Stressors and Coping Patterns of Asthmatic Children and their Mothers: Effect of Nursing Intervention

Thesis Submitted for Partial Fulfillment of Doctorate Degree in Nursing Science (Pediatric Nursing)

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Introduction and aim of the study

Asthma is a chronic inflammatory disease of the airway. It is the most common chronic disease of childhood allover the world as well as in Egypt. The incidence of morbidity and mortality are increasing despite decades of improved understanding of pathophysiologic process and treatment of the disease. The prevalence of asthma among Egyptian children aged 3 - 15 years was estimated to be 8.2% ***(El-Gamal et al., 1993)***. Childhood asthma is a chronic health condition that affects nearly 5 million children younger than 18 year and it is the leading cause of school absences and accounts for a substantial amount of activity limited children ***(Klossner and Hatfield, 2006).***

In addition to physical symptoms of asthma there are many psychosocial issues that children with asthma and their families encounter. Children who suffer from severe episodic manifestation of asthma have been found to experience increased amounts of stress and anxiety over their illness and have difficulty in maintaining a sense of well being ***(Ryan-Wenger and Walsh, 1994).*** Also, the affected children feel restricted socially, embarrassed about taking medication, perceive themselves to be different from other children and are fearful about attacks and death**.** Such events like

emergency department visits for severe acute onsets and nighttime attacks may increase the child's sense of vulnerability and emotional stress and can cause loss of valuable sleep for both the child and mothers ***(Kliegman et al., 2006).*** Also**,** there are common themes experienced by mothers of children with chronic condition include role strain, financial stress and restricted socialization ***(Glasper and Richardson, 2006).***

Stress and coping should be viewed as a natural part of life, if children are protected from experiencing stress and developing coping skills they are likely to be vulnerable to stress in later life and unable to cope effectively with life events ***(Boyd, 2001).*** Meanwhile, when stressful events are managed through effective coping, the person experiences personal growth and improved problem solving abilities ***(Graven and Hirnle, 2003).***

Reaction to stress vary with child's stage of development, ability to cope, the length of time the stress continues, intensity of stress and the degree of support from family and friends ***(Glasper and Richardson, 2006).***

School age children react to stress by withdrawing, feeling unloved, being distressful, not attending to school or friendships and having difficulty naming their feelings. Under

stress they may worry about the future, complain of head or stomach aches, have trouble sleeping, have a loss of appetite or need to urinate frequently ***(Ball and Bindler, 2006).***

Nurses who understand how mothers and children cope can reinforce the coping skills and provide better nursing care. The nurse has the opportunity to assist mothers in effectively managing their children with chronic condition. An important component in nursing care is the understanding of mother's perception of their situation and existing needs, concerns and coping strategies ***(Kurnat and Moore, 1999).***

Based on this understanding; individualized, meaningful support to empower coping patterns and education can be provided to mothers of children in order to decrease their anxiety, increased treatment compliance and reduced amounts of familial stress that can occur. The use of various assessment tools can assist the nurse in gaining insight into families' perceptions and their coping abilities, thus allow for the development of more effective intervention strategies ***(Yoss, et al., 1997).***

Therefore the current study was carried out to assess stressors and coping patterns of asthmatic children and their mothers, design and implement nursing intervention (individualized versus group learning) directed to asthmatic children and their mothers and evaluate the impact of the implemented nursing intervention on stressors and coping patterns of asthmatic children and their mothers.

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list of Abbreviation

ABG	Arterial blood gases
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ACE	Antgiotensim converting enzyme
COPD	Chronic obstructive pulmonary disease
GER	Gastroesophageal reflux
GI	Group I
GII	Group II
IgE	Immunoglobulin E
No2	Nitrogen oxides
Paco2	Carbondioxide
PMR	Progressive muscle relaxation
Po2	Phosphorus oxid
So2	Sulfur dioxide
T.B	Tuberculosis

List of content

Review of literature

Part I: Asthma in children: An overview

Childhood asthma is a chronic health condition that affects school-age children and their families. Asthma is the leading cause of school absences and accounts for a substantial amount of activity limitation in children. Although much is still unknown about asthma, it is certain that the burden of childhood asthma has increased significantly in the past 20 years ***(Akinbami and Schoendorf, 2002 & Redd, 2002)***

Definition of asthma:

Asthma is defined as a reversible obstructive lung disease characterized by a combination of inflammation and hyperactivity with airway mucosal edema, bronchospasm, and mucus plugging ***(Arbelaeze et al., 2004).*** This inflammation of airways leads to intermittent obstruction however; the severity and duration of symptoms are unpredictable ***(Hogan and Madayag, 2004)***.

Asthma is a lower respiratory tract condition marked by a combination of the following characteristics; airway inflammation, mucus hypersecretion and spasm of

bronchial smooth muscle. Together these process result in symptoms such as chest tightness, shortness of breath, wheezing and increased sputum production. Asthma can vary from mild disorder to a disabling and life threating disease ***(Kliegman et al., 2006 & Price and Gwin, 2008).***

Onset of asthma

The onset of asthma commonly occurs during the preschool years; there is a significant increase in asthma incidence over approximately 2 decades. This increase was observed only in children and adolescents aged 1 to 14 years. More than one half of all children wheeze with viral infection during the first years of life and have a transient condition that rapidly subsides during preschool and early school years ***(Larsen, 2000).***

Incidence and prevalence

The incidence, severity and mortality associated with asthma is increasing, these increases may result from increasing air pollution, poor access to medical care and under diagnosis and under treatment ***(Wong, et al., 2002)***.

Asthma occurs at all ages but predominantly in early life where about one half of the cases develop asthma before age of 10 year and another one third of the rest occur before the age of 40 years. In children there are a 2 : 1 male: female preponderance, which equalized by the age of 30 years. The incidence of new cases of asthma also varies with age. The highest incidence occurs among children and half of the new cases diagnosed as asthma at the age of 40 years or older are subjects with COPD ***(Tag- Eldin, 1999)***. Reports from Eastern Saudi Arabia estimated prevalence of bronchial asthma among school children to be up to 10% and there is evidence to suggest that prevalence of this disease is increasing. This prevalence was found to be higher in industrial, agricultural and urban areas as compared to desert and rural area ***(El-Sayed and Farag, 2002).*** Another study to estimate the prevalence of asthma among school children in Alexandria in scholastic year 2001-2002, it was found that, the prevalence rate was 18% and it was not influenced by the socioeconomic status. Also the majority of children have their asthma exacerbations during cold winter ***(Fasseeh et al., 2004).*** Asthma affects about 5 million children in the United States, nearly 3.8 million children between 0 and 17 years

had an asthma attack in the previous year ***(Centers for Disease Control and Prevention, 2006)***. Asthma accounts for more school absences and more hospitalization than other chronic illness ***(Girish et al., 2005).***

Asthma is a growing problem around the world where average cases are between 6 – 7 %. It is a particular problem in Egypt where the rate reaches as high as 12%. It is common in urban areas where dust , over population and several other environmental factors act as potent triggers ***(Safwat , 2000).*** It was added that**,** the prevalence of asthma among school aged 5-15 years was found to be 8.2% where half of which graded as moderate and severe ***(El Lawindi et al., 2003).***

Asthma is the most common chronic disease of childhood, it is the primary cause of school absences, where about 10 days of school absenteeism and 20 days of restricted activity pre day. Moreover it is responsible for major proportion of pediatric admissions to emergency departments and hospitals ***(Sydnor-Greenberg and Dokken, 2000*** & ***Wong et al., 2002)***.