

## MANIFEST ANXIETY IN BRONCHIAL ASTHMA

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### SUMMARY

Using a vernacular adaptation of MAS 50 bronchial asthma patients were compared with 102 normals, 60 hospital general out-patients and 50 neurotics to determine the level of anxiety in asthma. The manifest anxiety scores of the bronchial asthma patients were found to be significantly high showing that their level of anxiety was abnormally higher in comparison with that of the normals and the hospital general out-patients. The bronchial asthmatics and the neurotics did not differ in anxiety. The implications of these findings were discussed.

One of the most common complaints of anxious patients is difficulty in breathing. The respiratory concomitants of anxiety may vary, from deep sighs or hyperventilation to breath-holding (Stein and Schiavi, 1976). Dudley et al. (1968) have found that dyspnoea is associated with both the hyperventilation and the hyperemia accompanying anger and anxiety. As asthma is dyspnoea with wheezing, anxiety may be directly connected with asthma. Knapp et al. (1970) have pointed out that the major antecedent factor prior to an asthmatic attack is an anxious affect. Finch (1976) has opined that anxiety may be both a cause and a sequel to asthmatic attacks. Anxiety has been reported to be one of the chief characteristics of asthma by Mathe and Knapp (1971). In India Ramachandran et al. (1974) have reported 33% of asthmatics manifesting anxiety as against only 5% of T. B. patients. Further Ramachandran and Thiruvengadam (1975) have found anxiety more predominant in extrinsic asthmatics. However, Singh et al. (1977) have found more anxiety in asthmatic children in comparison with normals but not in comparison with physically ill children.

While many researchers as shown earlier have observed anxiety and asthma co-existing, the relationship between these two has been not very clear. For example, in some of the later studies in which a suitable control group was used, asthmatics did not show

significant difference in anxiety. It could be that anxiety was incidental to the diseased condition. In order to have a clearer picture of the relationship between anxiety and bronchial asthma it was thought that bronchial asthma patients may be compared with as many meaningful comparison groups as possible. Hence in the present investigation bronchial asthma patients were compared with a group of normals, a group of hospital general out-patients and also with a group of neurotics.

### MATERIAL AND METHODS

**Subjects :** Fifty consecutive bronchial asthma patients (M = 27, F = 23) with a mean age of 37.58 years and SD of 13.42 yrs., who attended the asthma out-patient clinic of the Medical College Hospital, Trivandrum, formed the subjects of the study. These patients were included on the basis of diagnosis by medical experts working in the 'Asthma Clinic'. Cases of cardiac asthma and doubtful cases with other organic conditions including secondary (infective) asthma were excluded. Only those cases which gave a clear picture of bronchial asthma were finally selected for the study.

For the purpose of comparison 102 normals (M = 65, F = 37) with a mean age of 35.16 years and SD of 14.20 yrs. with no known history of psychiatric or psychosomatic disorders (also currently free from physical

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disorders) were selected from a business concern having a large department store. A representative sample (proportionate number of out-patients from the Medical, Surgical, E. N. T., Dermatology and Orthopaedics) of 60 hospital general out-patients (M=30, F=30) with a mean age of 33.65 years and SD of 14.14 yrs. and a group of 50 neurotics from the psychiatry out-patient (M=30, F=20) with a mean age of 29.84 years and SD of 10.20 yrs. diagnosed by psychiatrists as per ICD 8th Revision were also selected.

The Manifest Anxiety Scale (MAS) of Taylor (1953) adapted into this culture (Rajalekshmi, 1973) was used to measure anxiety. In the item analysis out of the 50 items, only 35 were found to have medium difficulty values as well as significant discrimination indices and hence the final form of the Malayalam MAS had only 35 items measuring manifest anxiety.

Reliability and validity as reported by Rajalekshmi (1973) are as under:

Reliability of the test by Hoyt's method

was 0.87. The test-retest reliability was found to be 0.84. The ability of the test to discriminate between two extreme groups of high anxious and low anxious pupils was taken as the index of validity. Pupils of 30 each belonging to the two extreme groups were selected by the teachers and the 't' test showed that the difference between the mean scores of these two groups was statistically significant. Besides, in a later study the test was found to differentiate the neurotics with anxiety from the normals (Sreedhar, 1975).

The subject's responses were scored for both the 'Yes' and 'No' responses wherever they indicated towards anxiety. The anxiety score was arrived at by counting all the points together.

## RESULTS

Analysis of variance showed that the manifest anxiety scores obtained by the four groups were significantly different ( $F=9.63$ ;  $d.f.=3, 254$ ;  $p<0.01$ ). It also revealed that anxiety scores of the male subjects and the

TABLE : Sample size, Mean and SD of Manifest anxiety scores for the four groups and the FS values

Groups	Males				Females			
	N	Means	S.Ds.	FS	N	Means	S.Ds.	FS
B. A.	27	21.26	9.15	38.23**	23	23.35	6.12	26.21**
Norm.	65	8.42	5.80		37	11.49	5.99	
B. A.	27	21.26	9.15	21.55**	23	23.35	6.12	21.82**
G. H. O.	30	14.50	7.97		30	16.17	5.03	
B. A.	27	21.26	9.15	0.02	23	23.35	6.12	0.04
Neuro.	30	24.20	6.21		20	20.80	7.30	
G. H. O.	30	14.50	7.97	8.33*	30	16.17	5.03	9.18*
Norm.	65	8.42	5.80		37	11.49	5.99	

B. A.—Bronchial asthma; G. H. O.—General Hospital Out-patients; Neuro.—Neurotics; Norm.—Normals.

\*Significant at 5% level.

\*\*Significant at 1% level.

female subjects were significantly different ( $F=11.23$ ;  $d.f.=1, 254$ ;  $p<0.01$ ). Thus the males and females were treated separately in subsequent analyses. However, the interaction between groupings and sex was not found to have significant effect on anxiety ( $F=0.40$ ). In order to determine the significance of the difference between means taken in pairs, instead of the 't' test of significance which was not suitable for multiple comparisons of means (Robinson, 1981), the Scheffe's (FS) test (Kirk, 1968) was used. Multiple comparisons for the males showed significant differences between bronchial asthma patients and normals ( $FS=38.23$ ;  $p=0.01$ ), and bronchial asthma patients and hospital general out-patients ( $FS=21.55$ ;  $p<0.01$ ) in manifest anxiety. The bronchial asthma patients were found to be significantly more anxious than both the normals and the general out-patients. However, bronchial asthma patients and the neurotics did not differ in anxiety ( $FS=0.02$ ). Multiple comparisons for the females showed significant differences between bronchial asthma patients and hospital general out-patients ( $FS=21.82$ ;  $p<0.01$ ) in anxiety. Female asthma patients were also found to be significantly more anxious than their counterparts both in the normal and the general out-patient groups. Female bronchial asthma patients and female neurotics did not differ in manifest anxiety ( $FS=0.04$ ). Thus despite sex difference in manifest anxiety, the comparisons indicated a consistent trend in both cases. Hence, for the purpose of interpretation both the sexes were treated alike.

Results revealed that patients with bronchial asthma and abnormal anxiety than the normals. It is further revealed that their anxiety was not incidental to their diseased condition as it was significantly higher than that of a diseased group viz. the hospital general out-patients. Both the bronchial asthma patients and the neurotics were found to have similar levels of anxiety.

A comparison between normals and the hospital general out-patients showed significant difference in manifest anxiety both in males ( $FS=8.33$ ;  $p<0.05$ ) and in females ( $FS=9.18$ ;  $p<0.05$ ) indicating raised levels of anxiety in the case of the hospital general out-patients. These findings were suggestive of the possibility that diseased condition did elevate anxiety and that some level of anxiety could exist as a sequel to disorders.

## DISCUSSION

Several researchers (Sainsbury, 1960; Eysenck, 1963; Ramachandran et al., 1974; Ramachandran and Thiruvengadam, 1975; Indira and Murthy, 1977; and Shanmugam, 1979) have shown that bronchial asthma patients as a group were high on neuroticism and that they were likely to show the pattern of those neurotic disorders coming under dysthymia (Introverted neurotics) as proposed by Eysenck (1963). As anxiety is one of the core symptoms of dysthymics, the raised levels of anxiety could normally be attributed to the dysthymic nature of the bronchial asthmatics (Sreedhar, 1978). It may be noticed here that anxiety scores did not show significant differences between asthma patients and neurotics. The abnormally higher levels of anxiety thus might have to be considered as a personality factor in bronchial asthma in view of its similarity with the personality pattern of neurotic disorders.

As has been referred to earlier, anxiety could operate as a cause, could exacerbate or could maintain asthma. The pervasive nature of anxiety becomes clearer when one understands that anxiety could maintain a certain level of arousal in the nervous system, which is conducive to faster and stronger conditioning (Spence and Taylor, 1953; Spence and Weyart, 1960 and Sweetbaum, 1963) and that psychosomatic symptom formation may also follow the same pattern as in neurotic disorders in which symptoms are acquired through conditioning (Eysenck

and Rachman, 1965).

Yet another factor to be remembered here is that anxiety can increase suggestibility and that wheezing and asthmatic attacks could be induced through suggestion (Philipp, 1970). As the results indicate towards high levels of anxiety in bronchial asthma, it is felt that the awareness regarding the higher level of anxiety would help the clinicians in managing bronchial asthmatic disorder more effectively.

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