Vitamin D level in preschool children with recurrent wheezy chest, and its relation to the severity of the wheezing episodes.

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Abstract:

Background: Recurrent wheezy chest is a common complaint in pediatric practice. Vitamin D is a potent immunomodulator in allergic diseases as wheezy chest and asthma. The prevalence of vitamin D deficiency has been increasing in Egypt leading to significant morbidities. Objectives: This study aimed to assess serum level of 25 hydroxy vitamin D in preschool children with recurrent wheezy chest, and to assess its relation to the recurrence, severity, and level of control of the wheezing episodes. Patients and Methods: The study included 100 preschool children (aged 2 to 5 years), of both sexes, recruited from the Emergency department, Allergy and Pulmonology units at Assiut University Children Hospital, Egypt. They should have at least 3 documented episodes of wheeze, cough, and difficulty breathing in the last year with clinical improvement on inhaled short-acting beta 2 agonists. Patients were subjected to questionnaire-based history, clinical examination, and laboratory investigations (complete blood count (CBC) with the absolute eosinophilic count, total IgE level, and serum 25(OH)D level). Pediatric Respiratory Assessment Measure (PRAM score) for assessment of the severity of the wheezing episodes and Global Initiative for Asthma (GINA) based level of asthma control for children 5 years and younger were applied. The patients were grouped according to PRAM score to mild, moderate and severe episodes and according to vitamin D level as sufficient and below-sufficient groups (including deficient and insufficient groups). Results: 25 hydroxy vitamin D level was below-sufficient in 53% of the studied patients (deficient in 32% and insufficient in 21%). PRAM score was significantly lower in patients with sufficient vitamin D level versus those with below-sufficient level (p

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