortality rates due to COPD in India.

- Leading hazard factors for COPD in India are air contamination (53.7%), tobacco use (25.4%) and work related hazard (16.5%).

BACKGROUND

Defination:

COPD is a common, preventable and treatable disease that is characterized by respiratory side effects and air flow limitations that is because of alveolar dysfunction typically caused due to long time exposure to toxic gases (GOLD 2019).

Significance of the Terms used:

- **Common**-It reveals to us that COPD is an exceptionally pervasive illness
- **Preventable and treatable**-It reveals to us that COPD can be forestalled if the hazard factors, particularly cigarette smoke are kept away and it is treatable with the new medicines accessible.
- **Persistent air flow limitations**- It discloses to us that there is a steady check of air in aviation routes.

Concepts of Chronic Bronchitis and Emphysema

COPD is a range of maladies which incorporates:

1. Chronic bronchitis
2. Emphysema
3. Small aviation route malady
4. Long-standing asthma that has gotten lethargic to treatment.

Chronic Bronchitis

Chronic bronchitis is characterized by a beneficial hack on most days for at any rate three months for in any event two back to back years and which can't be ascribed to other aspiratory or heart causes.

- It is thought to result from a natural resistant reaction to breathed dangerous gases, especially in tobacco smoke.
- Inflammation is available in the epithelium of the central airway routes also mucus gets formed heavily.
- This central airway inflammation aggravates the thickening of the wall by heavy mucus production.
- Thus, the disease affects the airway route causing incitement of the mucus and an expansion in the thickness of the airway wall, which is brought about by hypertrophy/hyperplasia of the epithelium or by the inflammatory cells.
- The thickened wall, hypersecretion, and an expansion in the the airway mucus alongside epithelial debris could prompt narrowing of the airway measurement and impediment of the air section (Figure 1).

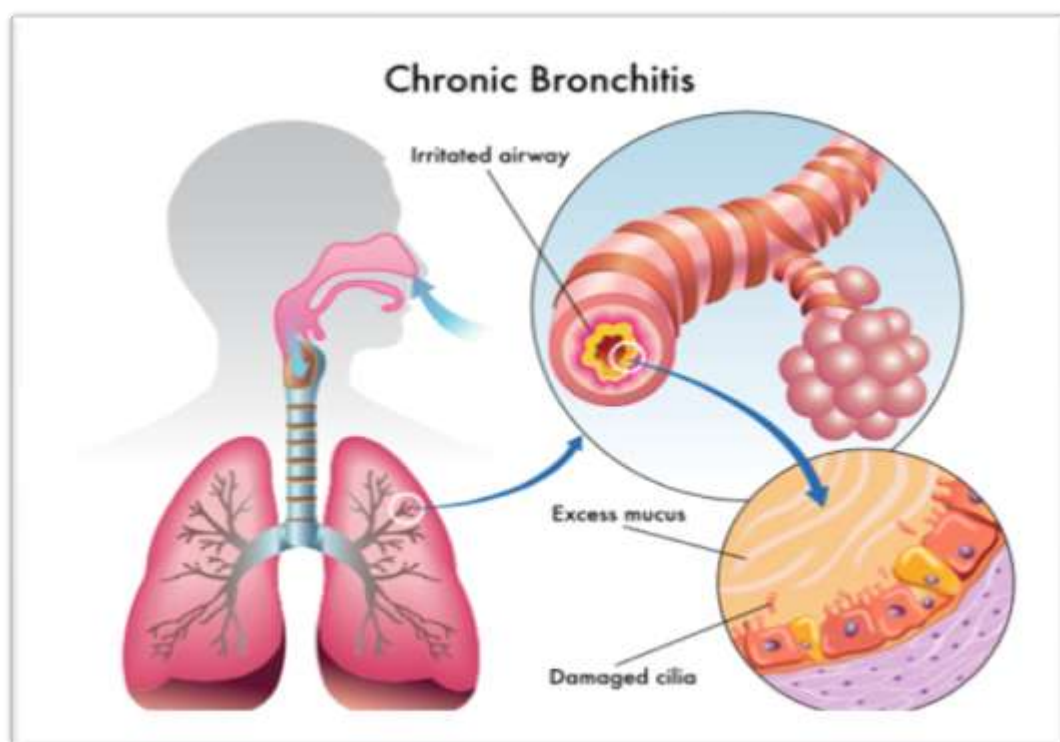


Figure1: Chronic Bronchitis in Airways

Emphysema

Emphysema is described by decimation of alveolar dividers, bringing about anomalous growth of airspaces and loss of lung flexibility, with resulting block of fringe aviation routes.

Airway route is held open by alveolar connections. An alveolus is a gathering of alveoli. There is amplification of the airspaces distal to the terminal bronchioles, because of devastation of the alveolar dividers which decreases maxialexpiratory wind current by diminishing the lung flexible backlash.

In COPD, there is loss of airway route connections which would prompt harmed alveolus as a result of which the old air will get itself hard to get out and the this at long last will restrain the new air to be breathed in, prompting air entanglement (Figure 2). Air entanglement is usually observed in COPD patients and would additionally prompt hyperinflation of lungs.

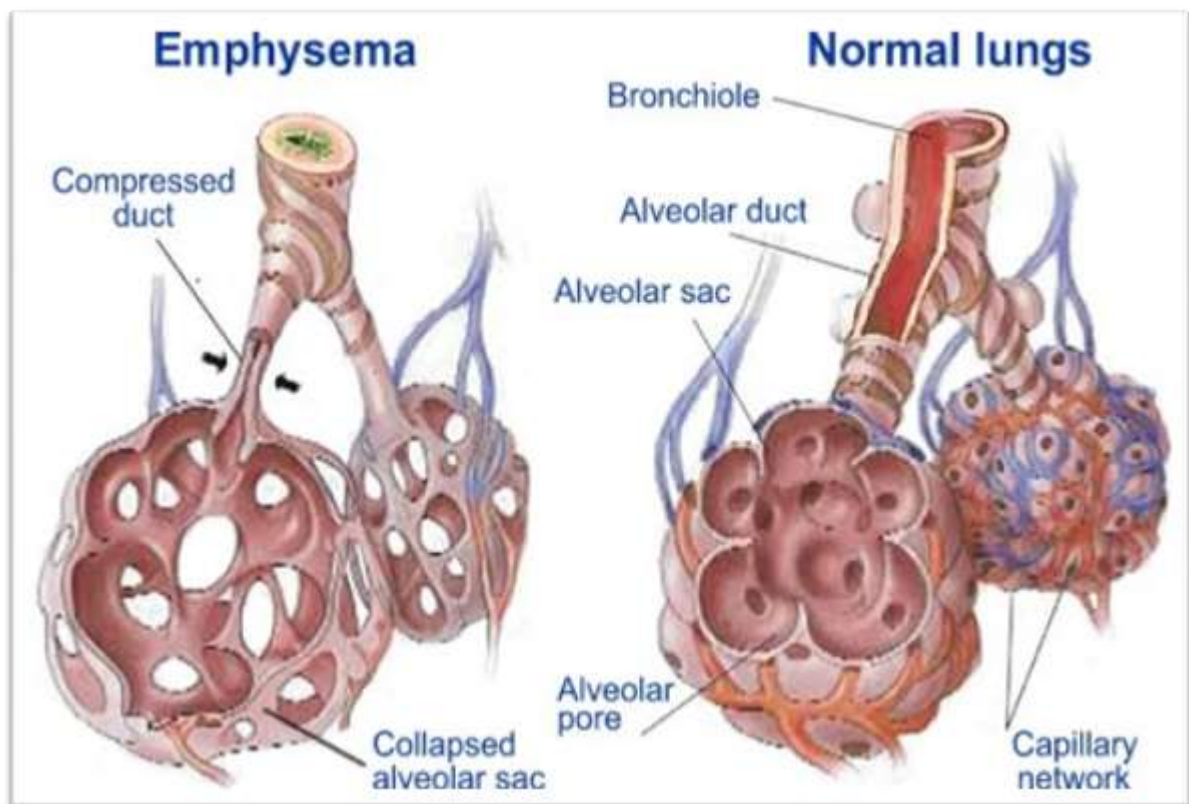
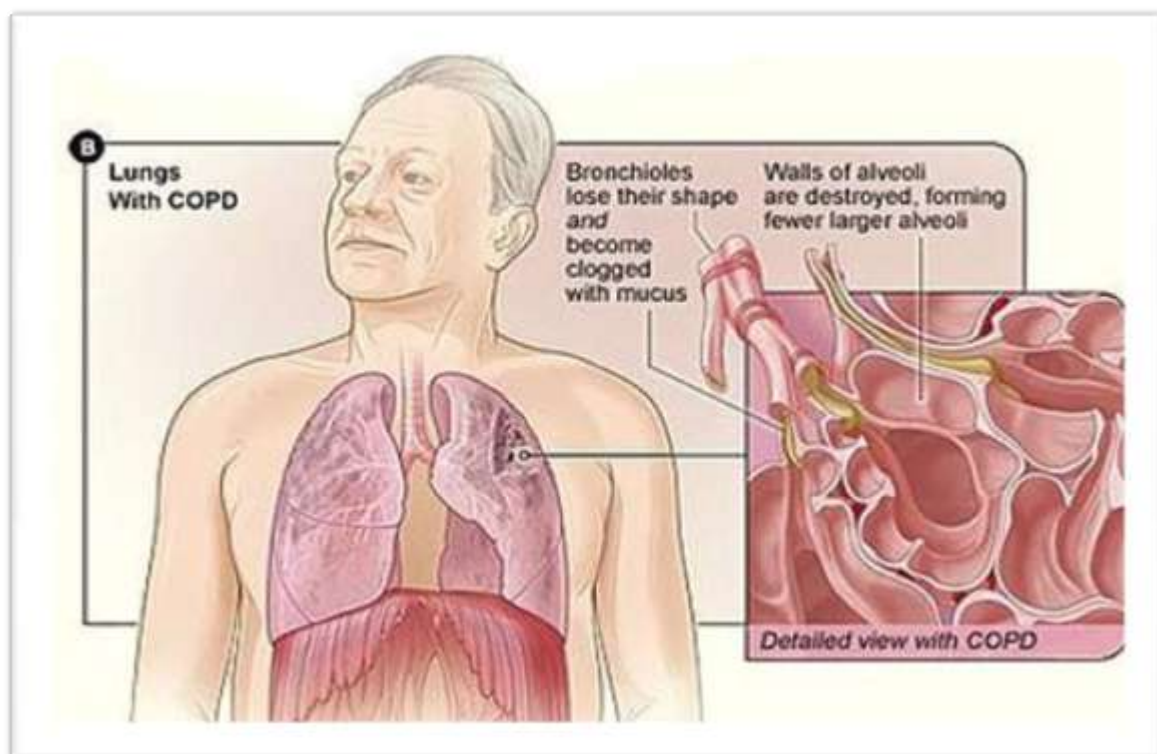
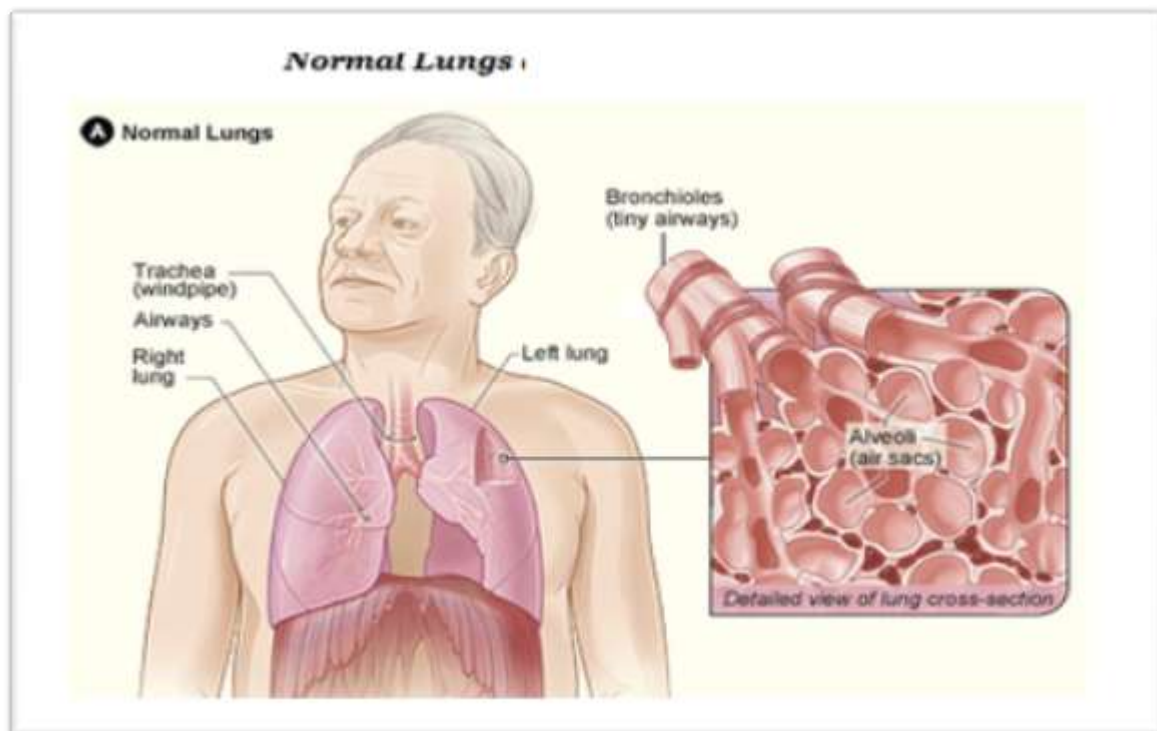


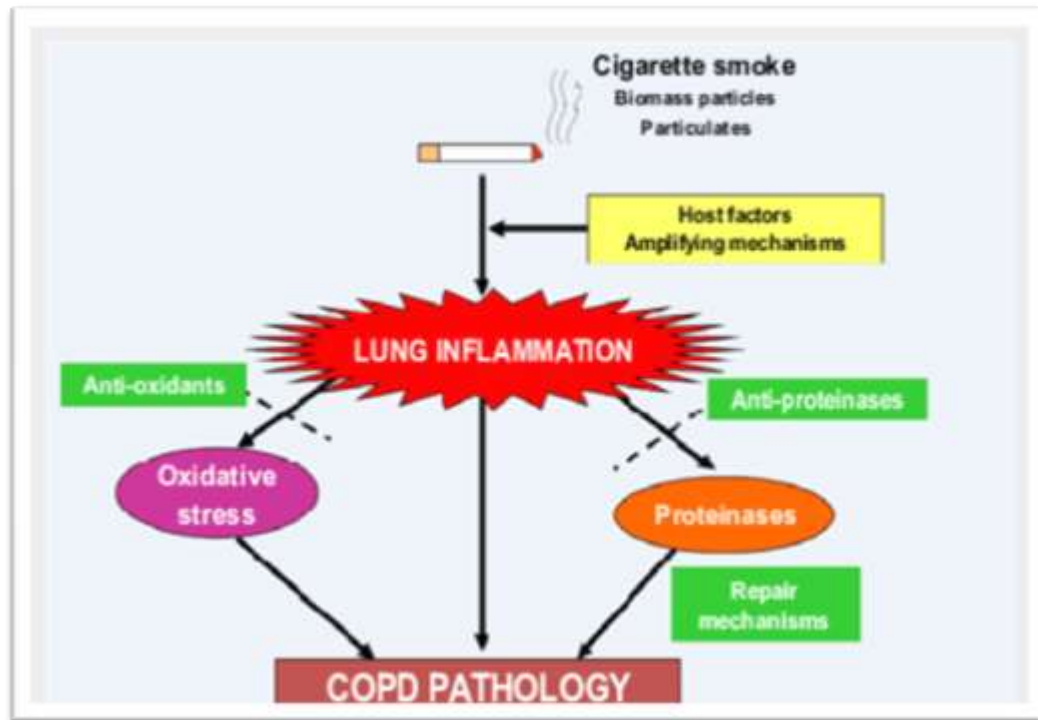
Figure 2: Emphysema in airways



The figure clearly shows the difference between any Normal Lung and that effected with COPD. This is showing the cross sectional

study of the lungs where (A) shows Normal Lungs and (B) shows Lungs with COPD.

Pathophysiology of COPD



Pathogenesis simply means manner of how the disease develops. Pathogenesis of COPD would revolve around abnormal inflammatory response from exposure to particulates. The abnormal inflammatory response is due to an increase of the normal inflammatory response of the respiratory tract to chronic irritant particulates. The source of these particulates usually is cigarette smoking, Chulla smoke, air pollution or occupational exposure to particulate. Inhalation of these noxious particles would lead to lung inflammation via the release of pro-inflammatory cytokines which would predominantly involve neutrophils and macrophages.

- Neutrophils discharge serine proteases [including neutrophil elastase, cathepsin G, and proteinase 3, just as framework metalloproteinase (MMP) 8 and MMP-9] which may add to alveolar demolition. Aviation route neutrophilia is connected to bodily fluid hypersecretion since neutrophil elastase, cathepsin G, and proteinase are strong energizers of bodily fluid emission from submucosal organs and cup cells. There is a stamped increment in neutrophil numbers in the aviation routes in intense intensifications of COPD

- Macrophages accept a key activity in the pathophysiology of COPD and may organize the relentless blazing response. Macrophages are restricted to locales of alveolar divider annihilation in patients with emphysema and there is a relationship between's macrophage numbers in the parenchyma and seriousness of emphysema. Macrophages might be initiated by tobacco smoke concentrate to discharge provocative mediators(TNF α , chemokines, LTB $_4$, and ROS), giving a cell system that connections smoking with aggravation in COPD. o Alveolar macrophages likewise discharge elastolytic compounds (MMP-2; MMP-9; MMP-12; cathepsins K, L, and S; and neutrophil elastase) taken up from neutrophils. o Alveolar macrophages from patients with COPD discharge progressively incendiary proteins and have a more prominent elastolytic movement at standard than those from typical smokers and this is additionally expanded by introduction to tobacco smoke.
- The main procedure, oxidative pressure, has a job in huge numbers of the pathogenic procedures of COPD and most likely upgrades the fiery reaction
- Oxidative pressure is a basic element in COPD. Oxidative pressure happens when responsive oxygen species (ROS) are delivered in abundance of the cell reinforcement guard systems and result in unsafe impacts, including harm to lipids, proteins, and DNA.
- Inflammatory and basic cells, including neutrophils and macrophages that are actuated in the aviation routes of COPD patients, produce ROS.
- The second is a protease–antiprotease awkwardness, which can be connected to the pathogenesis of emphysema.
- A protease/antiprotease awkwardness, prompting the breakdown of connective tissue segments, especially elastin, has been viewed as the basic instrument in the pathogenesis of emphysema in smokers
- Elastin is a significant objective for proteolytic proteins, and its obliteration brings about loss of flexibility in the lung parenchyma. Along with the decimation of elastin, inactivation of antiproteases is key to the protease/antiprotease irregularity theory.
- The expansion in elastase action in patients with COPD may add to the advancement of emphysema and to neutrophilic irritation.
- Human neutrophil elastase has elastolytic action as well as a powerful energizer of bodily fluid discharge in the aviation routes.

Key Symptoms for COPD Diagnosis

Chronic cough	Present irregularly or consistently, regularly present for the duration of the day; rare just nighttime
Chronic sputum production	Present for a long time, most exceedingly terrible in winters. At first mucoid – gets purulent with intensification
Dyspnoea that is	Dynamic (exacerbates after some time) Industrious (present each day) Exacerbates with work out More awful during respiratory contaminations



Figure: Shows the main symptoms of COPD

Diagnosis of COPD

Diagnosing Chronic Obstructive Pulmonary Disorder (COPD) incorporates a couple of evaluations, including blood work, beat oximetry, aspiratory work tests, imaging tests and others. Spirometry (a breathing test) is of explicit use in the COPD explanatory system, as it can both exhibit the infection before indications occur and measure development of the condition.

COPD may be suspected in case you have persevering or irregular breathing issues, especially (however not just) in the event that you have a foundation set apart by smoking or other danger factors. Now and then COPD investigation can be trapped since it may have practically identical effects as some various illnesses, for instance, asthma and monotonous pneumonia.

In solid, never- smoking people, maximal lung work is normally reached by early adulthood and stays at a steady level over the accompanying 10 years, at that point gradually decays with age. In those powerless with the impacts of smoking, lung work decreases at a quickened rate bringing about advancement of respiratory side effects, which may provoke clinical evaluation and a conclusion of COPD.

Airflow can be estimated utilizing spirometry and is generally communicated as anticipated, comparative with the normal FEV1 in the populace for any individual of comparative age, sex, and body organization. Constrained essential limit (FVC) alludes to the volume of air coercively breathed out in one breath from the purpose of maximal motivation. The two estimations are typically assessed by correlation with reference esteems dependent on age, tallness, sex, and race. After organization of a bronchodilator, the proportion of the two estimations (i.e., FEV1/FVC) is determined. A proportion of <0.7 affirms wind stream hindrance and, hence, recommends COPD.

Global Initiative of Chronic Obstructive Pulmonary Disorder – GOLD has differentiated the stages of COPD, which are as follows:

Stage 1: Very mellow COPD with FEV1 about 80% or increasingly like Normal.

Stage 2: Moderate COPD with FEV1 between 50-80%

Stage 3: Severe Emphysema with FEV1 between 30-half

Stage 4: Very serious COPD with a lower FEV1 than Stage 3, or those with that of stage 3 FEV1 and low oxygen level.

FEV₁ PROGRESSION OVER TIME

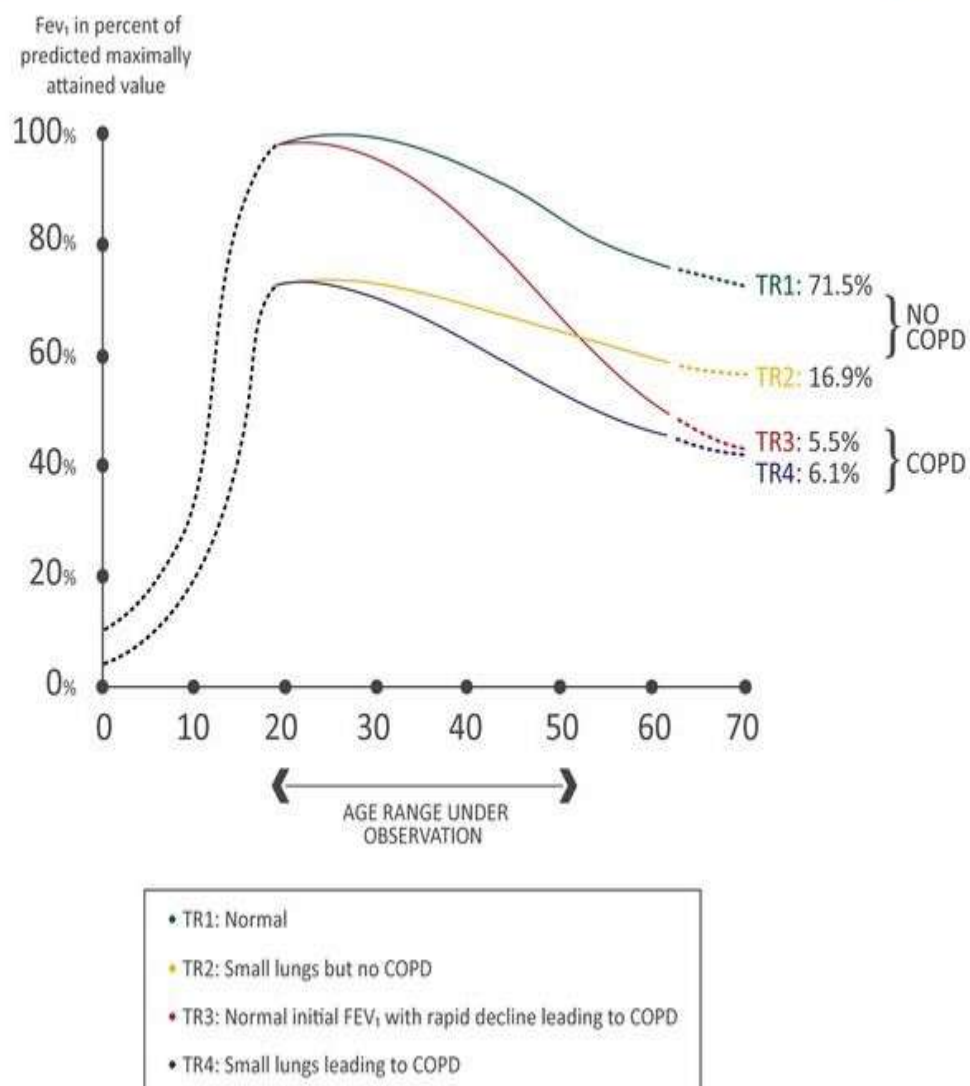


Figure: This is a simplified diagram of FEV₁ progression over time

Literature Review

As per the journal published by **NCBI**, Chronic Obstructive Pulmonary Disorder (COPD) is an incessant respiratory infection portrayed by a decrease in lung work after some time and joined by respiratory side effects, principally dyspnea, hack, and sputum production. COPD is related with a huge monetary weight, including work nonattendance and disability.

The seriousness of COPD can be resolved and ordered by various techniques. Occurrence and pervasiveness gauges vary enormously, contingent upon the techniques utilized for finding and arrangement. It is imperative to comprehend the genuine the study of disease transmission of COPD to screen drifts after some time and to decide the adequacy of expected medicines.

Articles were incorporated in the event that they detailed occurrence, pervasiveness, as well as mortality in COPD, or patterns in such information for at any rate one of the nations of intrigue. Articles were rejected on the off chance that they met at any rate one of the accompanying prohibition measures; that is, if the article:

- was a remark, a publication, a letter, a case report, or a clinical preliminary;
- didn't report information on occurrence, commonness, and additionally mortality, or patterns in such information;
- was not worried about any of the nations of intrigue;
- concentrated on a restricted populace, remembering reads for little quantities of patients, patients in exceptionally constrained sub-populaces,
- announced an investigation led in a solitary site, centre, medical clinic, or city;
- concentrated on comorbidities in patients with COPD; or detailed occurrence, pervasiveness, or mortality related explicitly with intensifications of COPD.
- revealed rate or pervasiveness gauges from a model (i.e., the article was not the essential information source);
- provided details regarding plan of an examination however didn't report results

Mortality

The 58 articles that gave mortality related COPD contrasted in the way they uncovered the data. Twenty-four articles uncovered the demise rate inside a social event of patients with COPD, 14 itemized the degree of all passing's that could be attributed to COPD, and 21 articles reported overall mortality from COPD inside the whole masses.

Of the assessments that declared passing rates inside patients with COPD, length of follow-up differentiated, which realized difficulties taking a gander at considers. In any case, the one-year passing pace of COPD (all reality stages) was represented in four examinations and varied from 4.1% in patients developed 45 years and progressively settled, to 27.7% in patients developed 65–100 years in Canada, 18, 27, 28 and to 5.1% in patients developed 41–83 years in Sweden.

PubMed Journal by Rabe KF, Hurd S, Anzueto A, et al. says Chronic Obstructive Pulmonary Disorder (COPD) stays a significant general medical issue. It is the fourth driving reason for incessant dreariness and mortality in the United States, and is anticipated to rank fifth in 2020 in weight of infection around the world, as per an investigation distributed by the World Bank/World Health Organization. However, COPD remains moderately obscure or disregarded by the general population just as general wellbeing and government authorities.

The initial phase in the GOLD program was to set up an agreement report, Global Strategy for the Diagnosis, Management, and Prevention of COPD, distributed in 2001. The present, recently amended archive follows a similar organization as the first accord report, however has been refreshed to mirror the numerous distributions on COPD that have showed up. GOLD national pioneers, a system of worldwide specialists, have started examinations of the causes and pervasiveness of COPD in their nations, and created imaginative methodologies for the scattering and execution of COPD the executives rules. We value the huge measure of work the GOLD national pioneers have done in the interest of their patients with COPD. In spite of the accomplishments in the a long time since the GOLD report was initially distributed, significant extra work is in front of us on the off chance that we are to control this significant general medical issue. The GOLD activity will keep on bringing COPD to the

consideration of governments, general wellbeing authorities, medicinal services laborers, and the overall population, however a purposeful exertion by totally associated with social insurance will be important.

Cerveri I, Accordini S, Verlato G, et al. says the current work expects to evaluate the worldwide variety in the commonness of ceaseless bronchitis and its fundamental hazard factor, smoking propensities, in youthful grown-ups of 35 focuses from 16 nations. Respiratory manifestations and pneumonic capacity were evaluated in 17,966 subjects (20-44 yrs), arbitrarily chose from everyone, in the casing of the European Community Respiratory Health Survey.

Smoking was the significant hazard factor for constant bronchitis, particularly in guys. Its impact expanded by number of pack-yrs: in guys, the chances proportion of constant bronchitis was 3.51 (95% certainty span (CI). Just 30% of the topographical fluctuation in commonness could be clarified by contrasts in smoking propensities, proposing that other natural or potentially hereditary components may assume a significant job. Taking everything into account, incessant bronchitis is a considerable medical issue even in youthful grown-ups. The amazing predominance in smokers in many nations features the need to improve the nature of anticipation.

Celli BR, Halbert RJ, Nordyke RJ, Schau B. in a journal explains Chronic Obstructive Pulmonary Disorder(COPD) is generally portrayed as an infection of cigarette smoking. COPD is once in a while considered in people with no smoking history aside from with regards to another presentation. As needs be, the infection has not been very much described in these "never smokers." We assessed aviation route impediment (characterized as constrained expiratory volume in 1 second/constrained essential limit <0.70) in US grown-ups matured 30 to 80 years met in the Third National Health and Nutrition Examination Survey with legitimate spirometry who had never smoked. Recently depicted hazard factors were analyzed for their relationship with deterrent in bivariate and multivariate investigations.

Results: Never smokers spoke to 42% of the Third National Health and Nutrition Examination Survey populace matured 30 to 80 years, with check commonness of 91 for every 1000. Never smokers represented 4.56 million instances of hindrance, or 23% of the complete weight. Among these hindered never smokers, 19% revealed an earlier determination of asthma alone, and 12.5% detailed COPD (alone or with asthma), leaving 68.5% with no earlier respiratory analysis. After modification for different variables, higher paces of

block were altogether connected with expanding age, male sex, lower weight list, and a background marked by hypersensitivities.

Rationale of the Study

The study was conducted on the basis of the questionnaire that is prepared. That questionnaire was forwarded to various doctors in Jodhpur, Pali and Bhinmal districts of Rajasthan.

A dataset was also assigned by the company where the various survey data along with the data of the doctors was present which particularly served for the completion of the market assessment.

The Market Assessment provides information on:

- The parameters utilized by the doctors to prescribe a particular medicine for COPD
- The widely seen symptoms for COPD
- The after effect of using the medication.

Research Question

1. What are the parameters that are followed while prescribing any COPD patient?
2. What is the prevalence of age group for COPD patients?
3. On what basis is the analysis of COPD patients made?

Research Objective

To analyse the market for COPD medicines in Jodhpur, Pali and Bhinmal districts of Rajasthan and also study the prevalence rate of those medicines for the patients.

Mode of Data Collection

Study Type: Descriptive Study

Type of data: Quantitative Data

Technique: Field survey using Questionnaire

Sampling Technique: Purposive Sampling

Study Timeline: 3 Months (March 2020-June 2020)

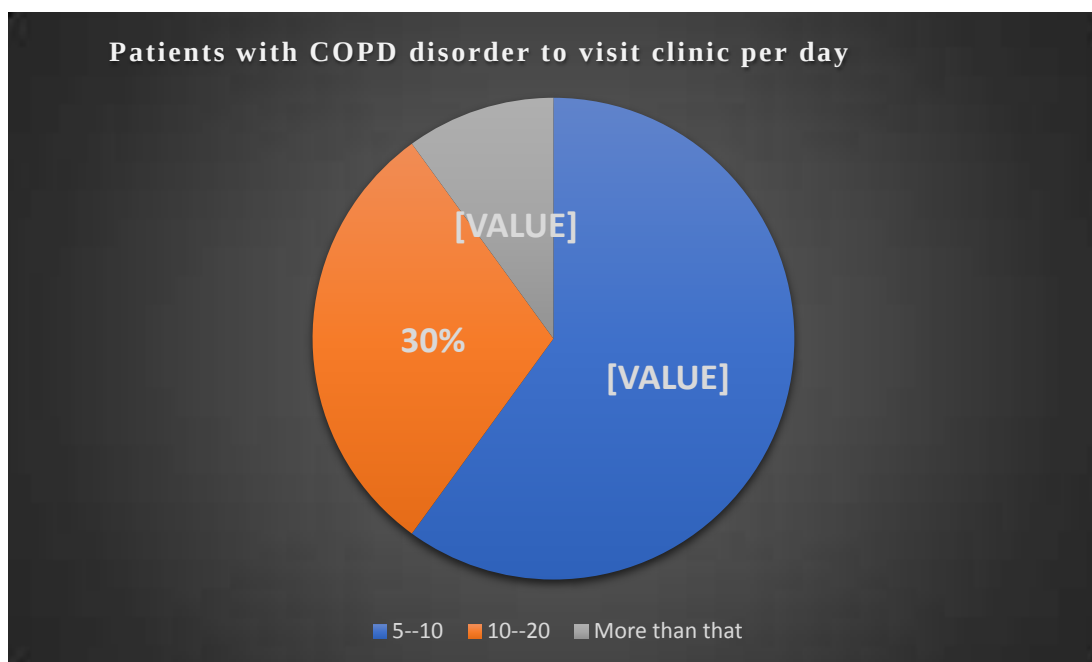
Sampling Units: Data from Jodhpur, Pali and Bhinmal in Rajasthan

Sample Size: 100 Doctors

Data Compilation, Analysis and Interpretation

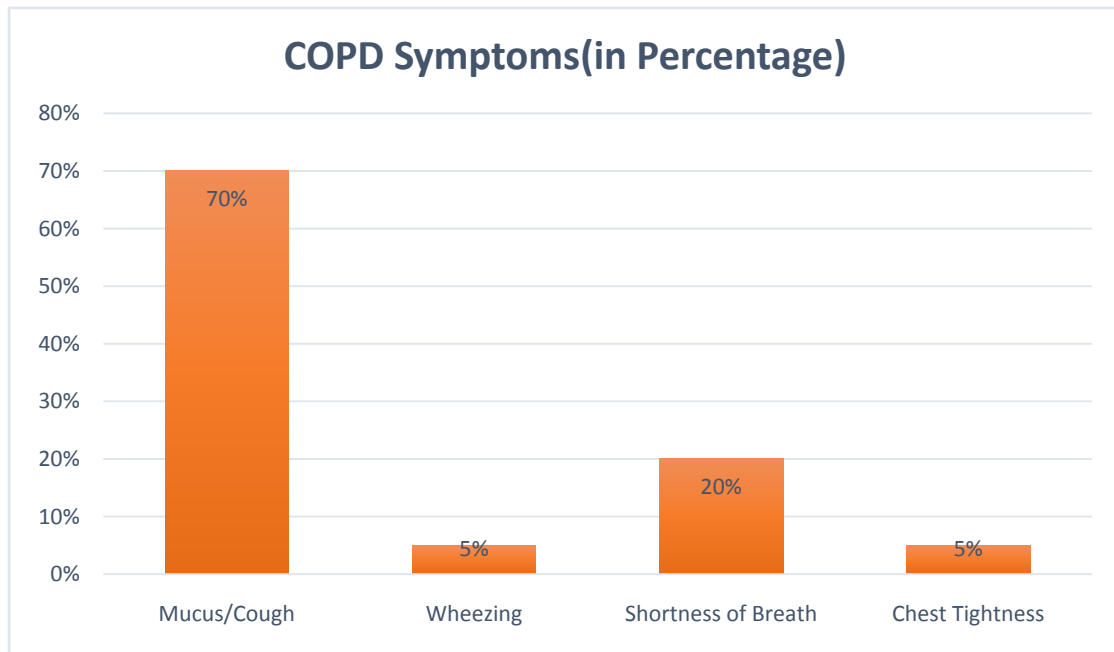
Q1. How many patients with COPD disorder visit your clinic per day?

- i. 5-10
- ii. 10-20
- iii. More than that



Inference: From the above Pie Chart it is clear that maximum number of patients with COPD disorder that visit clinic each day ranges between 5-10

Q2. What are the major symptoms shown in any COPD patients:

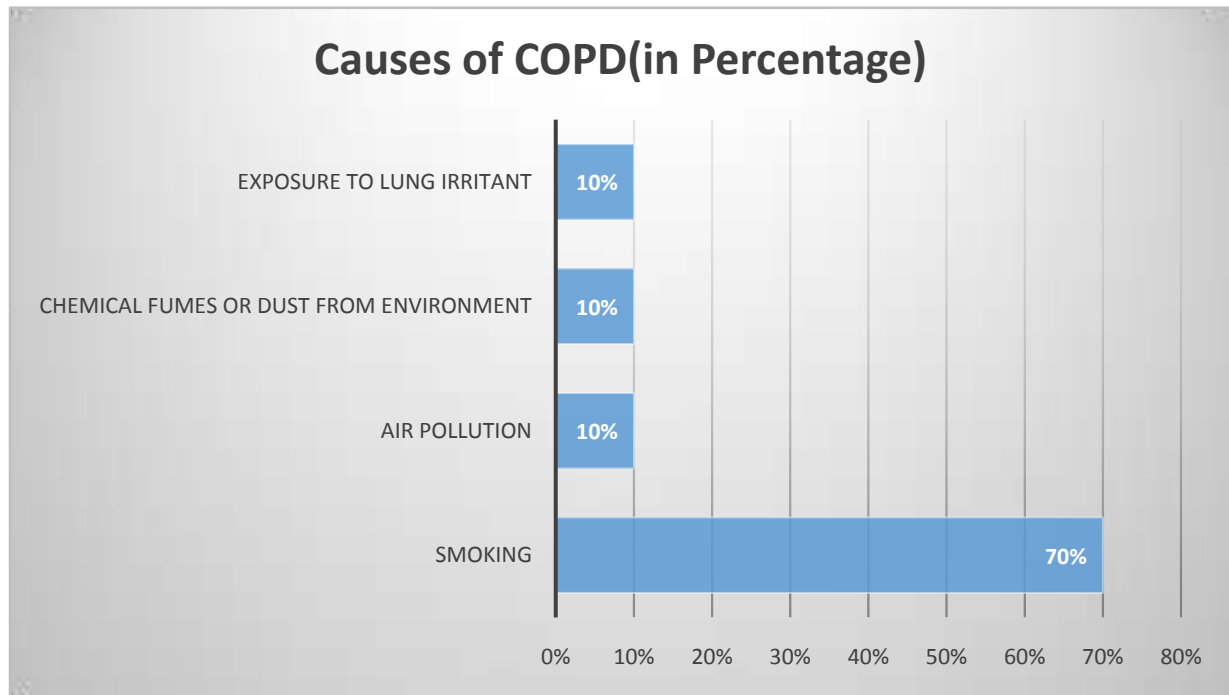


- i. Mucus/Cough
- ii. Wheezing
- iii. Shortness of Breath
- iv. Chest Tightness

Inference: From the above bar graph it can be inferred that Mucus/Cough is the major symptom for COPD and almost around 70% of the patient have that whereas shortness of breath and wheezing, chest tightness ranges around 20% and 5% respectively.

Q3. What are the primary causes for COPD disorders in patients:

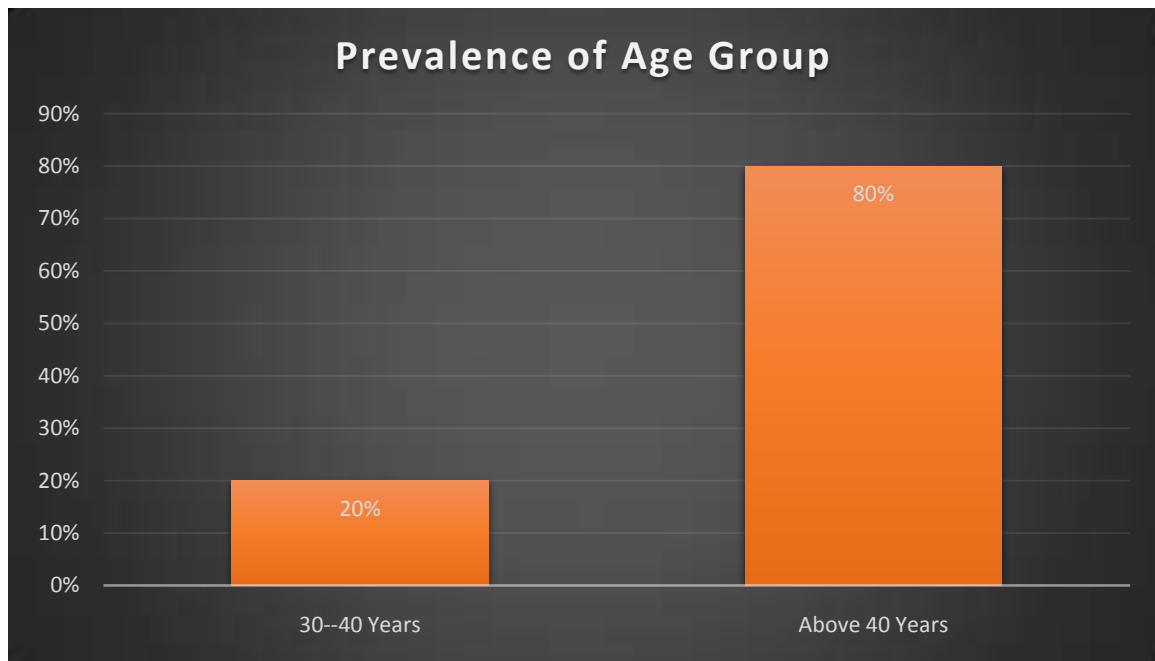
- i. Smoking
- ii. Air Pollution
- iii. Chemical Fumes or dust from environment or workplace
- iv. Exposure to other Lung Irritant



Inference: Out of all the causes listed out we can interpret from this bar graph that smoking is the major cause of COPD i.e., almost around 70%. The other causes like air pollution, chemical fumes from environment and exposure to other lung irritant are found to contribute only 10% each.

Q4. Which age group patients show up more with COPD disorders?

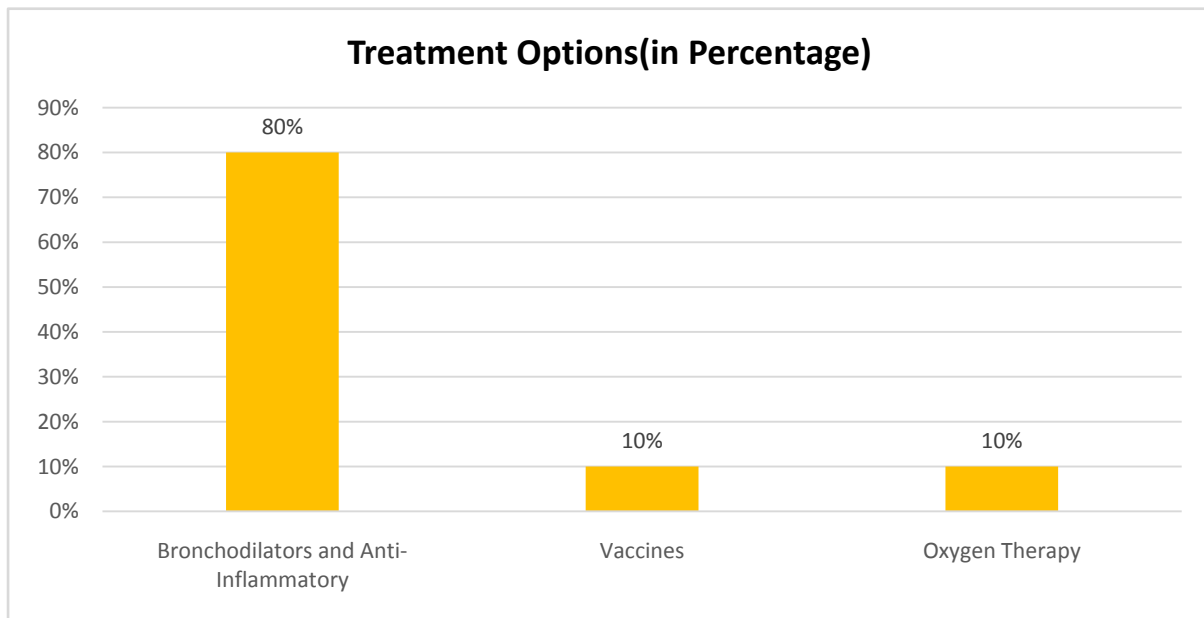
- i. 30-40 years
- ii. Above 40 years



Inference: From the above bar grand it is evident that maximum prevalence of COPD is among the age of 40 years and above. While only 20% marks the age-group of 30-40 years.

Q5. What are the various treatment options for COPD ailment?

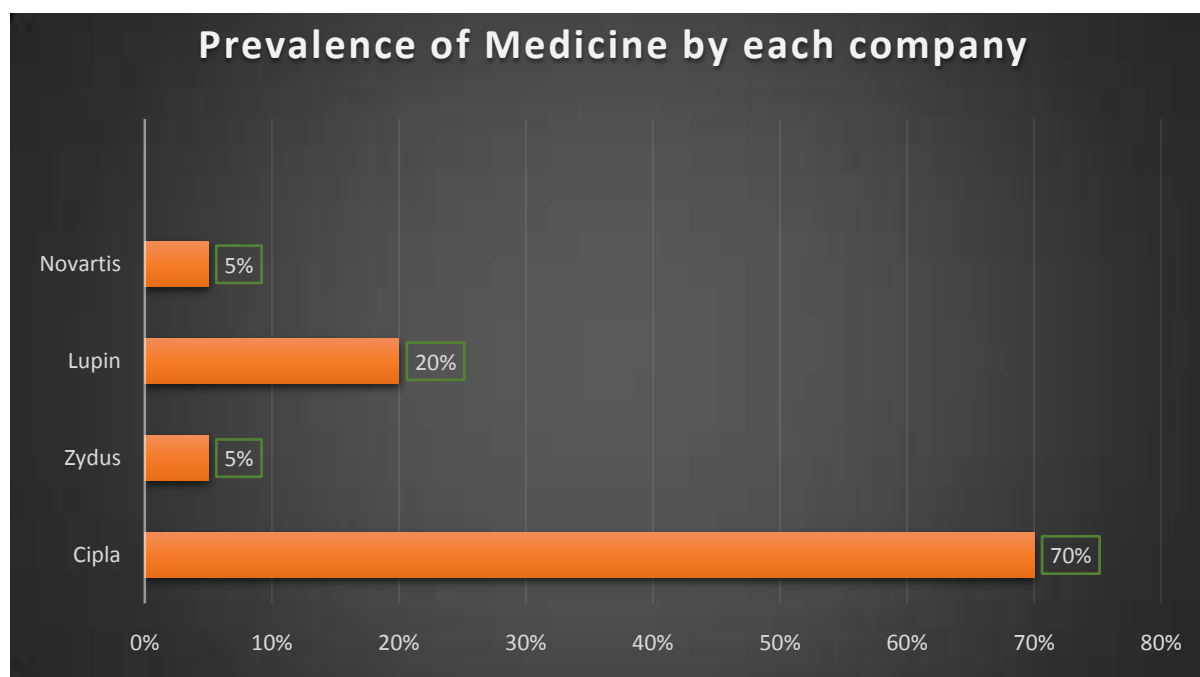
- i. Medicines such as Bronchodilators and Anti-inflammatory
- ii. Vaccines
- iii. Oxygen Therapy



Inference: The above bar graph shows that Bronchodilators and Anti-Inflammatory medicines are the most prescribed one's by doctors then comes vaccines and oxygen therapy which only marks 10%.

Q6. Which is the most prescribed Anti-COPD medicines among the following:

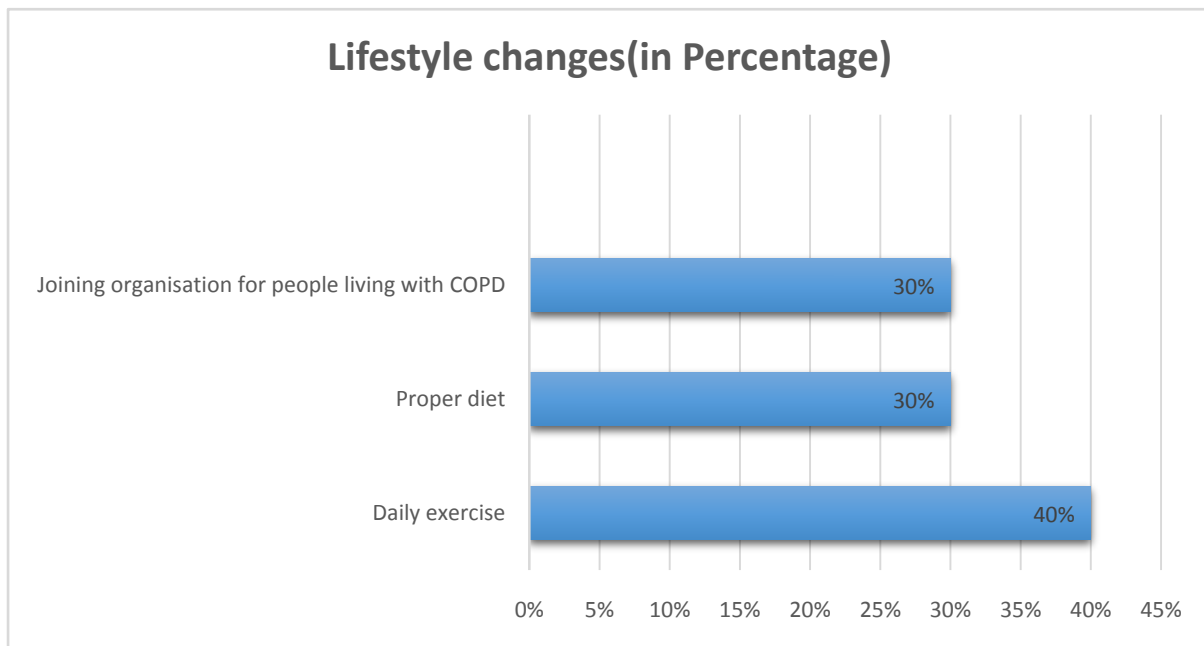
- i. Duova, Triohale and Glycohale-F by Cipla
- ii. Tiomist, Tioform by Zydus
- iii. Tiomate HFA, Loftair, Trimium by Lupin
- iv. Sequadra, by Novartis



Inference: The above bar graph shows that Duova, Triohale and Glycohale-F by Cipla are those among the maximum prescribed medicines for COPD ailment(70%). Next in the row we find Tiomate HFA, Loftair, Trimium by Lupin(20%). For Tiomist, Tioform by Zydus and Sequadra, by Novartis the percentage was found to be only 5% each.

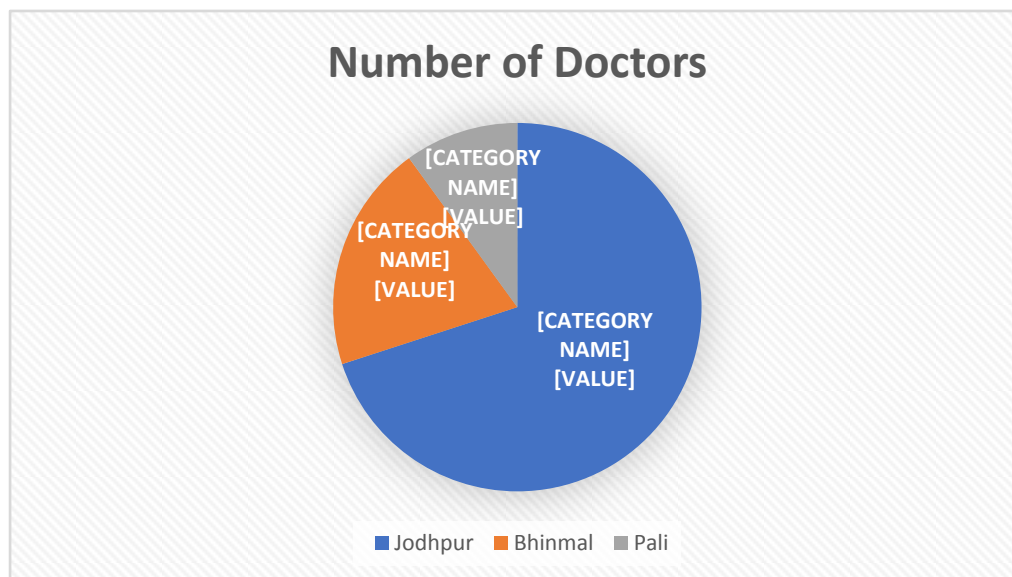
Q7. Apart from medication what all lifestyle changes can help in COPD management?

- i. Daily Exercise
- ii. A diet of nutritious food
- iii. Joining organisation and resources for people living with COPD



Inference: The above graph shows that apart from medications, daily exercise (around 40%) helps in curing COPD. Then moving on to proper diet and joining any organisation living with COPD patients marks to 30% each.

Q8. Number of Doctors in each District:



Inference: It is very clear from the graph that the number doctor surveyed in Jodhpur was maximum i.e., 70, then in Bhinmal i.e., 20 and then in Pali i.e., 10 doctors.

Conclusion

The survey was based on a qualitative analysis where primary data from 100 doctors were collected from different districts of Rajasthan i.e., Jodhpur, Bhinmal and Pali. As per the topic of the survey the prevalence of various Anti-COPD medicines was found out and the reports says that the Anti-COPD medicines of CIPLA is the maximum prescribed followed by LUPIN and then ZYDUS and NOVARTIS in the above mentioned places.

The maximum shown symptoms were also analysed and reported in the form of graph.

From the above survey one thing becomes very prominent that maximum of the age group of patient suffering from COPD is 40 years and above. So it can be claimed that the most prone age group is this one itself.

The detailed Questionnaire used for the survey is attached below.

Questionnaire

1. Name of Doctor:
2. Place:
3. Contact Number:
4. How many patients with COPD disorder visit your clinic per day?
 - i. 5-10
 - ii. 10-20
 - iii. More than that
5. What are the major symptoms shown in any COPD patients:
 - i. Mucus/Cough
 - ii. Wheezing
 - iii. Shortness of Breath
 - iv. Chest Tightness
6. What are the primary causes for COPD disorders in patients:
 - i. Smoking
 - ii. Air Pollution
 - iii. Chemical Fumes or dust from environment or workplace
 - iv. Exposure to other Lung Irritant
7. Which age group patients show up more with COPD disorders?
 - i. 30-40 years
 - ii. Above 40 years
8. What are the various treatment options for COPD ailment?
 - i. Medicines such as Bronchodilators and Anti-inflammatory
 - ii. Vaccines
 - iii. Oxygen Therapy
9. Which is the most prescribed Anti-COPD medicines among the following:
 - i. Duova, Trioale and Glycoale-F by Cipla
 - ii. Tiomist, Tioform by Zydus
 - iii. Tiomate HFA, Loftair, Trimium by Lupin
 - iv. Sequadra, by Novartis
10. Apart from medication what all lifestyle changes can help in COPD management?
 - i. Daily Exercise
 - ii. A diet of nutritious food
 - iii. Joining organisation and resources for people living with COPD

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