D6.4: Stress and Inflammation in Childhood Asthma: A Biobehavioral Approach

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Abstract:
Introduction: Childhood asthma is the single largest public health burden, with 9% of children and adolescents with asthma in the US (NHIS, 2009). There are numerous factors that contribute to childhood asthma; however, few studies have evaluated psychological stress and respiratory inflammation in childhood asthma from a biobehavioral perspective. Wright, Cohen & Cohen (2005) referred to psychological stress as a 'social pollutant' found to be associated with physiological pathway disruptions similar to other air and physical pollutants that result in respiratory harm. The purpose here is to discuss a biobehavioral approach to understanding psychological stress and respiratory inflammation in childhood asthma.

Method(s): Medline and CINHAL databases were searched using key words (e.g. asthma, stress, inflammation) and studies utilizing biomarkers (Interleukin-1,6, Tissue Necrosis Factor-α, and C-Reactive Protein) included. Criteria included: peer-reviewed comprehensive reviews and/or primary research (cell, animal, and human models) published in English after 1990. Articles were critiqued using the biobehavioral framework proposed in the overview.

Results: The presenter will discuss data related to psychological stress and respiratory inflammation on childhood asthma health outcomes. Numerous studies describe an increase in inflammatory markers in childhood asthma, and an impact of psychological stress on childhood asthma outcomes; though few studies have described a biobehavioral perspective of psychological stress and respiratory inflammation. Childhood asthma exacerbations are characterized by increased respiratory inflammation, bronchial hyper responsiveness, and symptoms provoking psychological stress such as increased dyspnea, cough and decreased physical activity tolerance.

Discussion & Conclusions: Reducing childhood asthma morbidity is essential in order to reduce the risks of adult-onset COPD or further respiratory consequences. A biobehavioral approach allows for the development of tailored interventions and provides depth and breadth in understanding childhood asthma. This knowledge translates to a better understanding of individual differences in response to inflammation and stress in childhood asthma.
Abstract History:
This abstract has not been presented or accepted for presentation in whole or in part at the SNRS or other scientific meeting.

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