

Application Id

792

Dataset

Dataset ID

DT4-24c

Dataset Name

DT: National Health and Nutrition Examination Survey (NHANES) Restricted Data: 1999 to Present

Agency Name

National Center for Health Statistics

Researcher Information

Principal Investigator

PI/Lead Researcher

Lee Ann

Institutional Affiliation

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Title

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Curriculum Vitae (CV)/Resume

NCHS-SampleApplication-CV-Lee.pdf

Citizenship

Yes

Special Sworn Status

No

Data Access

Yes

Co-Principal Investigator

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Curriculum Vitae (CV)/Resume

NCHS-SampleApplication-CV-Dolce.pdf

Citizenship

Yes

Special Sworn Status

No

Data Access

Yes

Research Description

Project Title

The Association Between Serum Vitamin D Levels and Childhood Obesity

Project Duration

36

Funding

Funded by the National Institute for Obesity Research, Grant No. 555

Timeline

NCHS-SampleApplication-Timeline-Lee.pdf

Research Question

What is the relationship between vitamin D deficiency and obesity in US children aged 6-18 years?
How does latitude of residence and season of lab testing influence this relationship?

Demonstrated Need

Survey, Years, Files: NHANES 2003-2006 Demographic variables and sample weights Physical examination measurements Lab component: Vitamin D Dietary supplements questionnaire Restricted-use Data: if LAT is missing then assign the value. to the new variable; else if LAT < X then assign the value 1 to the new variable; else if LAT is >= X then assign the value 2 to the new variable. LAT = Location (latitude) of residence will be used to control for sun exposure. Here are categories for the derived variable: LAT can be dropped after the derived variable for sun exposure is created. Month of MEC exam/lab draw will be used to control for season. Here are categories for the derived season variable: If month of exam in (1, 2, 12) then Season = Winter; else if month of exam in (3, 4, 5) then Season = Spring; else if month of exam in (6, 7, 8) then Season = Summer; else if month of exam in (9, 10, 11) then Season = Fall; else Season = . Month of MEC exam/lab draw can be dropped after the derived variable Season is created. Merge Variables: SEQN will be used to merge the public and restricted data files.

Study Population

Children 6-18, excluding pregnant females, those with implausible BMIs, and those with missing covariate data.

Project Abstract

Obesity has been linked to vitamin D deficiency in adults and adolescents. We aim to determine if an association exists between obesity and inadequate serum vitamin D levels among U.S. children. We will use serum 25-hydroxyvitamin D (vitamin D) and body measurement data from U.S. children aged 6–18 years examined in the National Health and Nutrition Examination Survey (NHANES) from 2003–2006 and evaluate the relationship between serum vitamin D levels and obesity, defined as a body mass index (BMI) \geq 95th percentile. Vitamin D levels will be

dichotomized as deficient (<15ng/ml) or not deficient in logistic regression models to assess odds of vitamin D deficiency accounting for age, sex, race/ethnicity, poverty status, and vitamin D- containing supplement use. We seek to adjust for two additional factors associated with serum vitamin D levels that may influence our results: latitude of residence and season of lab testing. These variables are restricted and only available through the Research Data Center.

Variables Requested

NCHS-SampleApplication-VariablesRequested-Lee.pdf

Time, Geographic, and Other Units Requested

latitude of residence (North vs South)

Work Location

Hyattsville, MD

Software Requirements

SAS/SUDAAN

Methodology

NCHS-SampleApplication-Methodology-Lee.pdf

List of References

NCHS-SampleApplication-References-Lee.pdf

Project Products

Presentation to EIS officers and potential peer-review publication.

Requested Output

NCHS-SampleApplication-RequestedOutput-Lee.pdf

Agency Benefits

Our study seeks to examine the relationship between serum vitamin D levels, measured as 25-hydroxyvitamin D and dichotomized as vitamin D deficient or not, and obesity, defined as a BMI \geq 95th percentile for age, in children aged 6–18 years. Prior research in adolescents and adults has shown a positive association between vitamin D deficiency and obesity. By establishing an association between low serum vitamin D levels and obesity in children across a wider age range, we aim to identify an easy- to-obtain and objective measure with which to target children who may be at greater risk for vitamin D deficiency. Using this measure, children deficient in vitamin D may be more readily identified and started on supplementation to correct it. Because vitamin D may be involved in improving other health measures or preventing other chronic diseases or conditions, treating deficiency may have benefits that extend beyond improved bone health.