

News and Views

Poster Presentation on Vitamin D [Serum 25(OH) cholecalciferol] Insufficiency is Associated with Childhood Asthma: Recent Findings among Bangladesh Children''

Nabila Tabassum

Dr. Nabila Tabassum, Core Trainee, Dept of Pediatrics, University hospital Leicester, shared with Medical Research Unit (MRU), AWMC her poster presentation titled "Vitamin D [Serum 25(OH) cholecalciferol] Insufficiency is Associated with Childhood Asthma: Recent Findings among Bangladesh Children'' which was formerly presented as poster at the Royal College of Pediatrics and Child health (RCPCH) conference in Glasgow, Scotland in January 2023.

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Background:

Vitamin D has a role in asthma due to its effects on airway epithelium, bronchial smooth muscle & immunomodulatory effects on innate and adaptive immune systems. Lower level of *S.25(OH) cholecalciferol* is associated with increased childhood asthma prevalence, less responsiveness to corticosteroids, frequent exacerbations, increased disease severity & hospitalizations. We examined interaction between childhood asthma & Vit. D.

Objectives:

Assess the clinico-epidemiological features of childhood asthma, aiming to determine if Vitamin D among asthmatic children (cases) differ from that of non-asthmatic ones (controls).

Methods:

- ❖ Study Type: Case control study
- ❖ Place of Study: Child asthma clinic, Bangladesh Shishu Hospital & Inst.
- ❖ Tenure: March-August 2021.
- ❖ Case: Asthmatic children, (2-12 years), diagnosed based on the GINA
- ❖ Control: Age & sex-matched children having no respiratory illness.
- ❖ Method: Compared mean *S. 25 (OH) cholecalciferol* between asthmatic & non-asthma children, *S. Vit-D* estimated using immunofluorescence technique.

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Results:

Children with asthma between the ages of 2 and 12 were the respondents whereas children with no respiratory illness served as the control group. Around 60% of the asthma case group had vitamin D deficiency, compared to the control group's adequate vitamin D levels. Insufficient/deficient S. Vitamin D level was detected in a significantly higher (p 0.01) percentage of asthmatic children compared to the control children.

Conclusion:

Mean levels of S. Vitamin D were significantly lower among asthmatic children compared to controls. Significantly higher (p<0.01) proportion of asthmatic children had insufficient/ deficient S. Vitamin D status compared to controls. Likelihood of having Low Vitamin D (deficient + insufficient) is 3.4 times higher in asthmatic patients than non-asthmatic control Low vitamin D status remain a predictive factor for developing asthma.

Vitamin D [Serum 25(OH) cholecalciferol] Insufficiency is Associated with Childhood Asthma: Recent Findings among Bangladesh Children
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RESULTS

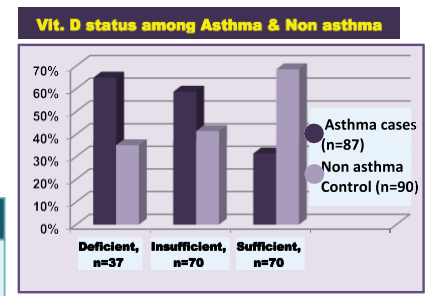
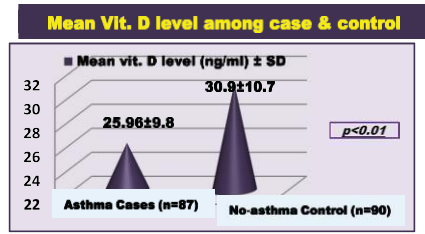


Table: Evaluation of crude association of Vit. D status between asthmatic & non-asthmatic

Serum Vitamin D status	Asthma Children (n=87)	Non asthma children (n=90)	Odd ratio (OR) 95% CI	P value
Low (deficient+insufficient) (n=107)	65 (75%)	42 (47%)	3.37 (1.78-6.38)	<0.01
Sufficient (n=70)	22	48		

CONCLUSION:

- Mean levels of S. Vitamin D were **significantly lower** among asthmatic children compared to controls.
- **Significantly higher (p<0.01) proportion of asthmatic children had insufficient/ deficient S. Vitamin D status compared to controls.**
- Likelihood of having Low Vitamin D (deficient + insufficient) is **3.4 times higher** in asthmatic patients than non-asthmatic control
- Low vitamin D status remain a predictive factor for developing asthma.

LESSON LEARNT/FUTURE DIRECTIONS

Data recommends routine vit- D screening in asthma is crucial
Underscores importance of potential future efficacy trial of Vit-D supplementation in asthmatic children to minimize asthma morbidity in LMICs/ BD