

PREVALENCE OF VITAMIN D DEFICIENCY IN SICKLE CELL ANAEMIC CHILDREN IN JOS, NIGERIA

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Background and Objectives:

Children with sickle cell anaemia (SCA) are at high risk for Vitamin D deficiency (VDD). The prevalence of VDD in different countries is between 65-100% in these patients. Reasons for this include: recurrent illness, hospitalization, increase resting energy expenditure, poor appetite, inadequate food intake, increased energy & micronutrient needs and probably excessive body covering. However, there are no studies from Nigeria the country with the highest burden of SCA worldwide.

Objective : To determine the Vitamin D status of children with SCA

Methods:

Sickle Cell anaemic children aged 2-18 years who consent/assent to participate with no clinical evidence of extensive skin diseases, Liver disease, renal failure were enrolled into the study. Data was collected using a standardize questionnaire. Blood samples for bone biochemistry (calcium, alkaline phosphatase & phosphorous) and 25 hydroxy Vitamin D assay were collected and analyzed. Data was analyzed using Epi info CDC software version 3.6.1. A p value <0.05 was considered significant.

Results:

The mean Serum 25 hydroxy Vitamin D was 14.2 ± 6.7 ng/dl (range 6.35 to 34.8 ng/dl). Vitamin D deficiency was reported in 88.5%. Thirty one percent of subjects had Vitamin D levels below 10ng/dl.. VDD was not associated with gender, religion, social class, but associated with age (p< 0.05).

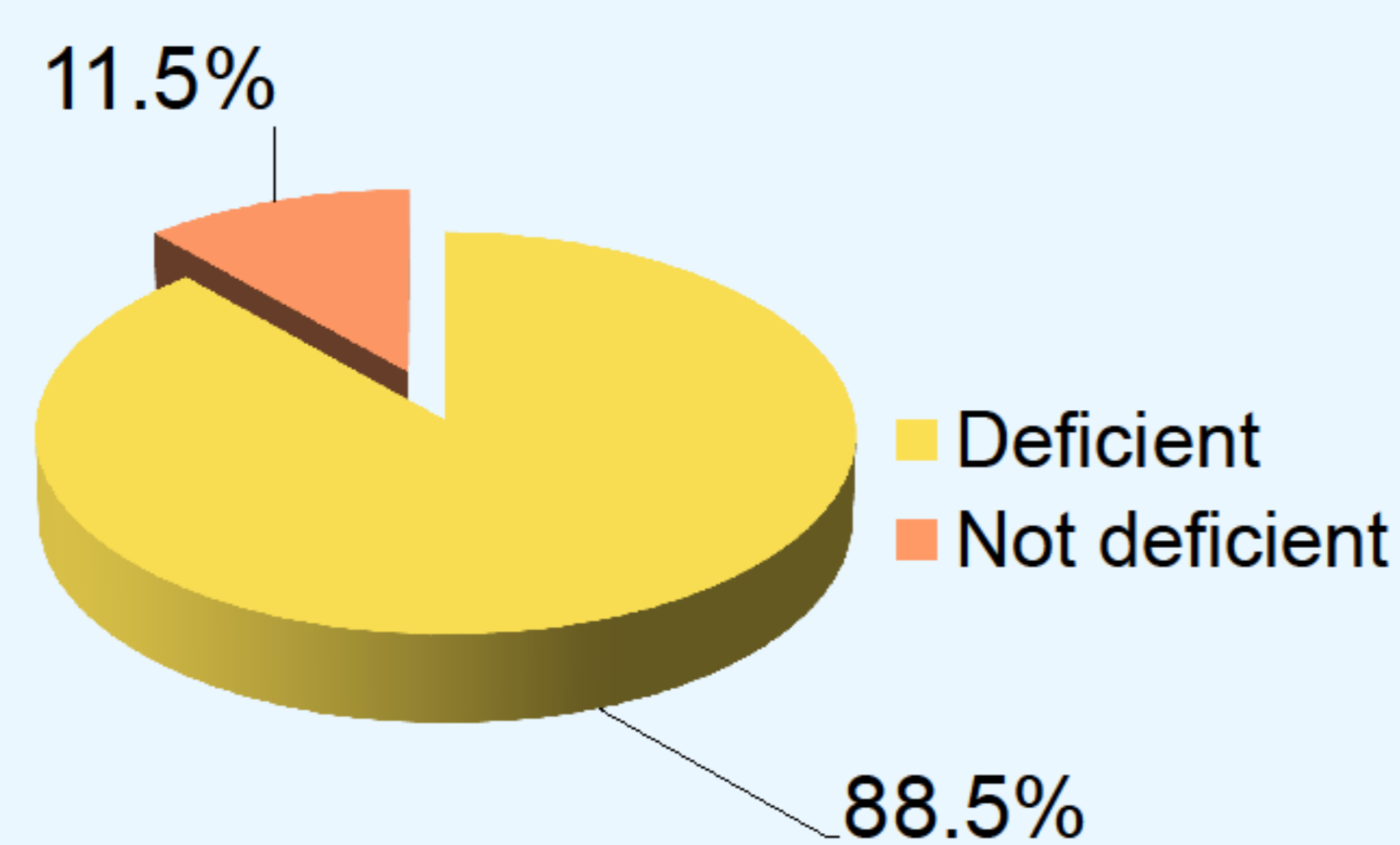


Fig 1: VDD of study population

	Total (n=113)	VDD (100)	Not VDD (n=13)	χ^2	p value
Age group					
<10	59	48	11		
≥ 10	54	52	2	6.12	0.01
Gender					
Female	55	48	7		
Males	58	52	6	0.16	0.35
Housing					
Bungalow	104	91	13		
Storey	9	9	0	1.26	0.30
Residence					
Rural	14	12	2		
Urban	99	88	11	0.12	0.50
Religion					
Christianity	65	55	10		
Islam	48	45	3	2.24	0.07
Minimum wage					
Above	87	79	8		
Below	26	21	5	1.96	0.09

Table 1: Sociodemographic Variable by VDD of study subjects

Conclusions:

VDD is prevalent in 88.5% of children with SCA in Jos with 31.0% having severe deficiency (<10ng/dl). Children older than 10 years are more affected.

References:

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