

**Research Article****Association of anxiety and depression with area  
of residence in cases of bronchial asthma****<sup>1</sup>Rabia Kanwal, <sup>2</sup>Saima Altaf  
and <sup>3</sup>Tayyamn Tahseen**<sup>1</sup>House Officer, Jinnah Hospital Lahore<sup>2</sup>Women Medical Officer, Basic Health Unit 121NB,  
Tehsil Sillanwali, District Sargodha<sup>3</sup>Woman Medical Officer, Lahore General Hospital, Lahore**ABSTRACT****Objective:** To assess the association of anxiety and depression with area of residence in cases of bronchial asthma.**Material and methods:** This was a cross-sectional, was conducted at Department of Pulmonology, Jinnah Hospital Lahore from February 2017 to August 2017. Hospital Anxiety and Depression Scale (HADS) was used to assess anxiety and depression.**Results:** Total 250 patients with bronchial asthma were selected for this study. Mean age of the patients was  $45.6 \pm 7.4$  years. Anxiety was noted in 200 (80%) patients and depression was observed in 168 (67.2%) patients. Anxiety was noted in 154 (78.97%) male patients and in 44 (80%) female patients. Statistically insignificant ( $P = 1.00$ ) association anxiety with gender was noted. Depression was seen in 105 (60%) male patients and in 47 (58.33%) female patients. Insignificant association of depression with gender was observed with p value 0.777**Conclusion:** Findings of present reveals high rates of anxiety and depression in asthmatics. Male or female asthmatics can equally be a victim of anxiety and depression. Rural residents had higher rate of anxiety and depression as compare to urban residents.**Key Words:** Psychiatric disorders, asthma, anxiety, depression, significant, chronic**INTRODUCTION**

The relation between the bronchial asthma and psychological factors was first observed in the remote past. A series of clinical observations suggest that the asthma and stress are closely related to one another.<sup>1</sup> Before it becomes clear that the base of illness was the inflammation of ventilators, the asthma belonged to the illnesses with purely psychogenic reasons and frequently was reported as "asthma nervosa".<sup>2</sup> Later, the psychological approaches, followed researches that gave more tangible proofs for the role that the emotions play in the asthma. Even though in our days the relation between the bronchial asthma and the psychological factors is considered given, their role of the latter in

genesis, the symptomatology and the development of illness remains vague, as a lot of mechanisms have not been comprehended sufficiently.<sup>3-4</sup> The asthma, as a chronic illness, has his own psychological dimensions. In the other hand, the mental situation of individual affects his bodily health and determines many times the course of illness. In the case of asthma a common genetic substrate with the psychiatric diseases observed in the families of asthmatic is possible, making thus the psychiatric background of individuals and their families a critical parameter for the symptoms and the course of bronchial asthma.<sup>5</sup> The research of psychological factors today acquires particular importance as

the traditional environmental factors that are considered responsible for the illness do not explain satisfactorily the increased prevalence of the diseases in the last years. On the other hand, the two last decades has become explicit the importance of neuroendocrinology system in the development of diseases in which the process of inflammation plays fundamental role, as e.g the rheumatic diseases. The research in this field is expected to lit up more the pathogenesis of asthma and his relation with the central nervous and endocrinological system.<sup>6</sup>

**MATERIAL AND METHODS**

In this cross sectional study, total 250 asthmatic patients having age with 20 years to 60 years either male or female were selected. Patients having history of diabetes mellitus and hypertension were excluded from the study. Hospital Anxiety and Depression Scale (HADS) was used to assess the anxiety and depression. Scores  $\geq 8$  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), 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  $\leq 0.05$  was considered as statistically significant.

**RESULTS**

Total 250 patients with bronchial asthma were selected for this study. Mean age of the patients was  $45.6 \pm 7.4$  years. Anxiety was noted in 200 (80%) patients and depression was observed in 168 (67.2%) patients. (Table 1) Total 195 (78%) patients were male and 55 (22%) patients were female. Anxiety was noted in 154 (78.97%) male patients and in 44 (80%) female patients. Statistically insignificant (P = 1.00) association anxiety with gender was noted. Depression was seen in 105 (60%) male patients and in 47 (58.33%) female patients. Insignificant association of depression with gender was observed with p value 0.777. (Table 2) Total 163 (65.2%) patients belonged to rural area and 87 (34.8%) patients belonged to urban area. Anxiety was seen in 138 (84.66%) patients belonged to rural area and in 62 (71.26%) patients belonged to urban area. Statistically significant association between anxiety and area of residence was noted with p value 0.0134. Depression was noted 117 (71.80%) patients and 51 (58.62%) patients belonged to rural and urban area. Significant association between depression and area of residence was observed with p value 0.047. (Table 3)

**Table 1:** Frequencies for anxiety and depression

| Status       | Anxiety N (%)    | Depression N (%) |
|--------------|------------------|------------------|
| Yes          | 200 (80)         | 168 (67.2)       |
| No           | 50 (20)          | 82 (32.8)        |
| <b>Total</b> | <b>250 (100)</b> | <b>250 (100)</b> |

**Table 2:** Relation of anxiety and depression with gender

| Gender   | Yes (%)         | No (%)         | Total      |
|--|-----------------|----------------|------------|
| <b>Relation of anxiety with gender P. value = 1.00</b> |                 |                |            |
| Male   | 154 (78.97)     | 41 (21.03)     | 195 (78)   |
| Female   | 44 (80)         | 11 (20)        | 55 (22)    |
| <b>Total</b>   | <b>200 (80)</b> | <b>50 (20)</b> | <b>250</b> |

| <b>Relation of depression with gender P. value = 0.777</b> |                   |                  |             |
|--|-------------------|------------------|-------------|
| Male   | 105<br>(60)       | 70<br>(40)       | 175<br>(70) |
| Female   | 47<br>(58.33)     | 28<br>(41.67)    | 75<br>(30)  |
| <b>Total</b>   | <b>168 (67.2)</b> | <b>82 (32.8)</b> | <b>250</b>  |

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

| Area of residence   | Yes (%)           | No (%)           | Total         |
|---|-------------------|------------------|---------------|
| <b>Relation of anxiety with area of residence P. value = 0.0134</b>   |                   |                  |               |
| Rural   | 138<br>(84.66)    | 25<br>(15.34)    | 163<br>(65.2) |
| Urban   | 62<br>(71.26)     | 25<br>(28.74)    | 87<br>(34.8)  |
| <b>Total</b>  | <b>200 (80)</b>   | <b>50 (20)</b>   | <b>250</b>    |
| <b>Relation of depression with area of residence P. value = 0.047</b> |                   |                  |               |
| Rural   | 117<br>(71.80)    | 46<br>(28.22)    | 163<br>(65.2) |
| Urban   | 51<br>(58.62)     | 36<br>(41.38)    | 87<br>(34.8)  |
| <b>Total</b>  | <b>168 (67.2)</b> | <b>82 (32.8)</b> | <b>250</b>    |

## DISCUSSION

Mean age of the asthmatic patients in present study was  $45.6 \pm 7.4$  years. Similar mean age ( $43.8 \pm 16.6$  years) of asthmatic patients was reported by Tafti et al in their study.<sup>7</sup> Which is comparable with our study. Anxiety was noted in 200 (80%) patients and depression was observed in 168 (67.2%) patients. Tafti et al reported depression in 65.4% asthmatic patients which is comparable with our study.<sup>7</sup> Similar (66.7%) prevalence of depression in asthmatics was reported by Asnaashari et al.<sup>8</sup> Labor et al reported rate of anxiety and depression as 44.5%, 24.5% which is lower than our findings.<sup>9</sup> Another study by Aspinosa Leal FB et al<sup>10</sup> 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 al<sup>11</sup> 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.<sup>12</sup>

Total 195 (78%) patients were male and 55 (22%) patients were female. Anxiety was noted

in 154 (78.97%) male patients and in 44 (80%) female patients. Statistically insignificant ( $P = 1.00$ ) association anxiety with gender was noted. Depression was seen in 105 (60%) male patients and in 47 (58.33%) female patients. Insignificant association of depression with gender was observed with p value 0.777. Similarly in study by Wilson et al, asthmatic males and asthmatic females had similar prevalence of anxiety and depression.<sup>13</sup> Conversely, in a study by Tafti et al,<sup>7</sup> significantly ( $P = 0.005$ ) more female asthmatics had depressive symptoms as compare to male asthmatic (70.2% versus 54.9%) and Nowobilski et al reported that asthmatic females experience higher degrees of somatic symptoms and anxiety than asthmatic males.<sup>14</sup>

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 al<sup>7</sup> who found significantly ( $P = 0.009$ ) higher rate of depression among illiterate asthmatics as compare to literate asthmatics.

## CONCLUSION

Findings of present reveals high rates of anxiety and depression in asthmatics. Male or female

asthmatics can equally be a victim of anxiety and depression. Rural residents had higher rate of anxiety and depression as compare to urban residents.

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