

Evaluation of anxiety and depression in patients with asthma at Masih Daneshvari Hospital, Tehran

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Introduction

There is increased risk of anxiety and other mood symptoms in asthma, and these influence the control of symptoms of asthma and the health related quality of life.

Aims

To assess anxiety and depression in patients with asthma attending pulmonary clinics.

Methods

Cross-sectional, observational study was carried out at the Masih Daneshvari Hospital, Tehran, Iran. Hamilton Anxiety and Depression Scale (HADS) was used to assess anxiety and depression.

Results

A total of 178 patients participated in this study. Mean age was 48 years (SD 17) and 46% were male. Severe anxiety and depression was present in 23% of males and 59% of females. Cronbach's alpha for HADS-A was 0.83 and for HADS-D 0.62.

Conclusions

This study showed that a significant percentage of asthmatics had anxiety and depression. Prevalence was higher among females.

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Introduction

Asthma is the fourth commonest disease in adults in the United States (1). Diagnosis of asthma is based on episodic symptoms of airflow obstruction and objective measures of lung function. Age, poverty and race are risk factors for developing asthma. There is increased risk of anxiety and other mood symptoms in asthma, and these influence the control of symptoms of asthma and the health related quality of life. Symptoms of anxiety may mimic those of asthma. It has been estimated that 6.5-24% of adults with asthma also have panic disorder (1). Studies show that depression can influence symptomatology of asthma in 40-80% of patients (4). Treatment of anxiety and depression can alleviate symptoms of asthma (7-9).

Prevalence of anxiety and depression in patients with fatal and near fatal asthma is higher. This may be explained by anxiety and depression leading to decreased effort of breathing, noncompliance with medications and cholinergic bronchospasm. Diagnostically, it is important to distinguish between the two.

The validity and reliability of the Hamilton Anxiety and Depression Scale (HADS) has been established in studies carried out in the United States (5). HADS has been used to assess anxiety and depression in patients with Parkinson's disease (6). Bjelland et al reported sensitivity and specificity for both HADS-A and HADS-D of approximately 0.80. The Cronbach's alpha for HADS-A varied from 0.68 to 0.93 (mean 0.83) and for HADS-D from 0.67 to 0.90 (mean 0.82). (10). Among the general population, the sensitivity and specificity of the HADS (cut-off score > 8) was 0.9 for both anxiety and depression. Another study found

HADS-A (cut off > 9) sensitivity of 0.66 and specificity of 0.93 and for the HADS-D (cut off > 7) the sensitivity was 0.66 and specificity 0.97. Among hospitalized

patients, HADS-D (cut off > 8) sensitivity was 0.83 and specificity 0.79, and HADS-A sensitivity was 0.9

and specificity 0.78 (10). A study from Iran, with 167 patients reported that a nurses had to administer the questionnaire because of high level of illiteracy. The HADS was completed by 99% of the sample. Cronbach alpha for HADS-A was 0.78 and for HADS-D 0.86. Validity was acceptable (3).

The aim of this study was to describe the prevalence of anxiety and depression in patients with asthma.

Method

This was a cross-sectional, observational study. Patients attending pulmonary clinics of the Masih Daneshvari Hospital, Tehran during the year 2011, diagnosed with asthma or met clinical and spirometric criteria for asthma were included in the study. Self-reported Hamilton Anxiety and Depression Scale (HADS) was used to assess anxiety and depression. The HADS has been previously translated to Persian and used in studies in Iran (3). In this study, scores below 8 were considered as mild anxiety or depression, 8-10 as moderate depression and scores higher than 11 as severe.

Ethical approval was obtained from Masih Daneshvari Hospital ethics committee. Only those who were conscious and rational and able to give informed consent were included in the study. Informed consent was obtained from the patients and confidentiality was maintained. Information was analysed using SPSS 16.

Results

One hundred and seventy eight patients participated in the study. Of them 46% were male and 54% female.

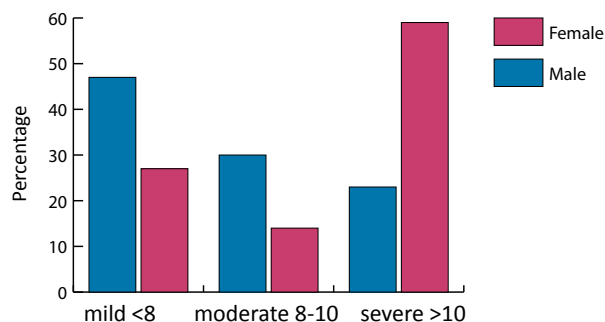


Fig. 1 HADS score ranges

Of the sample 15% were single, 82% married, 1% divorced and 2% were widowed. Education status showed 20% were illiterate, 22% had primary school education, 18% junior high school, 28% high school and 12% had university education.

Figure 1 shows HADS score ranges. Mild anxiety and depression was present in 47% of males and 27% of females. Moderate anxiety and depression was present in 30% of the males and 14% of females. Severe anxiety and depression was present in 23% of males and 59% of females. The difference in prevalence of anxiety and depression between males and females was not statistically significant (Chi-square $p=0.250$). Cronbach's alpha for HADS-A was 0.83 and for HADS-D 0.62.

Discussion

This study showed that a significant percentage of asthmatics had severe anxiety and depression (23% in males and 59% in females). This is similar to findings from other studies which report a prevalence of anxiety of 16-52% and that of depression of 14-41%. However it is lower than the prevalence of depressive symptoms measured using the 28-item general health questionnaire (GHQ-28) of 65.4% among asthma patients attending a pulmonary clinic in Tehran (12). This difference may be due to difference in the scales used to identify depressive symptoms.

Anxiety and depression occur more commonly in people with asthma, and are associated with poor asthma outcomes. The direction of the relationship and the mechanisms underlying it are uncertain (11, 17). High rates of major depressive disorder in asthma may result from the stress of chronic illness, the medications used to treat it, or a combination of the two (16). Depression and anxiety scores measured by the HAD also correlate with health related quality of life scores (HRQOL) in asthmatics, measured using the AQLQ (Asthma quality of life questionnaire) (13). A study from the United States among adults with asthma reported that the prevalence of serious psychological distress (SPD) was 7.5% (95% CI, 7.0%-8.1%). A negative association between HRQOL and SPD was found in adults, independent of asthma status. People with worse economic status, smokers or substance abusers and patients with underlying medical conditions had higher risk of severe psychiatric disease (15).

A cross-national study carried out in 17 countries confirms that a range of common mental disorders occurs with greater frequency among persons with asthma (15). Age and sex adjusted odds of mental disorders among asthmatics were 1.6 (95% CI 1.4-1.8] for depressive disorders, 1.5 (95% CI 1.4-1.7) for anxiety disorders and 1.7 (95% CI 1.4- 2.1) for alcohol use disorders (14).

This study was carried out in a referral centre which may treat more patients with severe or poorly controlled asthma. We also did not have a control group of healthy individuals to compare rates of anxiety and depression.

Since risk of anxiety and depression are higher among patients with asthma, it is important that patients are assessed at the initial presentation for these conditions and treatment initiated. This could lead to better symptom control of asthma and an overall improvement in the quality of life.

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Declaration of interest

None

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