

Temperamental Traits and Psychological Problems of Children with Bronchial Asthma

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ABSTRACT

Children with persistent asthma were compared with an age and sex matched control group for psychological problems and temperamental traits. Childhood Psychopathology Measurement Schedule (CPMS) and Temperament Measurement Schedule were used to assess psychological problems and temperamental traits, respectively. 69% of children in the study group scored more than the cut-off score on the CPMS compared to 13% in the control group ($P < 0.01$). Children in the study group showed significantly more behavior problems, conduct symptoms, anxiety, depression and emotional problems compared to children in the control group. Children with asthma also received significantly low score on the temperament dimension of rhythmicity.

Key words: Asthma, Children, Psychological problems, Temperament.

INTRODUCTION

Children with chronic physical illnesses are at increased risk for developing psychological disorders(1). Bronchial asthma is one of the most common chronic illnesses during childhood. Studies have shown that emotional and behavioural disorders are more common in children with bronchial asthma than in the general population(2,3).

Temperament refers to individual differences in behavioral characteristics which appear early in childhood and are stable to a certain extent(4). Even though there is a genetic basis for temperamental dispositions of an individual, these are modified by environmental factors. Studies have noted that characteristic temperamental traits may be associated with both physical and psychiatric disorders in children(5,6). Literature on the temperamental characteristics of children with bronchial asthma is scant.

The present study was undertaken to assess the psychiatric morbidity among children with bronchial asthma and to find out if any characteristic

temperamental traits are associated with bronchial asthma.

METHODS

Children with persistent asthma who attended the asthma clinic attached to the Department of Pediatrics at Medical College, Calicut, and who satisfied the inclusion criteria were taken up for study. Consecutive cases from 1st April 2006 to 30th September 2006 were included. Diagnosis of persistent asthma was made based on NAEPP guidelines(7). The inclusion criteria were school going children in the 6-12 year age group, duration of asthma symptoms more than one year and, parental consent for the study. Children with chronic illnesses other than bronchial asthma were excluded. Children with mental retardation and those with primary psychiatric disorders or neurological disorders (including epilepsy) were excluded.

Children were interviewed along with the mothers. Socio-demographic and clinical details were recorded in the proforma. Children were evaluated using the Childhood Psychopathology

WHAT THIS STUDY ADDS?

- Children with persistent asthma have more psychological and temperamental problems compared to normal children.

Measurement Schedule (CPMS)(8) and the Temperament Measurement Schedule (TMS)(9). CPMS and TMS were translated into Malayalam and the ratings were done by the mothers. Both the scales have been used in our institution in the past and found to be applicable to our population(5). Children in the study group were compared with an age and sex matched control group. Controls were selected from children attending the general pediatric outpatient department for minor illnesses. Chi square test, Z test and Student's *t* test were used in appropriate situations for comparison.

RESULTS

The study group consisted of 29 boys and 22 girls (age 6-12 yr) with persistent asthma. The control group consisted of 35 boys and 26 girls. Both groups were matched for age, sex and parental education. Among children with persistent asthma 26 (51%) had mild, 23 (45%) had moderate and 2(4%) had severe persistent asthma. Onset of asthma was before the age of 1 year in 10 (20%) children, between 1 and 3 years in 33(65%) children and between 3 and 6 years in 8(15%) children. The minimum duration of asthma symptoms was 4 years and the maximum duration 11 years.

On the CPMS 35 (69%) children in the study group scored more than 10 while only 8 (13%) children in the control group scored above 10 ($P<0.01$). On the CPMS subscales, children in the study group showed significantly more behavior problems, conduct symptoms, anxiety, depression and emotional problems ($P<0.05$). Psychological problems were significantly more in children with moderate and severe asthma compared to children with mild asthma ($P<0.05$). Age of onset of asthma and duration of asthma symptoms were not significantly associated with psychological problems. On the TMS children with bronchial asthma and those in the control group differed significantly only on the temperament dimension of rhythmicity ($P<0.05$).

DISCUSSION

Our observation that children with persistent asthma had significantly more psychological problems is comparable to earlier studies from India and abroad(2,3). In our sample, 69% children scored more than the cut off point on the CPMS scale. This is higher than reported by Malhi, *et al.* using the same screening instrument. They have reported that 20% of children with asthma suffered from psychological and behavioural problems(2). The disparity may be due to differences in the sample characteristics.

Quality of life of children with bronchial asthma is influenced by co-morbid emotional and behavioural disorders and psychosocial factors were found to be significant in predicting asthma morbidity in children(10,11). Screening instruments like CPMS could help pediatricians to identify children who require detailed psychological evaluation(2).

It was previously reported that the temperamental profile of children with asthma is characterized by lower rhythmicity (regularity), lower adaptability, lower intensity of reaction, lower mood value, and lower persistence(12). In a recent study, Fan, *et al.*(13) noted significant differences in the adaptability, mood value and attention persistence of temperament between asthmatic patients and normal controls. In the present study, on the TMS, children with asthma received significantly low score on the temperament dimension of rhythmicity indicating that they were more irregular in their habits. No statistically significant differences were present in other temperament dimensions. Priel, *et al.*(14) found that maternal reports of infant's rhythmicity significantly improved the prediction of asthma among wheezy babies. More longitudinal follow up studies are needed to see whether characteristic temperament traits during infancy are associated with development of bronchial asthma later.

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