

The background features a dark blue and black abstract design. On the left, a white line graph with three data points (yellow circles) is visible. The points are connected by white lines. The first point is at the top left, the second is lower and to the right, and the third is slightly higher and further to the right. A blue dot is also visible near the second point, with the number '289.33' next to it. The overall aesthetic is modern and technical.

Dissertation Presentation

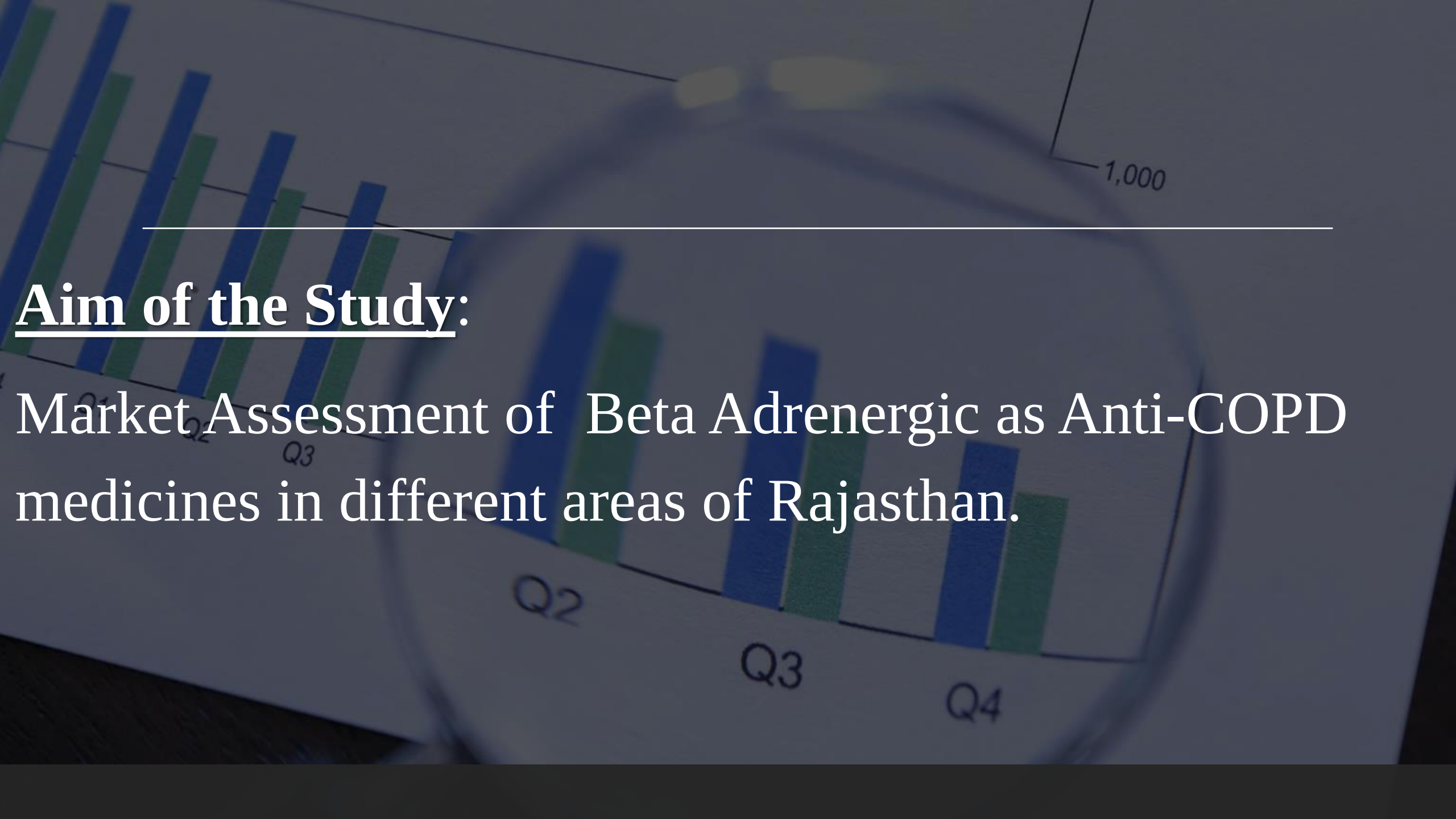
PRESENTED BY:

ANKITA DAS

PM11

ENROLL NO.:

IIHMR-U/02/2019-21/0169



Aim of the Study:

Market Assessment of Beta Adrenergic as Anti-COPD medicines in different areas of Rajasthan.



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What is COPD?

COPD (Chronic Obstructive Pulmonary Disorder) is a common, preventable and treatable disease that is characterized by persistent respiratory symptoms and airflow limitation that is due to airway and/or alveolar abnormalities usually caused by significant exposure to noxious particles or gases (GOLD 2019).

Significance of terms:

- **Common-** It tells us that COPD is a highly prevalent disease
- **Preventable and treatable-** It tells us that COPD can be prevented if the risk factors, especially cigarette smoke are avoided and it is treatable with the new treatments available.
- **Persistent airflow limitation-** It tells us that there is a constant obstruction of air in airways

Burden of COPD

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.

Across the Globe there are roughly **384 million COPD cases** worldwide (GOLD 2019 report)

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%).

COPD Disease Burden in Rajasthan



PARAMETERS	RATES or RATIO
COPD Prevalence	4500 cases per 1 lakh population
State rank in prevalence	8 th
Mortality Rate(COPD Death Rate)	111 per 4500 cases
State Rank in Mortality Rate	1 st
DALY's (Disability Adjusted Life Years)	2570 cases per 1 lakh population
State rank in DALY's	1 st

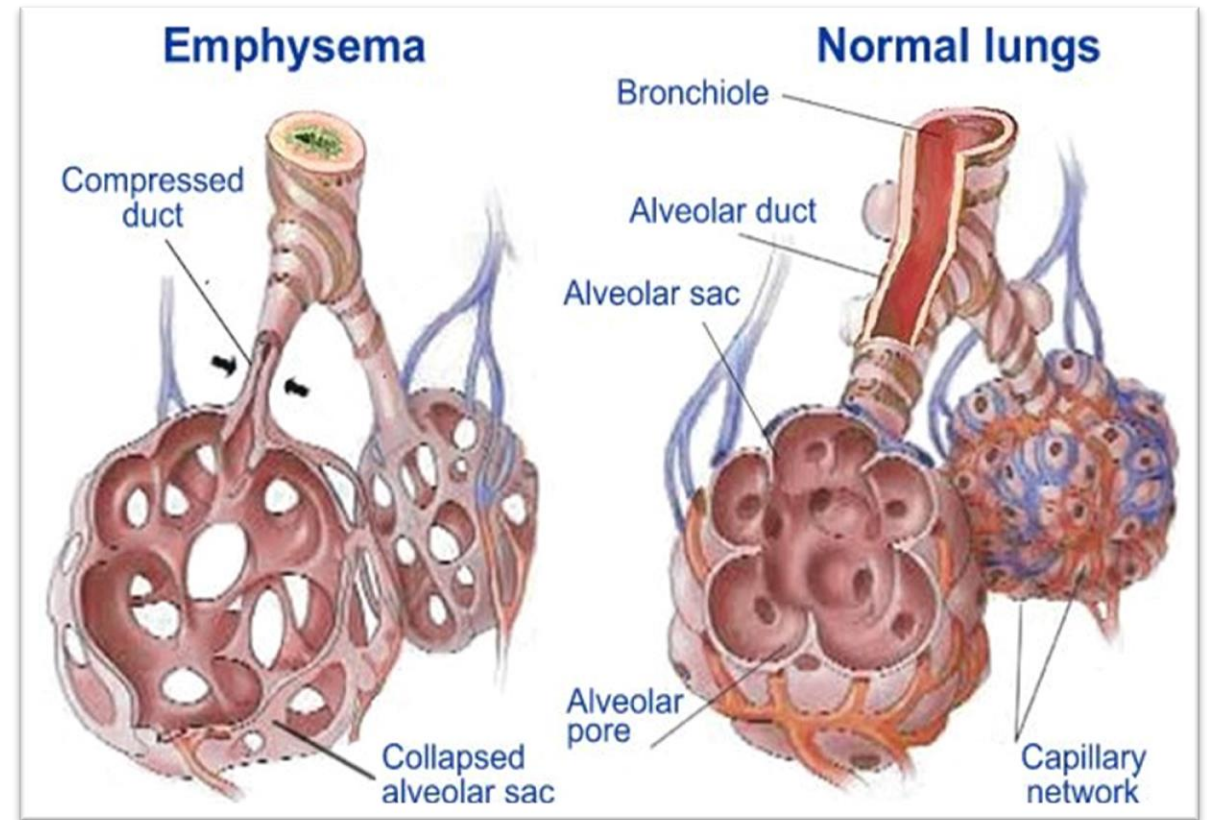
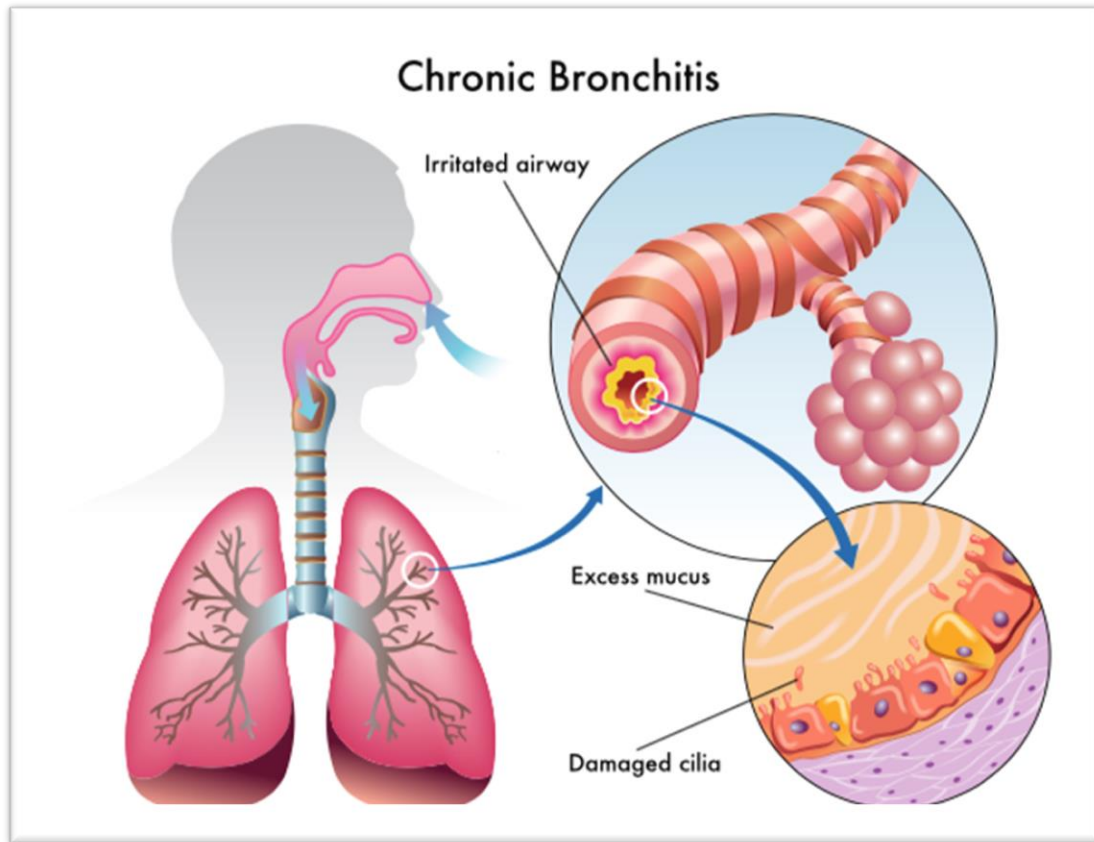
Overview of COPD

Chronic Bronchitis and Emphysema are the two most common conditions that contribute to COPD. These two conditions usually occur together and can vary in severity among individuals with COPD.

Chronic bronchitis is defined by a productive cough on most days for at least three months for at least two consecutive years and which cannot be attributed to other pulmonary or cardiac causes.

Emphysema is characterized by destruction of alveolar walls, resulting in abnormal enlargement of airspaces and loss of lung elasticity, with consequent obstruction of peripheral airways.

Continuation

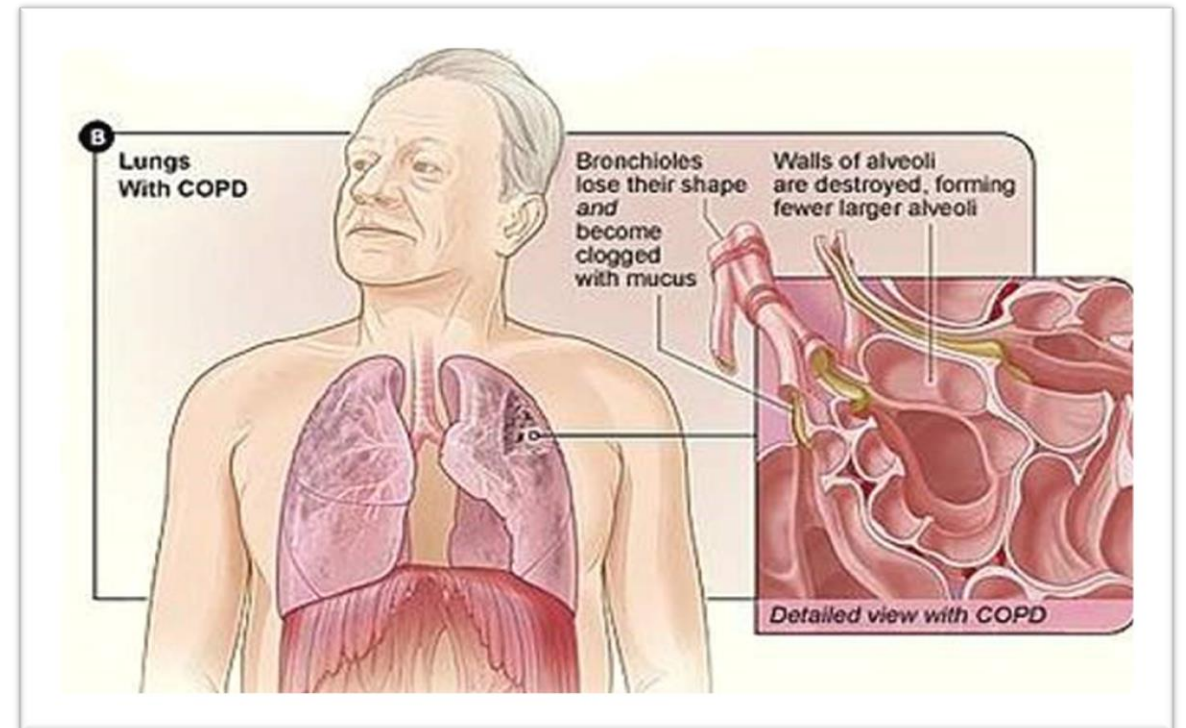
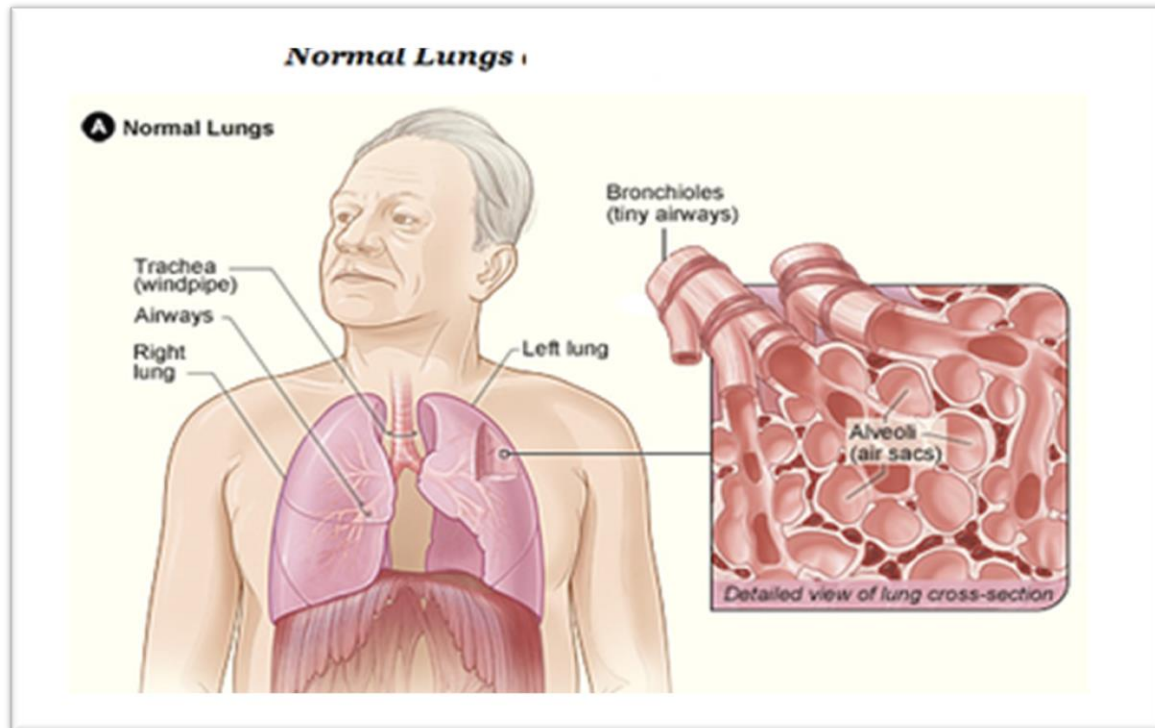


Diagnosis

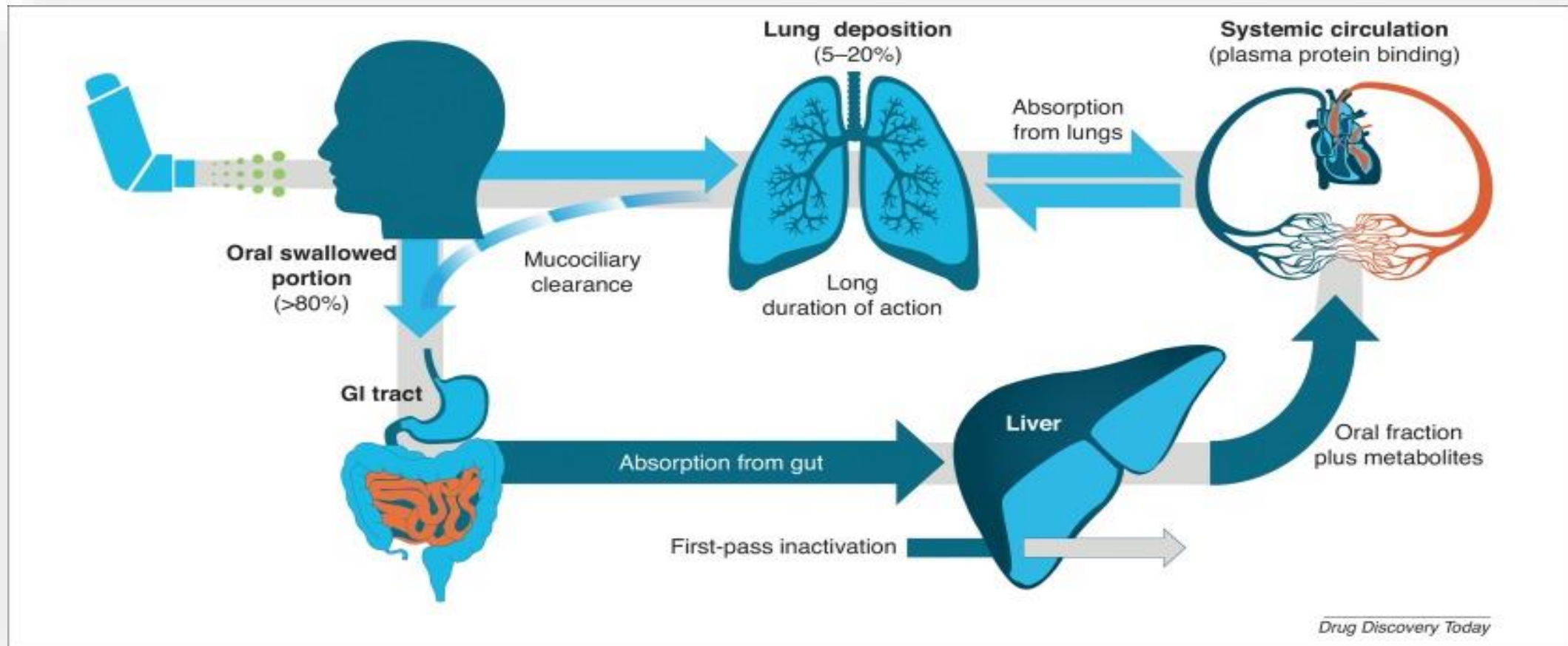
A COPD diagnosis is confirmed by a simple test called spirometry, which measures how deeply a person can breathe and how fast air can move into and out of the lungs. Such a diagnosis should be considered in any patient who has symptoms of cough, sputum production, or dyspnea (difficult or labored breathing), and/or a history of exposure to risk factors for the disease.



Normal Lungs v/s Lungs affected with COPD



MOA of Anti-COPD Medicines



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:

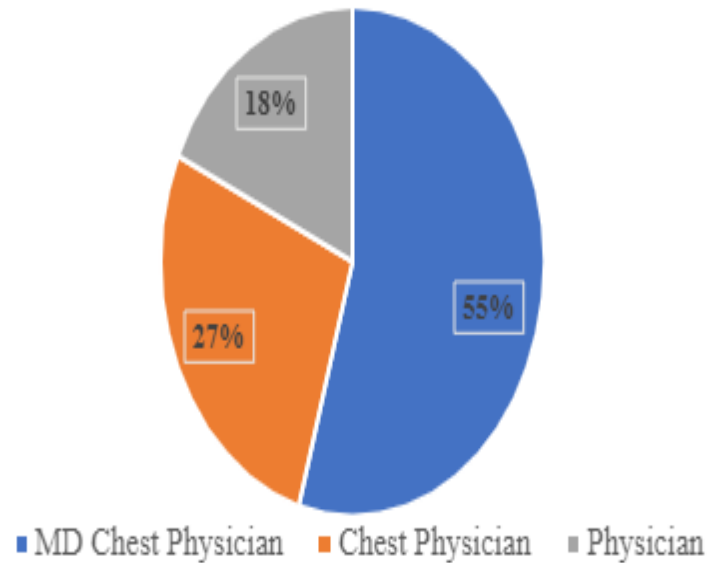
- ☐ The parameters utilized by the doctors to prescribe a particular medicine for COPD
- ☐ The widely seen symptoms for COPD
- ☐ The after effect of using the medication.

Mode of Data Collection

Study Type:	Descriptive Study
Type of data:	Quantitative Data
Technique:	Field survey using Questionnaire Tool
Sampling Technique:	Purposive Sampling
Study Timeline:	3 Months (March 2020-June2020)
Sampling Units:	Data from Jodhpur, Pali and Bhinmal in Rajasthan
Sample Size:	100 Doctors

Data Compilation, Analysis and Interpretation

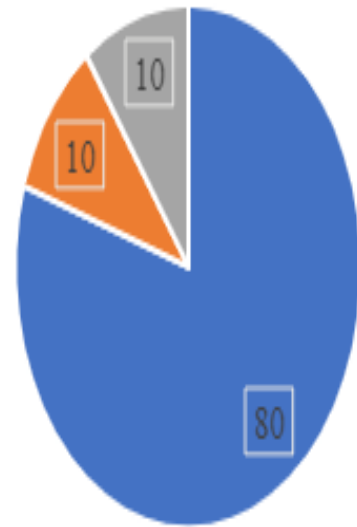
Specialities of Doctors



Q1. Speciality of Doctor

Inference: The pie chart shows that almost 55% of the Doctors were MD Chest Physician, then 27% are Chest Physicians and the remaining 18% were only Physicians.

Places v/s Number of Doctors

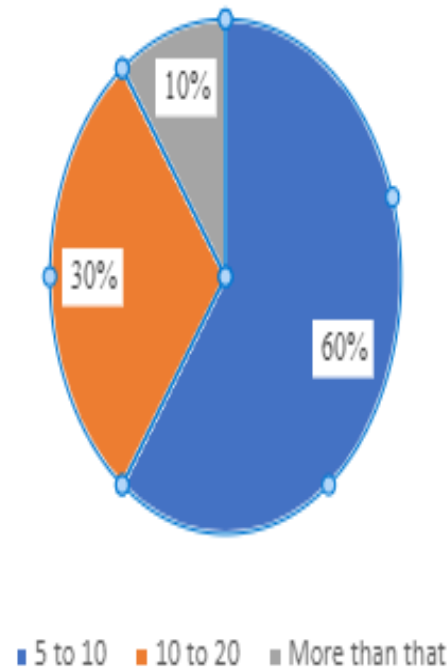


■ Jodhpur ■ Bhinmal ■ Pali

Q2. Place

Inference: The survey was conducted in three particular places of Rajasthan i.e., Jodhpur, Bhinmal and Pali and from the graph it is evident that 80 doctors were from Jodhpur then 10 doctors from Bhinmal and remaining 10 doctors from Pali

COPD patient visit per day



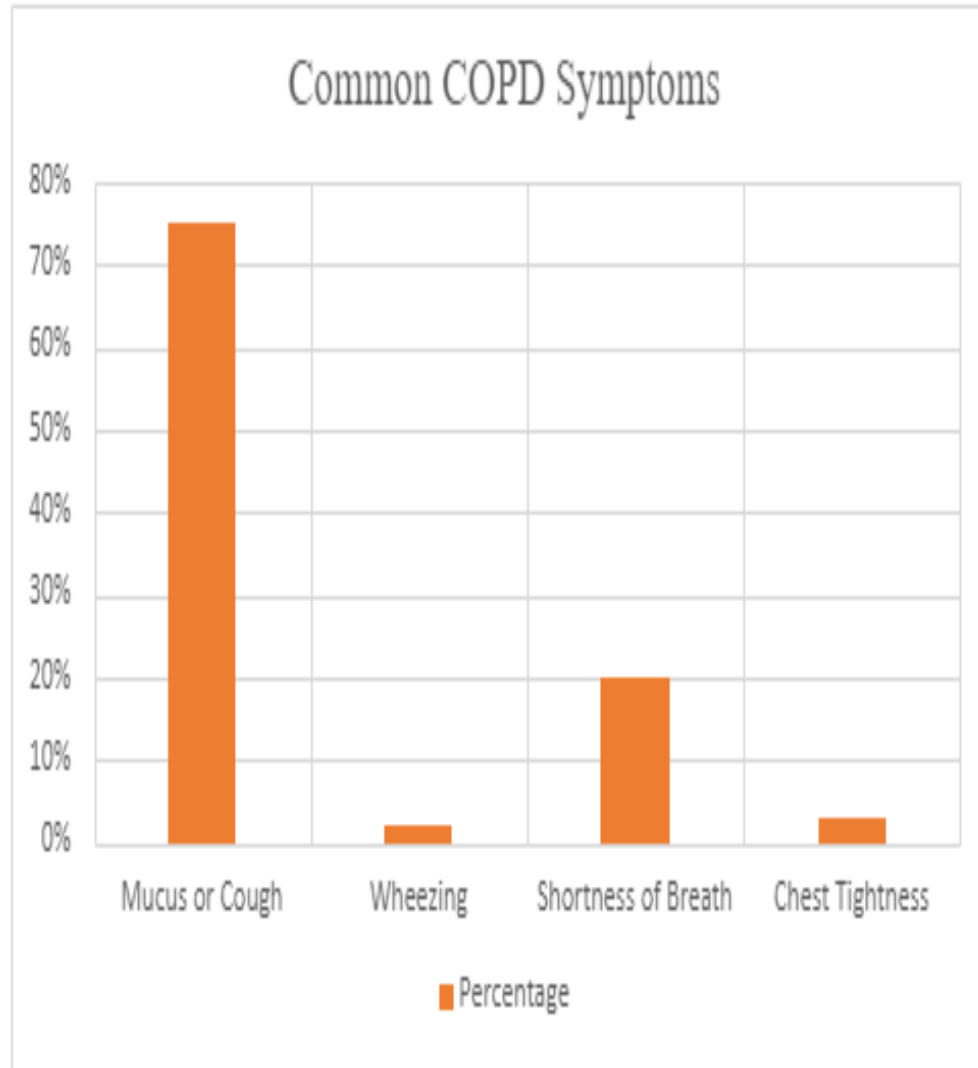
Q3. How many patients with COPD disorder visit your clinic per day?

i. 5-10

ii. 10-20

iii. More than that

Inference: The above chart shows that 60% of the clinics have a regular of 5-10 patients a day, 30% of the clinics have 10-20 patient a day and 10% of the total have more that 20 patients a day.



Q4. What are the major symptoms shown in any COPD patients:

i. Mucus/Cough

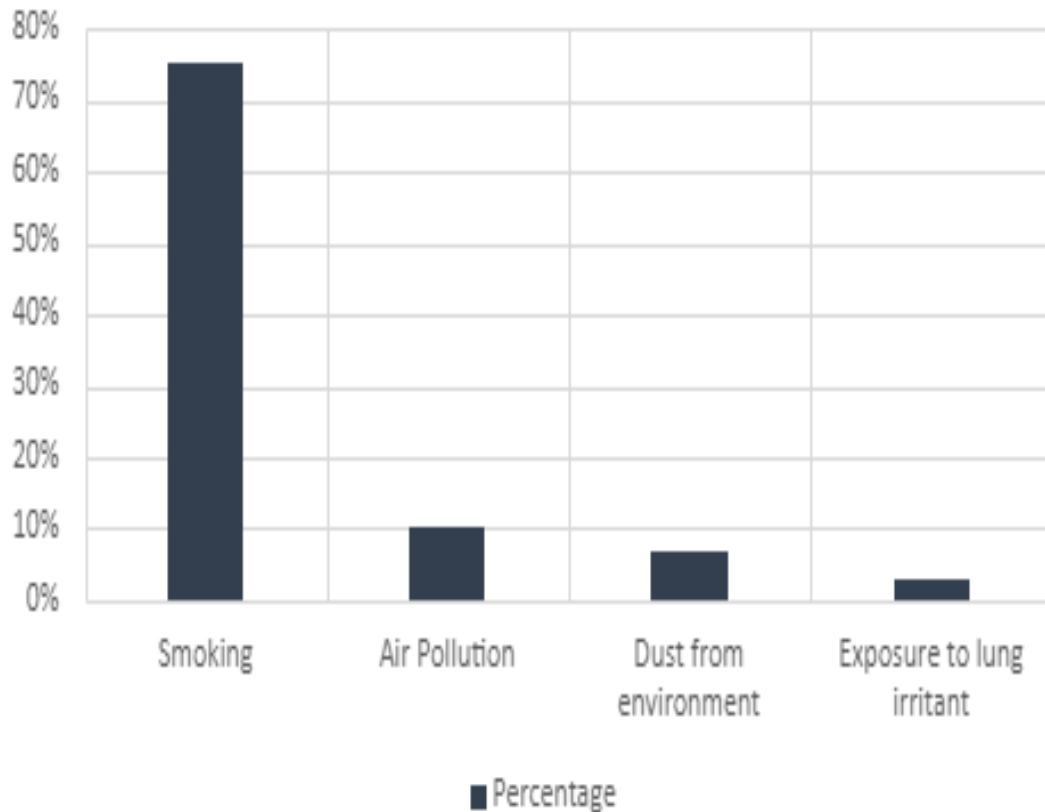
ii. Wheezing

iii. Shortness of Breath

iv. Chest Tightness

Inference: The bar plot says that among all the common symptoms of COPD, Mucus or Cough is the major symptom (70-80%), Next comes Shortness of breath (20%) and wheezing and chest tightness ranges from 2-3%.

COPD Causes



Q5. What are the primary causes for COPD disorders in patients:

i. Smoking

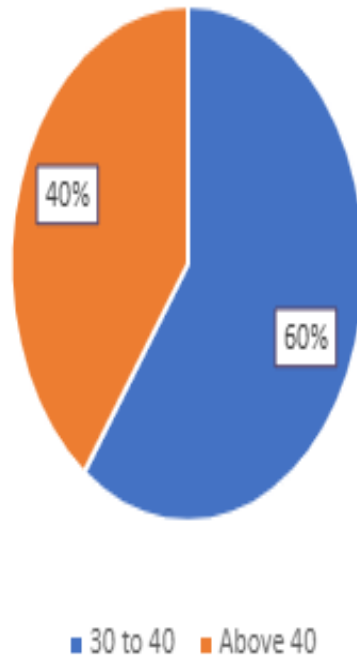
ii. Air Pollution

iii. Chemical Fumes or dust from environment

iv. Exposure to other Lung Irritant

Inference:Smoking is the main cause of COPD (70-80%), next comes Air Pollution(10%), third is Dust from environment (3-5%), fourth is exposure to lung irritant(almost 2%).

Age Group



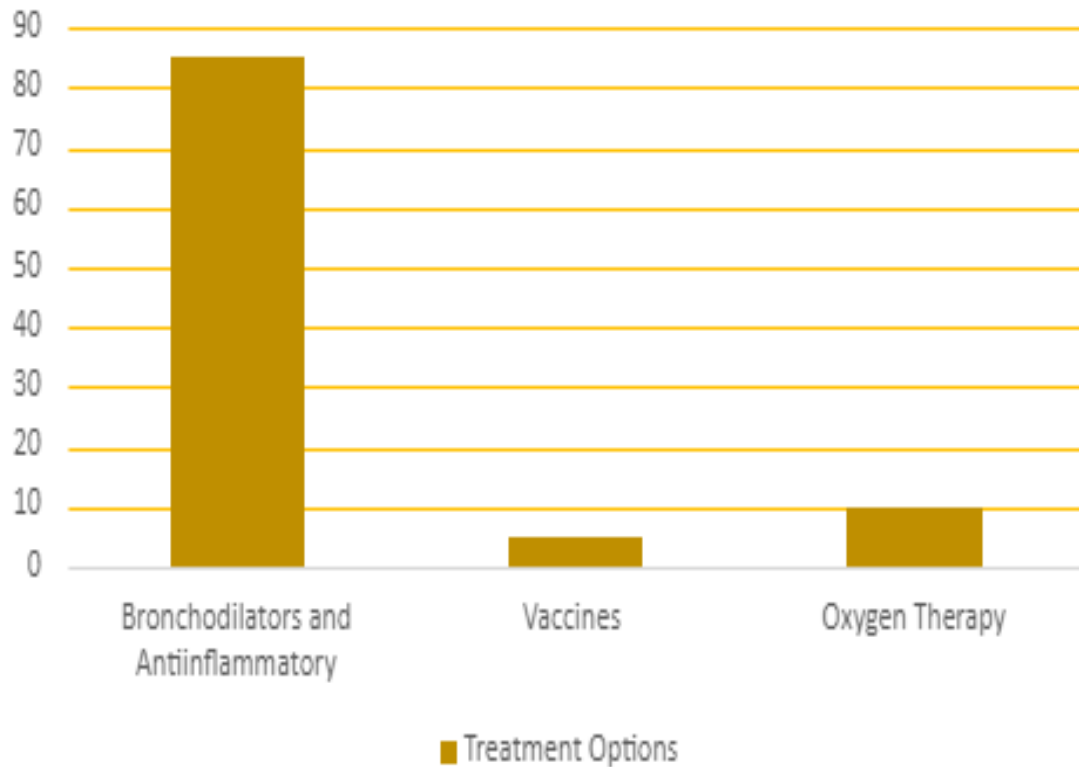
Q6. Which age group patients show up more with COPD disorders?

i. 30-40 years

ii. Above 40 years

Inference: 60% patient's age group is 30-40 years and 40% patients age is above 40 years.

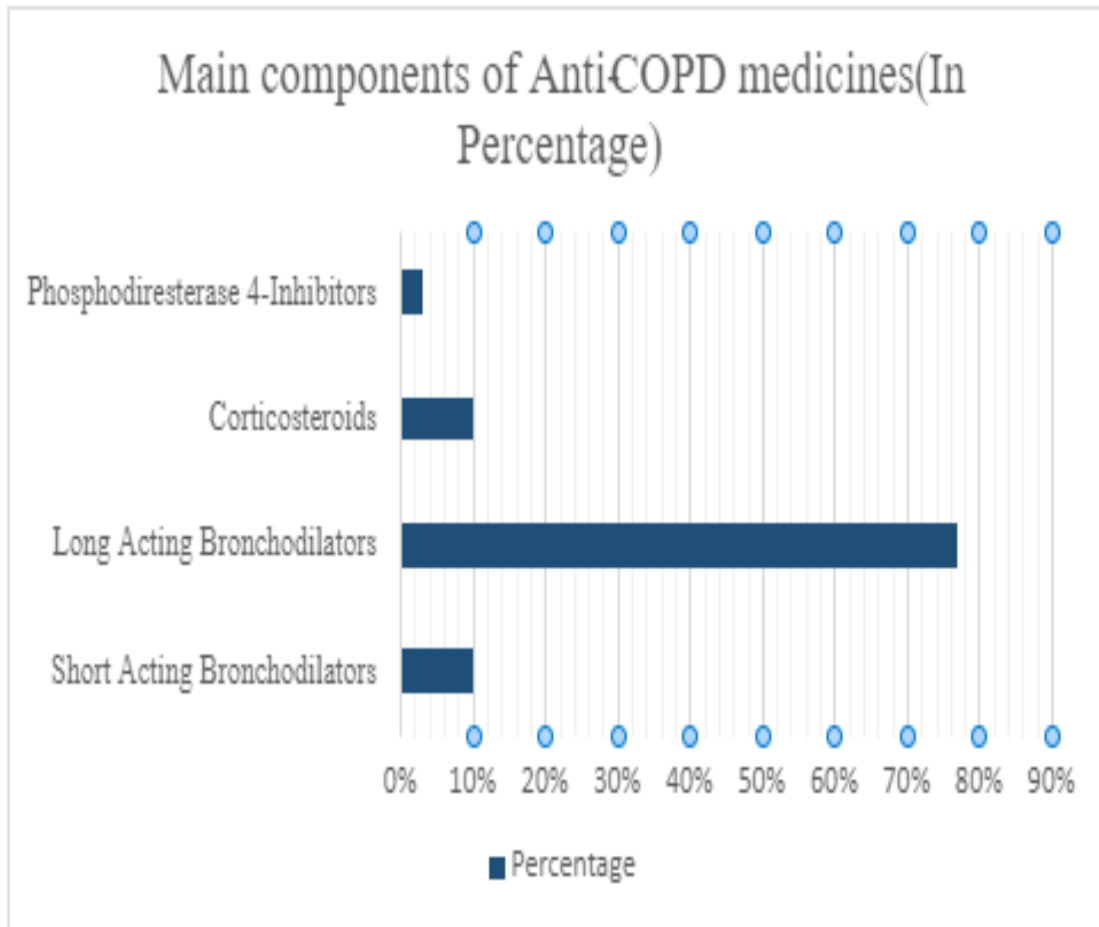
Treatment Options(In Percentage)



Q7. What are the various treatment options for COPD ailment?

- 1. Medicines such as Bronchodilators and Anti-inflammatory**
- 2. Vaccines**
- 3. Oxygen Therapy**

Inference: Bronchodilators and Anti-Inflammatory medicines are the most prescribed one's by doctors (almost 85%) ,oxygen therapy (10%) after which COPD are the vaccines 5%



Q8. What are main components you seek before prescribing an Anti-COPD medicine?

1. Short Acting Bronchodilators

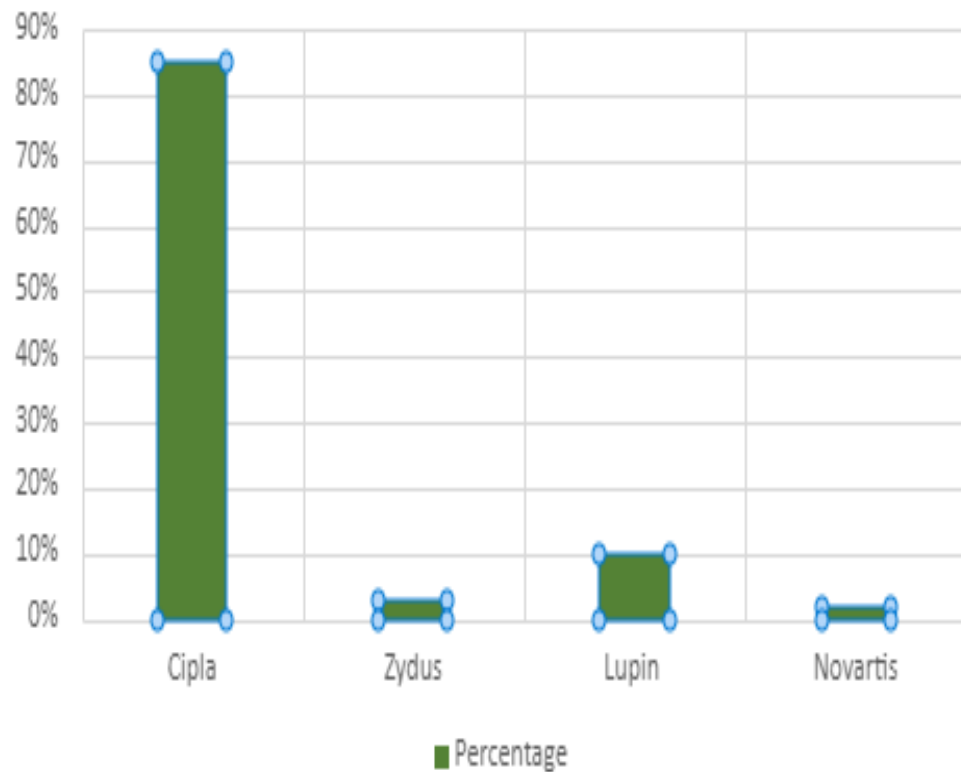
2. Long Acting Bronchodilators

3. Corticosteroids

4. Phosphodiesterase-4 Inhibitor

Inference: The above bar graph shows that almost 80% of doctors believe Long Acting Bronchodilators to be the best medicine for COPD and do prescribe that. Next in the run almost 10% doctors seek for Short Acting Bronchodilators and Corticosteroids each as Anti-COPD medicine. But Phosphodiesterase 4-Inhibitors are prescribed the least (almost < 5%) by the doctors.

Medicine Usage(Company Wise)

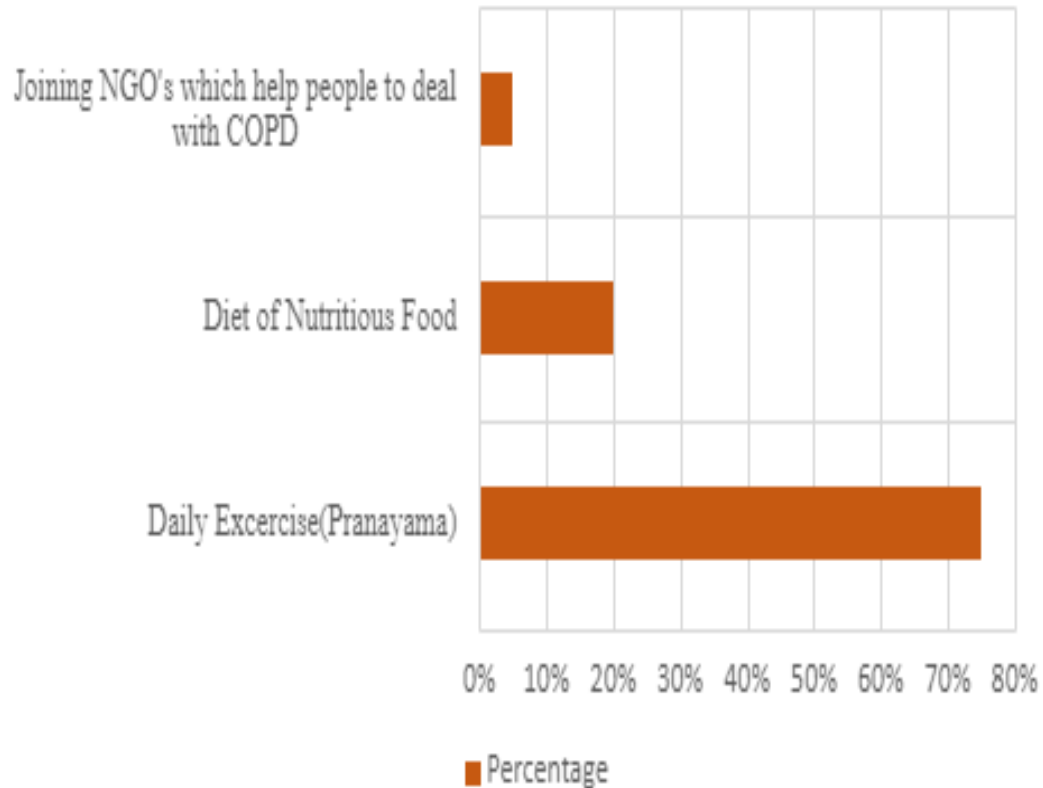


Q9. Which is the most prescribed Anti-COPD medicines among the following:

- 1. Tiova, Triohale and Glycohale-F by Cipla**
- 2. Tiomist, Tioform by Zydus**
- 3. Tiate Transhaler, Tiomate HFA, Trimium by Lupin**
- 4. Sequadra, by Novartis**

Inference: Cipla's medicines are the most prescribed by doctors(80-85%), next to it is Lupin (10%), Zydus come after that with 2-5% and Novartis has the least popularity among doctors with almost 2%.

Changes in Lifestyle for COPD(In Percentage)



Q10. Apart from medication what all lifestyle changes can help in COPD management?

- i. Daily Exercise (Pranayama)**
- ii. A diet of nutritious food**
- iii. Joining NGO's which help people to deal with COPD**

Inference: The bar plot shows that apart from medications 70-75% doctors advices Daily exercises (Pranayama) to COPD patient, next almost 20% doctors ask patients to have a proper blend of nutritious food in their diet and lastly almost 5% doctors think that if patients join any organisation for people living with COPD could actually help patients suffering from that.

Conclusion

- According to the survey conducted it is observed that there is much prevalence of COPD in these states of Rajasthan i.e., Jodhpur, Bhinmal and Pali. Keeping this picture in mind the survey further states the usages of medicines as Anti-COPD medicines and those that are Beta Adrenergics are found maximum in the medicines offered by CIPLA (almost 80%), next prevalence rate of ANTI-COPD medicine is by LUPIN(almost 10%), remaining is by Zydus and Novartis.
- The most extreme manifestations of COPD have being shown in the figures and diagrams.
- From the above review we can conclude that COPD is more common in people above the age of 40 years.

References

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- Positive Options for Living with COPD: Self-Help and Treatment for Chronic Obstructive Pulmonary Disease Teri Allen
- COPD Solution: A Proven 10-Week Program for Living and Breathing Better with Chronic Lung Disease Dawn Lesley Fielding.
- COPD: The Eat to Breathe Plan to Feeling Better Teri L. Pizza

A black and white photograph of a spiral-bound notebook. The notebook is open, showing a blank page with the words "Thank you" written in a cursive script. A black pen with a silver tip and clip is resting on the bottom left of the page. The notebook is placed on a dark, textured surface.

Thank you