

Efficacy of unani formulation in patient with COPD: A Case series

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Abstract

OBJECTIVES: Chronic obstructive pulmonary disease (COPD) is defined as a disease state characterized by air flow limitation that is not fully reversible. COPD is the third leading cause of death and affect > 10 million persons in United state. COPD is also increasing public heath importance around world. Estimate suggest that COPD will rise from sixth to the third most common cause of death worlds wide. The prevalence of COPD is higher in countries where smoking is highly prevalent. The prevalence range between 2 to 22 percent among the men and 1.2 to 19 percent women in different population based studies across India.

The aim of present study is to assess the safety and efficacy of polyherbal unani formulation in the treatment of COPD.

METHODS: A case series was conducted on 5 diagnosed cases of COPD attending the Moalejat OPD – 4 at AKTCH, AMU Aligarh.

RESULTS AND OBSERVATIONS: All the symptoms like Dyspnoea, cough, sputum production were significantly improved after the 60 days treatment with unani formulation. The result was analyzed and shown on CAT score and spirometry (FEV₁, FEV₁/FVC).

CONCLUSION: The preliminary findings indicate that this unani drug formulation is effective in COPD patients.

KEYWORDS: COPD, polyherbal, unani formulation, CAT Score, spirometry.

INTRODUCTION: Chronic obstructive pulmonary disease (COPD) is a defined as a disease state characterized by air flow limitation that is not fully reversible and associated with an enhanced chronic inflammatory response in the airways and the lung to noxious particle or gases¹. COPD include chronic bronchitis and emphysema. Chronic bronchitis is defined clinically as productive cough on most days for at least 3 consecutive months per year for at least 2 consecutive years. Emphysema is defined pathologically as permanent enlargement of air spaces distal to the terminal bronchioles accompanied by destruction of the alveolar walls and absence of associated fibrosis². COPD is the third leading cause of death and affect > 10 million person in United states. COPD is also increasing public heath importance around world³. Estimate suggest that COPD will rise from sixth to the third most common cause of death world wide by 2020. The

prevalence of COPD is higher in countries where smoking is highly prevalent. The prevalence range between 2 to 22 percent among the men and 1.2 to 19 percent women in different population based studies across India.⁴ As on 2016, three out of five leading causes of mortalities constitute non-communicable disease where as COPD is the second biggest cause of death in India.⁴

Muzmin tasuddudi amraze riya is a term which has been literally translated by the contemporary unani physician in an attempt to explain the COPD entity applicable to present day etymology while going through unani literature, the term *muzmin tasuddudi amraze riya* has not mention as such but it can be related to clinical feature *suaal barid maddi*, *sual ratab* and *rabu martooob* as described by *Ibne sina*, *Azam khan*, *Ajmal khan*.^{5,6,7,8} There are several single as well as compound unani drugs which are in use for centuries for effectively treating the disease but many of them have not been evaluated clinically on scientific parameters further the limitation of management of COPD available in modern medicine necessitate a scientific search for safe, effective and convenient medication for the disease.

Keeping this in view, the present study was designed to evaluate the efficacy of unani formulation Qurse zeequn nafas and sharbate aroosa.

Material and Methods

The study was conducted on the patient attending Moalejat OPD – 4 at Ajmal Khan Tibbiya College & Hospital, AMU, Aligarh.

Inclusion criteria

- Patient in age group 35-65 years
- Patient of either sex
- Patient who were clinically stable
- Patient of mild to moderate type of COPD

Subjective parameter –

- Dyspnoea
- Cough with sputum
- Wheezing

Objective parameter

- Spirometry

Exclusion criteria

- Patient below 30 years and over 65 years
- Patient in acute exacerbation of disease
- Patient of severe or very severe type of COPD
- Bronchial asthma
- Pneumonia
- Tuberculosis
- Lung carcinoma
- Pregnant & lactating mothers

Dosage and schedule of drugs

2 tablet of qurse zeequnnafas and 12 ml of sharbat aroosa twice a daily for the period of 60 days.

Intervention

In this case series 5 patients were enrolled. The unani formulation was prepared in a qurs and syrup form and given to the pateins of COPD two times daily morning and evening in a dose of 2 tablet and syrup 12 ml for a period of 60 days with the follow up on every 15th day. Patient was also instructed to stop smoking. Diagnosis was made on the basis of clinical symptoms and spirometry. It typical symptoms and sign include dyspnoea, cough with sputum production and wheezing. Symptoms assess through CAT score and objective parameter through spirometry (FEV₁ and FEV₁/FVC ratio).

CAT score is a standard patient questionnaire that assess all aspect of the COPD's impact on patient life (cough, sputum, breathlessness, chest tightness, confidence, activity, sleep and energy level).

CAT score interpretation as

>30-very high

>20-high

10-20 –medium

<10-low

Gold spirometry classification of COPD

Stage 1- FEV₁/FVC <70% and FEV₁ >80(%predicted)

Stage 2 - FEV₁/FVC <70 % and FEV₁ 50-80(%predicted)

Stage 3- FEV₁/FVC <70 % and FEV₁ 30-50(%predicted)

Stage 4- FEV₁/FVC <70 % and FEV₁<30(%predicted)

Case Presentations

Case – 1:

A 60 years old male, came to moalejat OPD of AKTCH, AMU with chief complaints of dyspnoea and cough with expectoration. After taken proper history, he was smoker and quit smoking 4 year ago. Initial physical examination revealed temperature- 98.6 F, Heart rate-80 bpm, respiratory rate - 20 /minutes, BP-118/78 mm of Hg and SpO₂- 96%.

No respiratory status distress at that time. On inspection chest was B/L symmetrical and on auscultation wheezing were present.

Case – 2:

A 40 year male patient visited OPD with clinical presentation of cough with expectoration and shortness of breath. He was farmer with positive history of smoking and advice to stop smoking. Initial physical examination revealed temperature- 98.6 F, Heart rate-86 bpm, respiratory rate -21 /minutes, BP-108/78 mm of Hg and SpO₂- 97%.

No respiratory status distress at that time. Chest was B/L symmetrical and on auscultation there were harsh vesicular breathing and prolongation of expiration.

Case – 3:

A male patient of age 58 years visited to OPD with complaints of breathlessness, cough with expectoration and weakness. He had a 30 pack –year history of smoking.

Initial physical examination revealed temperature -98.6 F, Heart rate-90 bpm, respiratory rate 19 /minutes, BP-122/78 mm of Hg and SpO₂ -96%.

No respiratory status distress at that time. On inspection chest was B/L symmetrical and on auscultation wheezing were present.

Case – 4:

A male patient of age 57 years visited to OPD with complaints of dyspnoea and chronic cough with sputum production. History positive for smoking and he quit smoking one year ago.

Initial physical examination revealed temperature -98.6 F, Heart rate-80 bpm, respiratory rate 20 /minutes, BP-118/78 mm of Hg and SpO₂- 95%.

No respiratory status distress at that time. On inspection chest was barrel shaped and on auscultation decreased breath sound were present.

Case – 5:

A male patient of age 50 years came to OPD with chief complaints of breathlessness and cough with expectoration and he had history of smoking.

Initial physical examination revealed temperature- 98.6 F, Heart rate-80 bpm, respiratory rate 20 /minutes, BP-118/78 mm of Hg and SpO₂- 96%.

No respiratory status distress at that time. On inspection chest was B/L symmetrical and on auscultation wheezing were present.

Observations and results:

All the 5 cases of COPD were analyzed on the basis of clinical symptoms. It was found that dyspnoea and cough with sputum were the prominent symptoms in all the cases. After 60 days of treatment, patient found alleviation in the symptoms which were analyzed through reduction in CAT score and improvement in FEV₁ AND FEV₁/FVC ratio (Table no: 1)

TABLE NO.1

S.NO	CAT SCORE		Predicted FEV ₁ %		Predicted FEV ₁ /FVC%	
	P ₁	P ₂	P ₁	P ₂	P ₁	P ₂
1	18	10	58.2	64.2	65.2	70.2
2	15	9	65.0	70.0	68.2	72.0
3	11	5	68.4	70.2	69.0	71.0
4	22	10	52.4	65.0	67.4	70.0
5	10	6	68.0	72.2	70.0	74.0
					P ₁ =Pre-treatment P ₂ =Post-treatment	

Table: 2

Composition of test drugs formulation of qurs

S.No.	Drug name	Botanical name
1.	Filfil daraz	<i>Piper longum</i>
2.	Kakra singhi	<i>Pistacia intergerrima</i>
3.	Jawa khaar	<i>Hordeum vulgare</i>
4.	Aslusos	<i>Glycirrhiza glabra</i>
5.	Post Anaar	<i>Punica granatum</i>
6.	Adrak sabz	<i>Gingiber officinalis</i>

Composition of test drug formulation of sharbat

S.NO	Drug name	Botanical name
1	Aroosa	<i>Adhatoda vasica</i>

Discussion:

In the present study almost all the patients showed a good response during and after treatment of 60 days which was analyzed and shown on CAT score, FEV₁ FEV₁/FVC (Tab no.1)

The ingredients used in the test formulation possess *muhallil* (ant inflammatory), *munaffis wa mukhrije balgham* (expectorant), *muffateh sudad* (deobstruent) properties^{9,10,11,12}. Due to these properties, inflammation in the respiratory tract is controlled and consistency of mucus is modified to enable it to be expectorated easily. The pooled up mucus secretions are expectorated after optimizing their consistency by the action of *munaffis wa mukhrije balgham*. *Muhallil* drugs decrease the inflammation and thus stop further production of sputum leaving respiratory pathways clear and patent, thus reducing the dyspnoea and wheezing as soon as inflammation and obstruction are controlled.

No adverse event was reported during the entire case series. Thus validating formulations have a significantly effective role in long as well as short term management of COPD with maximum socioeconomic advantage.

Conclusion:

The role of unani herbal drugs in treating such disorder is well recognized in unani classical literature. There is strong evidence from this study that the test drugs have a significant role in COPD. However, other aspects of test drugs need to be explored to provide a complete and safe remedy for COPD in a large sample size, maximum dose, standard controlled and multicentre study with blinding.

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