

## A STUDY OF DEPRESSION AMONG ASTHMATIC PATIENTS IN A TERTIARY HOSPITAL

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### ABSTRACT

#### BACKGROUND

Depression among asthmatics is associated with poor asthma control and quality of life. The prevalence of depression in asthmatics varies from 8% to 55% in various studies.<sup>(1,2)</sup> Depressive symptoms are associated with increased asthma severity, poorer outcome and greater risk for hospitalisation in patients with asthma. Thus, knowledge about prevalence and effect of depression in asthmatic illness may have important implications for identification and appropriate treatment of these patients.

The aim of this study is to study the prevalence of depressive disorders in asthmatic patients.

#### MATERIALS AND METHODS

Hospital-based cross-sectional study conducted in a tertiary care health centre in Puducherry, India. Seventy patients of asthma diagnosed using spirometric criteria, aged 18 - 64 years of both sexes were studied. Patients were screened for depression using PHQ-9 and patients having positive scoring were evaluated in detail by the clinician and ICD-10 criteria was used to confirm the diagnosis of depression. This study is a part of larger study, where patients were followed up for 6 months.

#### RESULTS

In the sample of 70 asthma patients, 40 patients had depressive disorders (total prevalence - 57.1%; 15.7% - mild, 24.3% - moderate, 14.3% - moderately severe, 2.9% - severe depression).

#### CONCLUSION

There is a high prevalence of depression among patients suffering from asthma.

#### KEYWORDS

Depression, Asthma, Adults.

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#### BACKGROUND

Depression in the present world is a major contributor of morbidity and mortality with life-time prevalence in the general population of almost 20%. The Disability Adjusted Life Years (DALY) of depression accounts to a total of 4.4% in all ages and gender (women = 5.5%, men = 3.4%). Years of Life Lived with Disability (YLD) for all ages and both sexes attributable to depression is 11.9% (males = 9.75%, females = 14.5%).<sup>(3)</sup>

Asthma is a chronic medical condition and a serious public health problem in industrialised countries associated with significant morbidity and functional impairment, currently affecting ~300 million people globally.<sup>(4)</sup> The Disability Adjusted Life Years (DALY) of asthma is 1.4% and YLD of 2.3% in males, 1.8% in females and a total of 2.1%.<sup>(5)</sup>

Asthma patients tend to have higher levels of stress and negative emotions such as panic, fear, irritability, depression and bipolar disorders.<sup>(6)</sup> Recent reviews have found that depressive symptoms are more common in asthma patients than the general population.<sup>(7,8)</sup> Nearly, 50% of asthma patients have depressive symptoms.<sup>(9)</sup>

#### Inclusion Criteria

1. Patients aged 18 - 64 yrs., registering at the Department of Respiratory Medicine for the first time with a diagnosis of asthma subsequently confirmed through spirometry at the Department of Respiratory Medicine.

#### Exclusion Criteria

1. Patients with other co-morbid general medical conditions (hypertension, diabetes mellitus, etc.)
2. Patients who have received psychiatric treatment elsewhere and are on treatment currently.
3. Patients who cannot perform spirometry.
4. Presence of Chronic Obstructive Pulmonary Disease (COPD).
5. Smokers.
6. Severely ill patients unable to co-operate for psychiatric evaluation.
7. Patients who are not under steroids as the main form of treatment since steroids-induced depression will alter the results of the study.

Ethical clearance was obtained from Ethical Committee of MGMCRI, Pondicherry.

#### MATERIALS AND METHODS

##### Study Tools

Spirometric Criteria. PRIME-MD PRIMARY HEALTH QUESTIONNAIRE SCORES. PRIME-MD PHQ 9 SCORES.

Semi-structured socio-demographic Proforma prepared for the study consists of Study parameters.

##### Socio-Demographic Profile

*Financial or Other, Competing Interest: None.*

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Age, gender, marital status, socio-economic status (Education, occupation, income), area of domicile-rural/urban.

**Method**

All consecutive adult patients, aged 18- 64 yrs., registering for the first time in the Department of Respiratory Medicine with respiratory symptoms suggestive of airway disease were assessed using spirometry. Cases that fulfilled standard spirometric criteria for the diagnosis of asthma entered step two of the case selection process. Patients with features of COPD and/or history of smoking were excluded at this stage. All asthmatic patients selected through step one underwent comprehensive systemic examination and laboratory investigations (Haematology, Biochemistry) to exclude co-morbid general medical conditions such as diabetes mellitus, hypertension, thyroid dysfunction, etc. All asthmatic patients without co-morbid general medical conditions were taken up for assessment of depression using PHQ-9, which is a screening tool for depression and later diagnosis of depression was confirmed using ICD-10 criteria.

**RESULTS**

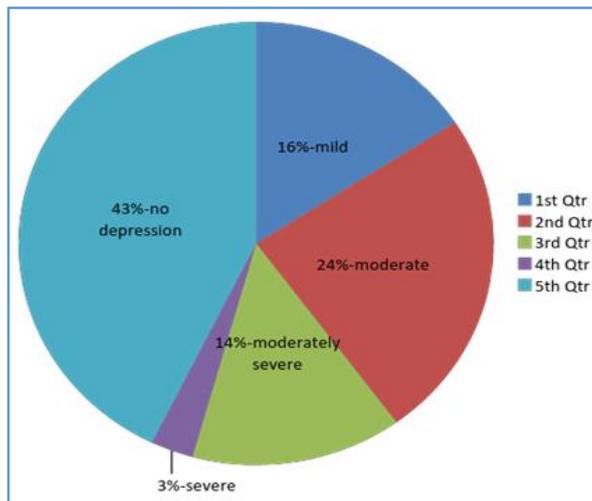
The study sample showed female preponderance and male-to-female ratio was 1:1.5. The majority of the participants belonged to lower upper, lower socio-economic class and were from rural area.

Variables	(n = 40)
Age (year)	40.4 ± 13.7
Male	25.5 (12)
Female	75.5 (28)
Single	12.6 (8)
Married	78.2 (28)
Widowed	9.45 (4)
Upper	3.1 (1)
Upper middle	0.0 (0)
Middle lower middle	31.5 (12)
Lower upper lower	50.3 (18)
Lower	15.7 (9)
Rural	56.5 (22)
Urban	43.8 (18)

**Table 1. Socio-Demographic Profile of the Asthmatic Patients\***

\*Data are presented as mean ±

Of the 70 asthmatic patients registered initially for the study, 40 had depressive disorders giving an overall prevalence of 57.1% with 15.7, 24.3, 14.3 and 2.9% had mild, moderate, moderately severe and severe degree of depressions respectively (Figure 1).



**Figure 1. Prevalence of Depression**

**DISCUSSION**

**Socio-Demographic Factors**

The study sample showed female preponderance, and male-to-female ratio was 1:1.5. This is comparable to several other studies, where female asthmatic patients were more than males.<sup>[9]</sup> The majority of the participants belonged to lower upper lower socio-economic class followed by middle lower middle socio-economic class. This was similar to other study, which indicated that most of the study population belonging to lower income group.<sup>[10]</sup> A large proportion of the study participants were from rural area compared to those from urban area.

**Prevalence of Depression**

Majority (n = 40) of the asthmatic patients registered initially for the study had depressive disorders giving an overall prevalence of 57.1%; 15.7%, 24.3%, 14.3% and 2.9% had mild, moderate, moderately severe and severe degree of depressions respectively. This can be compared to similar studies, which reported high prevalence of depression among asthmatics. A study by Yakar reported mild depression in 27% of asthmatics, moderate depression in 9% of asthmatics and severe depression in 7% of asthmatics.<sup>[10]</sup> The prevalence rate varied from 8%<sup>[9,11]</sup> to 55.01%.<sup>[12]</sup> Contradicting this, a review of literature done by Opolski reported mixed results as to whether persons with asthma are more likely to be depressed than those without asthma.

**CONCLUSION**

1. The study suggests that patients with asthma have high prevalence of depression.
2. The results indicate the need to screen all asthma patients for depression and other psychiatric co-morbidities and treat them appropriately to improve their quality of life.<sup>(1,2)</sup>

**Limitations of the Study**

1. One of the main limitations of this study was the relatively small size of the study sample.
2. Issue of stigma with regard to mental illness seems to have adverse impact in the process of recruiting cases for the study.

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