PSYCHOLOGICAL ASPECTS OF BRONCHIAL ASTHMA IN CHILDREN

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ABSTRACT
Bronchial Asthma is a chronic respiratory debilitating illness. It has multifactorial causation and effect. Psychological effects of asthma are underdiagnosed and managed causing an increase in morbidity and at times increased risk of mortality. This article reviewed the psychological aspects of bronchial asthma in children as they are the most vulnerable group. Early diagnosis and effective management can be helpful in reducing the burden due to the illness and improving the quality of life.

KEYWORDS: Asthma, psychology, children.

INTRODUCTION
Bronchial asthma is a chronic respiratory disease characterized by reversible airway obstruction and increased airway irritability usually associated with inflammation of tissues of airway muscles, congestion or constriction of airway small muscles.[1] Psychosocial factors play an important role in the etiology, pathogenesis, symptomatology, management and outcome. Historically, before the exact etiology of asthma was known, it was considered to be purely psychogenic in nature and was known as “asthma nervosa”.

Psychological Factors (Table 1)
A) Role of stress
Stress leads to increased incidence of bronchoconstriction compared to controls.[2,3] This may probably be mediated by alpha sympathetic and parasympathetic activity. This also explains the process of stress induced asthma.[4] Stress is also related to autonomic, endocrinal and immune processes among people with asthma.[5]
B) Comorbid anxiety disorders

There is high incidence of anxiety disorders among asthmatic patients especially children.[6] The occurrence of both asthma and comorbid anxiety disorders lead to more impairment in physical as well as emotional functioning.[7] The severity of anxiety and depression has been found to correlate with severity of asthma in children.[8] The psychological impact of asthma also depends on asthma severity, limitation of activities, age of onset, asthma-related skills and knowledge, personality and coping style, social and family support.

Panic disorder is more common among asthma patients and also vice versa i.e. asthma and chronic respiratory diseases are common in panic disorders.[8-12] Hyperventilation in asthma patient contributes to panic.[12,13] Another theory is that respiratory deregulation contributes to both asthma and panic.[14] Repeated chemoreceptor stimulation leads to brain’s suffocation leading to panic.[15] Medical treatment of panic disorders leads to improvement in asthma.[16] A high prevalence of denial and anxiety is common in those who have severe attacks of asthma.[17] The association of anxiety disorders and asthma requires further research.[18]

Table 1: Psychological Factors Related to Asthma.

<table>
<thead>
<tr>
<th>Patient factors</th>
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<tr>
<td>Stress</td>
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<td>Comorbid psychiatric illness</td>
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<td>Depression</td>
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<td>Anxiety disorders especially panic disorder</td>
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<td>Perception of symptoms</td>
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<td>Compliance factors</td>
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<td>Poor self-management behavior</td>
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<td>Parental criticism</td>
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<td>Family dysfunction (especially for children)</td>
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<td>Psychopathology in care givers</td>
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<td>Psychiatric morbidity</td>
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<td>Poor doctor patient relationship</td>
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<td>Illness factors</td>
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<td>Age</td>
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<td>Side-effects of medication</td>
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<td>Cost of medication</td>
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<td>Easy availability of health professionals in emergency</td>
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<td>Poor outcome</td>
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<td>Miscellaneous factors</td>
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<td>Social connectedness and support</td>
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<td>Quality of health services</td>
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C) Depression
The relation between asthma and depression is suggested to be bidirectional.[18] In asthmatic patients, fatigue, disability and falling sick contribute to depression whereas in depression, feeling helpless may contribute to passive conditioning to stress and precipitation of asthma.[18,19] Depression also tends to have negative impact on perception of asthma symptoms. This may be related to both over and under medicating oneself.

D) Perception of Symptoms
The asthmatic patients tend to give more importance to subjective perception of symptoms rather than objective findings.[20-22] This may be due to conditioning to respiratory stimuli and near–fatal experiences.[22-23] This cannot be assessed with mechanical loads.[24] The psychological disturbances are more common in both over and under perceivers of airway obstruction than normal perceivers.[25] Suggestion plays an important role in perception of bronchial changes than actual changes.[26]

E) Treatment Compliance
The treatment guidelines emphasize the importance of compliance to all aspects of treatment including pharmacological and psychosocial.[27] The compliance to controlling drugs is lower than emergency medications.[28] This factor is also responsible for poor outcome of asthma and also increased use of emergency services.[29,30] The factor related to poor adherence include difficulty in learning to use inhalers, cost and side effects of medication, poor self-management behavior, parental criticism, family dysfunction (especially for children), psychopathology in care givers, psychiatric morbidity, poor doctor patient relationship etc.[31-37]

Psychiatric interventions
The psychiatric treatment depends upon patient’s knowledge, beliefs and behavior, time, patience and communication skills of physician, family functioning[35,39,40] and asthma variables e.g. age group, severity, type of medication used etc.[41,42] The important guidelines of management include good communication and asthma education for patient and caregivers (about disease recording peak flow values, medication and when to contact health care providers).[42,43] It increases the self- efficacy and internality on health locus of control.[44] individualized self-management plans,[45] symptoms perception training[46] (i.e. improvement in external inspiratory resistance leads to improved perceptual accuracy of pulmonary functions); cognitive behavior therapy (for changing behavior; based on health beliefs
combined with other therapies for treatment of anxiety disorders and depression.\[47-49\] Family therapy helps in improving asthma especially in children.\[50\] The NHLB guidelines (1997) also recommend referral to mental health services where stress management appears to be inferring in management of asthma. The other psychological interventions include written emotional expression of traumatic experiences,\[51\] relaxation training,\[52\] biofeedback techniques (surface electromyography biofeedback,\[53,54\] respiratory resistance biofeedback,\[55\] yoga (breathing techniques such as pranyama),\[56,57\] hypnosis (in treatment of childhood asthma). Pharmaco-therapeutic management is needed for anxiety disorder and depression if they are severe; not improving with other therapies and are interfering with drug treatment of asthma. There is association of parental attitudes, family structure and functioning, social connectedness and support, socioeconomic condition with outcome of illness.\[58-62\]

**CONCLUSION**

Asthma affects not only the child but also his family.\[63\] Avoidance of external and internal triggers, accurate perception, evaluation and treatment of asthma symptoms, proper medical care and adherence to treatment are important factors in successful treatment of asthma. Further research is required in the interaction of various factors in the etiopathogenesis and management of asthma.

**REFERENCES**


