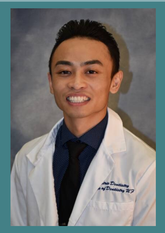

Medical and Dental Comorbidities in Children with Vitamin D Deficiency

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Introduction

- ✓ Vitamin D is an essential vitamin that aids in the growth, development, and maintenance of overall health.
- ✓ Due to Vitamin D's involvement in many biological roles in the body, its deficiency has been linked to many systemic diseases.
- ✓ Inadequate Vitamin D may be considered a risk factor for caries development and its severity.

Purpose

- ✓ Examine the relationship between Vitamin D deficiency levels and caries risk in the pediatric population.
- ✓ Examine the relationship between Vitamin D deficiency levels and associated systemic comorbidities.

Methods

- ✓ Deidentified aggregated data, provided by the chief data officer (Informatics for Integrating Biology and the Bedside I2B2) was used to identify patients with Vitamin D deficiency (ICD 10 E55.9).
  - ✓ Integrated Data Repository (IDR) provided list of pediatric patients that were identified to have Vitamin D deficiency diagnosis, medical chart in EPIC, and dental records in AXIUM at the University of Florida Health Shands Hospital.
- ✓ A chart review was performed, and data were compiled into an electronic spreadsheet.
  - ✓ EPIC data: Demographics, Height, Weight, BMI, Age of Vitamin D deficiency diagnosis, and systemic conditions such as cardiovascular, pulmonary, endocrine, psychiatric, hematologic, and neurological.
  - ✓ AXIUM data collected: Age at first dental appointment, dentition, DMFT index, caries risk assessment.
- ✓ Data analyzed using the software program SAS version 9.4 (Cary, NC).

Results

- ✓ At UF Health, 42,138 patients were identified with Vitamin D deficiency.
- ✓ 1,591 were patients <18 years of age
- ✓ 214 patients had both EPIC and AXIUM Charts
  - ✓ Females: 110
  - ✓ Males: 104
- ✓ Race Distribution
  - ✓ African American/Black: 102
  - ✓ White: 79
  - ✓ Others: 33

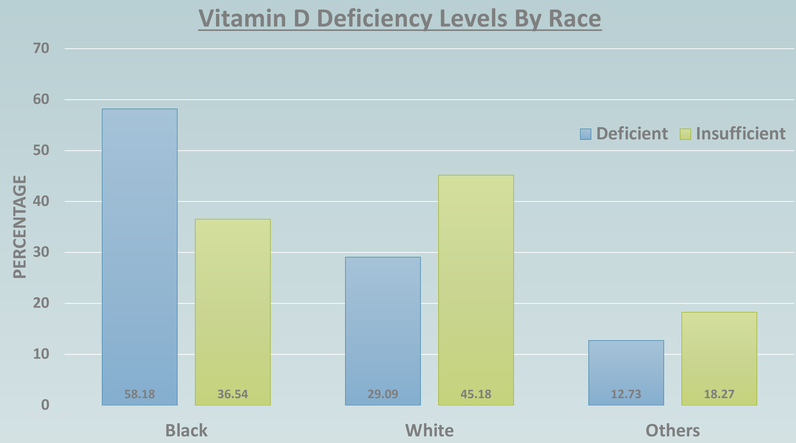

Figure 1. Vitamin D Deficiency by Race. Black or African American accounts for more than half of Vitamin D deficiency. Whites account for higher percentage of insufficient (45.18%) Vitamin D diagnosis. There is a statistically significant difference between race and diagnosis of Vitamin D deficiency status (P-value=0.0065).

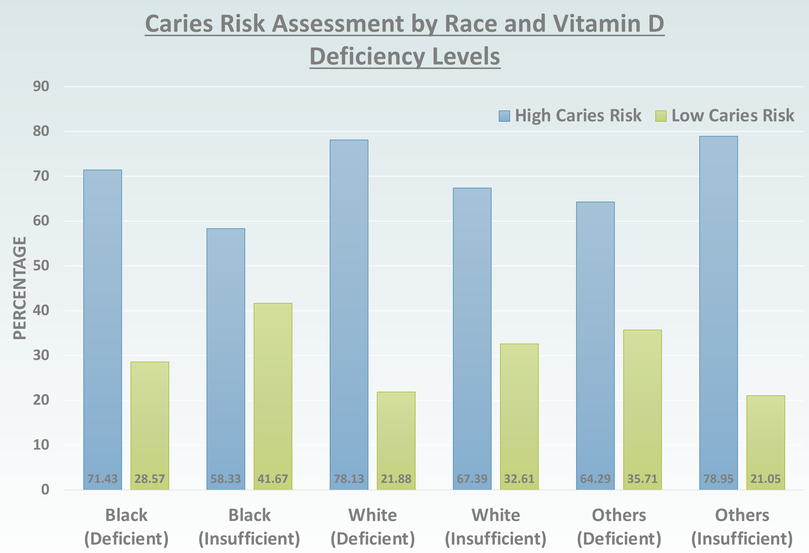

Figure 2. Caries Risk Assessment by Race and Vitamin D Deficiency Levels. There is no significant correlation between caries risk, race, and Vitamin D deficiency levels.

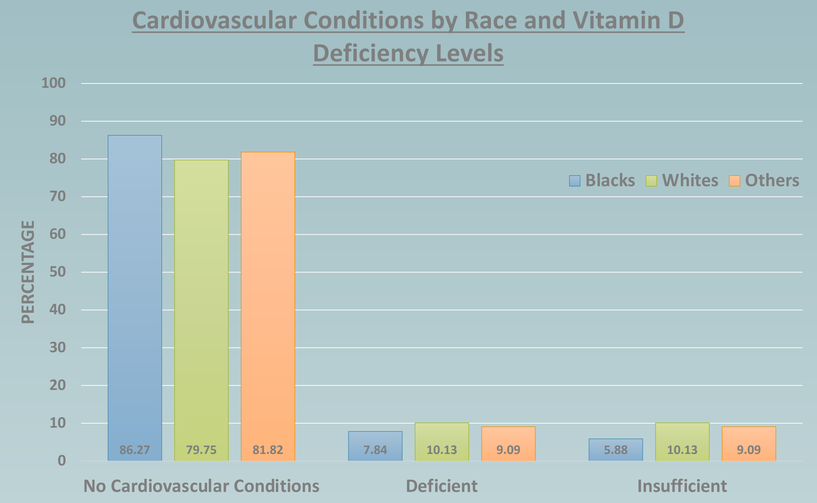

Figure 3. Cardiovascular Conditions by Race and Vitamin D deficiency levels. There is no significant correlation between cardiovascular conditions, race, and Vitamin D deficiency levels.

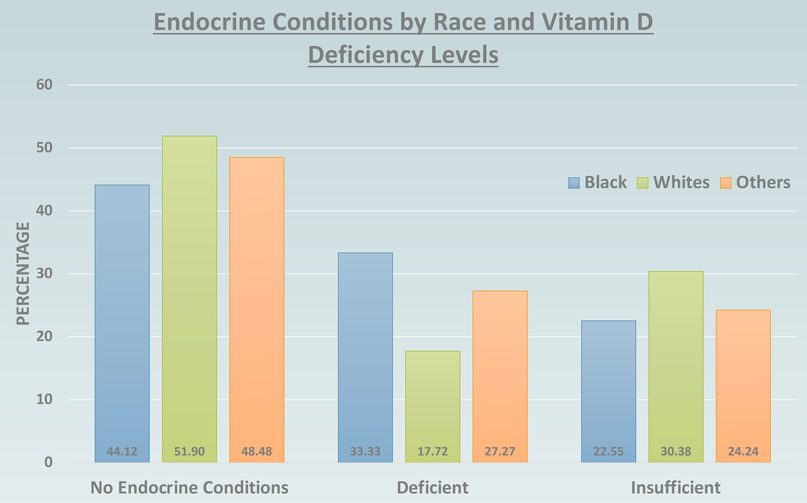

Figure 4. Endocrine Conditions by Race and Vitamin D Deficiency Levels. There is no significant correlation between endocrine conditions and Vitamin D deficiency levels.

Conclusions

- ✓ African American or Blacks are more likely than Whites to be Vitamin D deficient.
- ✓ No significant correlations between Vitamin D deficiency levels and medical comorbidities.
- ✓ No significant correlations between Vitamin D deficiency levels and caries risk.