

Assessment of psychiatric co-morbidities in patient of bronchial asthma attending a tertiary medical centre (Multicentric study)

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ABSTRACT

Aims and Objectives: Asthma is a chronic inflammatory condition, which is associated with increase in airway hyper responsiveness that leads to recurrent episodes of wheezing, breathlessness, chest tightness and coughing. Asthma is a very common respiratory illness, in which some of the disease related factors may increase the vulnerability to psychiatric disorders. This study was done to determine the prevalence of psychiatric co-morbidity in patients of bronchial asthma. **Methodology:** It is an observational study conducted in 110 follow-up patients of bronchial asthma attending respiratory medicine OPD at tertiary care centre in central India. Psychiatric co-morbidities are assessed by pre-designed short-structured questionnaire using Mini international neuropsychiatric interview. **Result:** Among 110 patients of bronchial asthma 28% had psychiatric co-morbidity mainly depressive episode (59%). A significant association is found between lower socioeconomic status ($P = 0.01$), duration of active illness (more than 1 year) ($P = 0.001$), and age of patient above 60 years ($P = 0.001$) with psychiatric co-morbidity of asthma patient. **Conclusion:** Our study shows there is increased prevalence of psychiatric co-morbidities in patients of bronchial asthma, higher than the national average. The predominant psychiatric disorder seen is depressive disorder, so treatment of asthma should be a multidisciplinary approach including medical treatment of asthma and psychiatric evaluation to prevent psychiatric co-morbidity or its early management. This will greatly reduce the morbidity, visits to hospital, expenditure on treatment and thereby having better outcomes in our patients of asthma.

Keywords: Bronchial Asthma, Copd, Psychiatric Co Morbidity

Introduction

Asthma is a chronic inflammatory condition which is associated with increase in airway hyper responsiveness that leads to recurrent episodes of wheezing, breathlessness, chest tightness and coughing.^[1] Asthma is one of the most common chronic disease globally and currently affects 300 million people. The

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Received: 08-07-2020

Revised: 13-09-2020

Accepted: 02-10-2020

Published: 30-11-2020

Access this article online

Quick Response Code:



Website:
www.jfmpc.com

DOI:
10.4103/jfmpc.jfmpc_1331_20

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How to cite this article: Singh DK, Mehrotra A, Anand S, Singh GV, Gupta AK, Kumar S. Assessment of psychiatric co-morbidities in patient of bronchial asthma attending a tertiary medical centre (Multicentric study). J Family Med Prim Care 2020;9:5741-4.

prevalence of asthma has risen in affluent countries over the last 30 years but now appears to have stabilized affecting 10–12% of adults.^[2]

Asthma is a very common respiratory illness in which some of the disease-related factors may increase the vulnerability to psychiatric disorders. Epidemiological studies have shown that asthma is associated with increased risk of psychiatric conditions including anxiety disorders and depressive disorders. The co morbid psychiatric disorders can also affect disease management such as overuse or underuse of rescue inhaler and lack of adherence to medication. Asthma-related quality of life is typically reduced with psychiatric comorbidities.^[3] This study was done to determine the prevalence of psychiatric co-morbidity in patients of bronchial asthma at a tertiary health care centre.

Materials and Methods

It is an observational study conducted in 110 follow-up patients of bronchial asthma attending respiratory medicine OPD at tertiary care centre in central India [33 patients from Varun Arjun Medical College, Shahjahanpur; 27 patients from S.N. Medical college, Agra; 25 patients from School of Medical Science and Research, Greater Noida; 25 patients from FH Medical College, Tundla] to find out psychiatric co-morbidities between January 2019 to August 2019.

Criteria for inclusion

- Patients meeting the definition of asthma by the American thoracic society.
- Stable follow-up bronchial asthma patients.
- Patient above 18 years of age
- Patients who are able to give informed consent.

Criteria for exclusion

- Patients who are not able to give informed consent.
- Other Medical illnesses (thyroid disorders, diabetes, hypertension, COPD).

They were assessed with the semi structured performa containing details of socio demographic profiles and questions pertaining to the aims of the study. Psychiatric co-morbidities are assessed by short-structured questionnaire using Mini international neuropsychiatric interview.

Result

In our study, among 110 patients of stable bronchial asthma, 50% of patients belong to 18 to 40 years, 22% belong to 41 to 60 years and 28% belong to above 60 years [Table 1].

In our study, among 110 patients of stable bronchial asthma 52% are males and 48% belong to female [Table 2].

In our study, among 110 patients of stable bronchial asthma 62% belongs to lower socioeconomic class, 32% belong to middle class and 6% belong to upper socioeconomic class [Table 3].

In our study, among 110 patients of stable bronchial asthma, number of active illness below 6 month is 36%, number of active illness below 6 month to 1 year is 38% and number of active illness above 1 year is 26% [Table 4].

Among the 110 patients of bronchial asthma 28% have psychiatric co-morbidity and 72% does not have psychiatric comorbidity [Table 5 and Figure 1].

In psychiatric co-morbidity depressive episode (59%) are most common followed by anxiety disorder (20%), alcohol dependence (12%), manic episodes (6%) and suicidal tendency (3%) [Table 6 and Figure 2].

Table 1: Age profile of asthma patients

Age	Number of Patients	Percentage
18-40 yrs	55	50
41-60 yrs	25	22
60 or above	30	28
Total	110	100

Table 2: Sex profile of asthma patients

Sex	Patients	Percentage
Male	58	52
Female	52	48
Total	110	100

Table 3: Socioeconomic status of asthma patients

Socioeconomic Class	Patients	Percentage
Upper Class	7	6
Middle Class	36	32
Lower Class	67	62
Total	110	100

Table 4: Clinical profile of asthma patients

Duration of Active Illness	Patients	Percentage
<6 months	40	36
6 months to 1 year	42	38
More than 1 years	28	26
Total	110	100

Table 5: Asthma patients with psychiatry comorbidities

	Number	Percentage
Patient with psychiatry co-morbidities and asthma	31	28
Patient without psychiatry co-morbidity but only asthma	79	72
Total	110	100

A significant Association is found between lower socioeconomic status ($P = 0.01$), duration of active illness more than 1 year ($P = 0.0011$), and age of patient above 60 years ($P = 0.001$) with psychiatric co-morbidity of asthma patient [Table 7].

Discussion

In our study it is found that 28% of bronchial asthma patient have psychiatric co-morbidity. This prevalence is much higher than the national average of 14%^[4] of psychiatric disorders in the general population, highlighting the fact that psychiatric disorders are found to be increased in patients with asthma. In a study conducted by Nilkhal *et al.*^[5] and Nascimento *et al.*^[6] shows 61% of bronchial asthma patient have psychiatric co-morbidity which is much higher than our study. In a study conducted by Nian shenz tzenz *et al.*^[7] found that 10.8% developed psychiatric comorbidity in asthma patients, this is even lower than the national average.

In our study the most common psychiatric co-morbidity is depressive episode (59%), followed by anxiety disorder (20%). In a study conducted by Essam *et al.*^[8] shows (67%) of asthma patient developed anxiety disorders and (52%) developed

depression disorders. In Javier *et al.*^[9] and Nilkhal *et al.*^[5] studies shows depression is the most common psychiatric co morbidities in asthma patients which is quite similar to our study findings. In a study conducted by Yakup Cag *et al.* 2020, concluded that anxiety disorder are common in adolescent asthma patients.^[10]

In our study, asthma patients above 60 years of age are more predisposed to develop psychiatric co-morbidity. It is concordance with Hannu^[11] *et al.* study.

In our study, gender does have significant association of developing psychiatric co morbidities in asthma patient, it is concordance with Nilkil^[5] *et al.* studies, but Hannu^[11] *et al.* shows female asthma patients are more prone to develop depression.

In our study asthma patients with lower class socioeconomic status are more predisposed to develop psychiatric co morbidities, it is similar to Simion L bacon^[12] *et al.* studies. But in a study conducted by Nikhil *et al.* shows socioeconomic status does not have significant association with psychiatric co-morbidity studies.

In our study asthma patient having longer duration of active illness [more than 1 years] are more prone to develop psychiatric comorbidity, it is similar with Nilkil^[5] *et al.* studies and Hannu^[11] *et al.* studies. The reason for this finding can be prolonged illness causes more morbidity, repeated hospital visits, increased expenditure on treatment and loss of work resulting in financial loss. This needs to be further assessed in more studies depicting the reason for this finding.

Table 6: Various psychiatric comorbidities in asthma patients

Psychiatry Co-morbidity	Number of patients	Percentage
Depressive Episode	18	59
Manic Episode	2	6
Generalized Anxiety Disorder	6	20
Alcohol Dependance	4	12
Suicidal Tendency	1	3
Total	31	100

Table 7: Socio clinical correlation of asthma patient with psychiatric comorbidities

Variables	Chi Square value	P
Age of patients	19.77	0.001
Sex	2.6	0.1
Socioeconomic status	8.58	0.01
Duration of active illness	13.62	0.0011

Conclusion

Our study shows there is increased prevalence of psychiatric co-morbidities in patients of bronchial asthma, higher than the national average. The predominant psychiatric disorder seen is depressive disorder. Psychiatric co-morbidity are found to have significant association with lower socioeconomic status, age above 60 years and duration of active illness more than 1 year, so there is a need of assessment of the psychiatric co-morbid conditions in

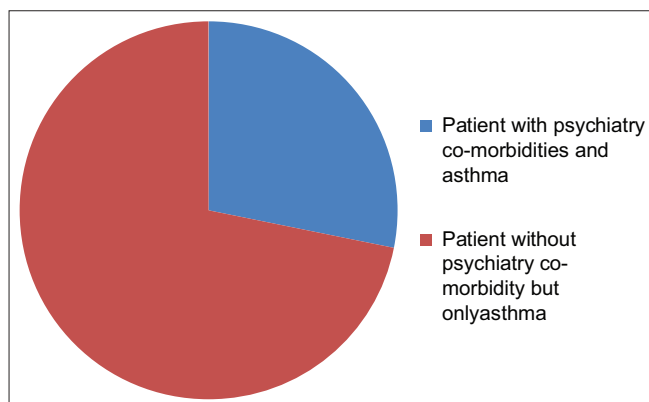


Figure 1: Prevalence of psychiatric comorbidities in asthma

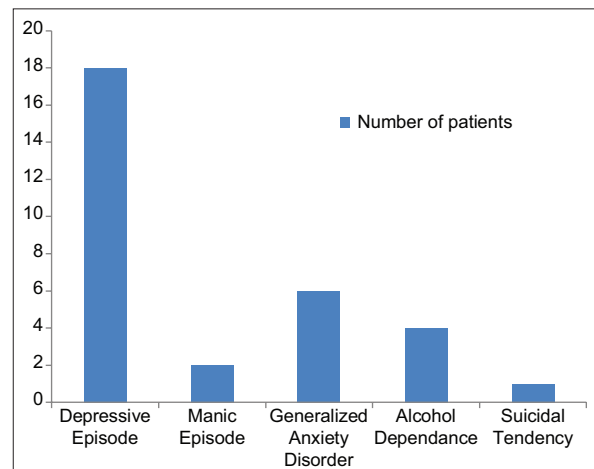


Figure 2: Distribution of psychiatric comorbidities

asthma patients to improve the quality of life. Further treatment of asthma should be a multidisciplinary approach including medical treatment and psychiatric evaluation to prevent psychiatric co-morbidity or its early management. This will greatly reduce the morbidity, visits to hospital, expenditure on treatment and thereby having better outcomes in our patients of asthma. Further study is required to find out more factors for higher prevalence of psychiatric comorbidities in patients with asthma.

Summary

It is an observational study conducted in 110 follow-up patients of bronchial asthma attending respiratory medicine OPD at tertiary care centre in central India. Our study shows there is increased prevalence of psychiatric co-morbidities in patients of bronchial asthma, higher than the national average. The predominant psychiatric disorder seen is depressive disorder, so treatment of asthma should be a multidisciplinary approach including medical treatment of asthma and psychiatric evaluation to prevent psychiatric co-morbidity or its early management. This study is useful for primary care physician to prevent psychiatric co morbidities in asthma patients by giving them proper counselling before initiation of treatment and during treatment as prevention is better than cure.

Ethical permission

The ethical permission for this paper was given by Members of Ethical Committee, Sarojini Naidu Medical College, Agra, Uttar Pradesh, India.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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