

Rate of Anxiety and Depression in Cases of Bronchial Asthma

MUJTABA JAFFARY¹, JAWED AKHTAR SAMO², SYED WASEEM AHMAD MUJTABA³

ABSTRACT

Aim: To determine the rate of anxiety and depression in cases of bronchial asthma.

Methods: This cross-sectional and observational study conducted at Department of Medicines, Ch. Rehmat Ali Memorial Teaching Hospital, Lahore and Khairpur Medical College Hospital, Khairpur from 1st January 2016 to 30th June 2016. Hospital Anxiety and Depression Scale (HADS) was used to assess anxiety and depression.

Results: Mean age of the patients was 45.6±7.4 years. Anxiety was noted in 155 (77.5%) patients and depression was noted in 126(63%) patients. Insignificant (P = 0.4159, 0.6292) association of anxiety and depression with gender was noted. Association of anxiety with area of residence was significant (P=0.001). Highly significant (P=0.001, 0.001) association of education status with anxiety and depression was found.

Conclusion: Results of this study showed high rates of anxiety and depression in asthmatics. Male or female asthmatics can equally be a victim of anxiety and depression. Rural residents and un-educated asthmatics had higher rate of anxiety and depression as compare to urban residents and educated asthmatics.

Keywords: Psychiatric disorders, Asthma, Anxiety, Depression, Significant, Chronic

INTRODUCTION

Bronchial asthma is a major cause of morbidity and mortality and it affects almost 300 million people globally¹ Bronchial asthma is defined as un-expected and sudden episodes of shortness of breathing, these asthmatic attacks are a real threat for life in these cases². It makes sense that bronchial asthma significantly affects psychological health of the patients because of its very serious effect on social life, daily activities and sleep of these patients³.

Bronchial asthma presents profound links between psychological, physiological and social factors⁴. More recent hypotheses regarding the association between bronchial asthma and psychological factors are describing bronchial asthma as a classic psychosomatic disorder caused by specific psychological conflicts⁵. About 2/3 of asthmatics are anxious during the acute attack. Symptoms of anxiety in asthma patients have been revealed as very strong predictors of respiratory illness⁶.

Some negative emotions (anger, panic, fear and depression) are involved in a fluctuating process of bronchoconstriction of the airways, leading to worse crises of asthma⁷. Although, these emotions are not severe enough to be classified as psychiatric disorders, but can lead to initiation or worsening of asthma¹.

Conversely, these emotions can also be worsened by asthma itself. Anxiety and depression is also associated with autonomic dysregulation leading to a cholinergic or vagal bias (i.e., vagal over sympathetic reactivity) which increases airway instability in asthma. Stress exposure increases the risk of developing asthma⁸.

This study was planned to screen out the asthmatic patients for anxiety and depression. Results of this study may help us to decrease this comorbidity of the asthmatics by early management.

RESEARCH METHODOLOGY

This cross-sectional and observational study conducted at Department of Medicines, Ch. Rehmat Ali Memorial Teaching Hospital, Lahore and Khairpur Medical College Hospital, Khairpur from 1st January 2016 to 30th June 2016. Total 200 patients of bronchial asthma either male or female having age range from 20-60 years were included in this study. Patients having history of diabetes mellitus and hypertension were excluded from the study. For the assessment of anxiety and depression, Hospital Anxiety and Depression Scale (HADS) was used. Scores ≥8 considered as anxiety or depression. Patients with primary education were considered as uneducated and above middle education were considered as educated. All the collected data was entered in SPSS version 17 and analyzed. Mean and SD was calculated for numerical variables and frequencies and percentages were calculated for anxiety, depression, gender (male or female),

¹Department of Medicine, Continental Medical College, Lahore,

²Department of Medicine, Khairpur Medical College Khairpur,

³Department of Medicine, Azra Naheed Medical College Lahore

Correspondence to Dr. Mujtaba Jaffary

Email: mjaffary2004@yahoo.com

education status (educated or uneducated) and areas of residence (rural or urban. Stratification in relation to gender, education status and area of residence was done. Post stratification chi-square test was used to see the association of anxiety and depression with gender, area of residence and education status of the patients. P value ≤ 0.05 was considered as statistically significant.

RESULTS

Mean age of the patients was 45.6 ± 7.4 years. Anxiety was noted in 155(77.5%) patients and depression was noted in 126(63%) patients (Table 1). Male patients were 152(76%) and female patients were 48 (24%). In male patients anxiety and depression rate was 114(75%) and 98(64.47%) respectively and in female patients, anxiety and depression rate was 41(85.42%) and 28 (58.33%). Insignificant (P value = 0.166, 0.494) association of anxiety and depression with gender was noted (Table 2).

Table 1: Frequencies for anxiety and depression

Status	Anxiety	Depression
Yes	155(77.5%)	126(63%)
No	45(22.5%)	74(37%)

Table 2: Relation of anxiety and depression with gender

Gender	Yes (%)	No (%)	Total
Relation of anxiety with gender			
Male	114 (75%)	38 (25%)	152 (76%)
Female	41 (85.42%)	7 (14.58%)	48 (24%)
Total	155 (77.5%)	45 (22.5%)	200 (100%)
P value 0.166			
Relation of depression with gender			
Male	98 (64.47%)	54 (35.53%)	152 (76%)
Female	28 (58.33%)	20 (41.67%)	48 (24%)
Total	126 (63%)	74 (37%)	200 (100%)
P. value = 0.494			

Total 120(60%) patients belonged to rural area and 80(40%) patients belonged to urban area. Anxiety was noted in 108(90%) patient and 47(58.75%) patients of rural and urban area respectively. Highly significant (P. value=0.000) association of anxiety with area of residence was noted. Depression rate was 82(63.33%) in patients of rural area 44(55%) in patients of urban area but insignificant (P. value=0.073) association of depression with area of residence was noted (Table 3). In present study 92(46%) patients were educated and 108(54%) patients were uneducated. Anxiety and depression was noted in 56(60.87%) and 41(44.57%) educated patents respectively. In uneducated patients, anxiety rate was 99(91.67%) and depression rate was 85(78.7%). Highly significant (P=0.001, 0.001)

association of anxiety and depression with educational status was observed (Table 4).

Table 3: Relation of anxiety and depression with area of residence

Area of residence	Yes (%)	No (%)	Total
Relation of anxiety with area of residence			
Rural	108 (90%)	12 (10%)	120 (60%)
Urban	47 (58.75%)	33 (41.25%)	80 (40%)
Total	155 (77.5%)	45 (22.5%)	200 (100%)
P. value = 0.000			
Relation of depression with area of residence			
Rural	82 (68.33%)	38 (31.67%)	120 (60%)
Urban	44 (55%)	36 (45%)	80 (40%)
Total	126 (63%)	74 (37%)	200 (100%)
P. value = 0.073			

Table 4: Relation of anxiety and depression with educational status

Education Status	Yes (%)	No (%)	Total
Relation of anxiety with educational status			
Educated	56 (60.87%)	36(39.13%)	92 (46%)
Un-educated	99 (91.67%)	9 (8.33%)	108 (54%)
Total	155 (77.5%)	45(22.5%)	200(100%)
P. value = 0.001			
Relation of depression with educational status			
Educated	41 (44.57%)	51(55.43%)	92 (46%)
Un-educated	85 (78.7%)	23(21.3%)	108(54%)
Total	126 (63%)	74 (37%)	200(100%)
P. value = 0.001			

DISCUSSION

Anxiety and depression symptoms are relatively common among asthma patients and emotions such as anxiety, anger, happiness, excitement, satisfaction and neutral emotions can influence respiratory parameters⁹.

In literature, many studies proved the relation of anxiety and depression with asthma¹⁰. These disorders are more common in asthmatics as compared to non-asthmatics which varies from 9% to 65%¹¹.

Mean age of the asthmatic patients in present study was 45.6 ± 7.4 years. Similar mean age (43.8 ± 16.6 years) of asthmatic patients was reported by Tafti et al in their study.¹² In another study Tafti et al¹³ reported mean age of asthmatic as 48 ± 17 years which is also comparable with mean age of our study.

Rate of anxiety and depression in present study was 77.5% and 63% respectively which is very high. Reason of high percentages of anxiety and depression is due to lack of routine psychological counseling in pulmonary wards. Tafti et al¹² reported depression in 65.4% asthmatic patients which is comparable with our study. Similar (66.7%)

prevalence of depression in asthmatics was reported by Asnaashari et al¹⁴ Labor et al¹⁵ reported rate of anxiety and depression as 44.5%, 24.5% which is lower than our findings. Another study by Aspinosa Leal et al¹⁶ showed that 30% of asthmatics presented with anxiety and 8% presented with depression.

There are controversies regarding the prevalence of anxiety and depression in asthmatics. Wang et al¹⁷ reported that in their study 70% of asthmatics have anxiety and depression. Some other studies reported that anxiety and depression six times more prevalent in asthmatic patients as compared to non-asthmatic patients.¹⁸

Gender of asthmatics is another risk factor for the development of anxiety and depression. In literature, different studies reported different rate of anxiety and depression in asthmatics. Our study concluded insignificant ($P = 0.166, 0.494$) gender difference for anxiety and depression. Similarly in study by Wilson et al, asthmatic males and asthmatic females had similar prevalence of anxiety and depression.¹⁹ Conversely Tafti et al¹² reported significantly ($P = 0.005$) more female asthmatics had depressive symptoms as compare to male asthmatic (70.2% versus 54.9%) and Nowobilski et al²⁰ reported that asthmatic females experience higher degrees of somatic symptoms and anxiety than asthmatic males.

In this study, un-educated asthmatics had significantly ($P = 0.001$) higher proportion of anxiety and depression as compared to educated asthmatics, which is in line with Tafti et al¹³ who found significantly ($P = 0.009$) higher rate of depression among illiterate asthmatics as compare to literate asthmatics.

CONCLUSION

Results of this study showed high rates of anxiety and depression in asthmatics. Male or female asthmatics can equally be a victim of anxiety and depression. Rural residents and un-educated asthmatics had higher rate of anxiety and depression as compare to urban residents and educated asthmatics.

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