



Serum Vitamin D Status its Associated Health Problem in Children with PEM

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JPRI/2021/v33i49A33323

Editor(s):

(1) Dr. Vasudevan Mani, College of Pharmacy, Qassim University, Saudi Arabia.

Reviewers:

(1) Kaleab Tesfaye Tegegne, Hawassa College of Health Science, Ethiopia.

(2) Waseem Fatima, Northern border university, Saudi Arabia.

Complete Peer review History: <https://www.sdiarticle4.com/review-history/75071>

Received 08 August 2021

Accepted 12 October 2021

Published 11 November 2021

Study Protocol

ABSTRACT

Background: Vitamin D insufficiency is an overall scourge with late gauges showing that more prominent than 50 % of the worldwide populace is in danger. Protein-energy malnutrition is probably going to be related with nutrient D admission insufficiency. The point of this review was survey serum vitamin D and its related medical issue in youngsters with protein energy ailing health Vitamin D deficiency is on the rise as a major public health problem in India. Majority of the population in India resides in areas receiving ample sunlight throughout the year; still vitamin D deficiency is a problem of growing concern 1, 2, 3. Skin complexion, poor sun exposure, vegetarian food habits and lower intake of vitamin D fortified foods could be attributing to the high prevalence of VDD in India.

Objective: To assess serum vitamin D status its associated health problem among children with protein energy malnutrition.

Methods: Evaluatory study cross sectional research design used to assess serum vitamin D status its associated health problem in children with Protein energy malnutrition in selected hospital of Wardha. 40 sample size taken who fulfils the inclusion and exclusion criteria. Non probability convenience sampling is used.

Expected Results: This study is planned to assess serum vitamin D its health problem in children with Protein energy malnutrition. Hence, it expected that significant association between serum vitamin D level and its health problem (Weakness, lethargy, pain, developmental delay, fracture).

Keywords: Assess; health problem; protein energy malnutrition; serum; vitamin D; children.

1. INTRODUCTION

PEM is internationally the main danger factor for ailment and passing, adding to the greater part of passings in youngsters around the world, where kid lack of healthy sustenance was related with 54 % of passings in kids in agricultural nations in 20011 [1]. PEM is as yet a significant general medical problem in non-industrial nations [2]. It is related with as much as 50–60 % of under-five mortality in helpless nations and a horde of morbidities [3].

As indicated by the UNICEF appraises, the underweight pace of youngsters in Uganda in 2006 was 16.4 % [4,5]. Kids that present to emergency clinic might have basic diseases that can either add to or can be related with low vitamin D levels. Gastrointestinal and ear diseases have been related with low serum vitamin D levels [6].

Vitamin D insufficiency has been demonstrated to be answerable for adjustments in the invulnerable reaction prompting an expanded danger of contamination. It has been hypothesized that these diseases might incline to vitamin D insufficiency particularly expanded paces of looseness of the bowels with heaving and ear infection/release with fever [7]. Celiac sickness, related with stomach torment, loose bowels and weight reduction, osteopenia or osteoporosis and osteomalacia have been found in vitamin D lack . There has been blended outcomes in examinations that have followed patients with intestinal sickness and measured for nutrient D [8].

Protein-energy ailing health or PEM is the state of absence of energy because of the lack of all the macronutrients and numerous micronutrients. It can happen abruptly or progressively. It tends to be reviewed as gentle, moderate or extreme. In agricultural nations, it influences kids who are not given calories and proteins. In created nations, it influences the more established age [9].

1.1 Need of the Study

Vitamin D inadequacy is an overall plague with ongoing assessments showing that more noteworthy than 50 % of the worldwide populace is in danger. In Uganda, 80 % of solid local area kids in a review were observed to be nutrient D

inadequate. Protein-energy unhealthiness is probably going to be related with nutrient D admission deficiency. Vitamin D lack wins in pestilence extents all around the India subcontinent, with a pervasiveness of 70%-100% in everybody .56% Prevalence of PEM was found in Maharashtra. The commonness of moderate and extreme malnutrition (Grade 1, 2, 3) in conceded patient at AVBRH was 10.8%. Thus this review help to discover serum nutrient D lack and connected medical condition among youngsters with protein energy malnutrition [10,11,12].

It is a evaluatory study, nonprobability convenient sampling used to assess serum vitamin D deficiency and associated health problem among children with protein energy malnutrition.

2. METHODOLOGY

The study was based on Evaluatory approach with cross sectional research design. A non-probability convenience sampling technique will be used and 40 samples are calculated with using Cochram formula.

2.1 Inclusive Criteria

1. Parents who were willing to participate their children in this study
2. Children available at the of data collection

2.2 Exclusive Criteria

1. Children who is admitted in critical care unit.
2. Children who are mentally unhealthy.

2.3 Instruments

Demographic variables and data will be collected by collection of blood sample of protein energy malnutrition children and identify its associated health problem with the help of checklist.

2.4 Sample size

In this study sample size will be 40.

2.5 Data Management and Monitoring

The demographic data (Age, gender, residence, nutritional pattern, education of parents, occupation of parents, family monthly income), assessment of the children and after collection of

blood sample and identify its associated health problem with the help of checklist.

2.6 Statistical Analysis

Statistical analysis will be done by descriptive and inferential statistics with the help of SPSS 26.0 software.

3. EXPECTED OUTCOME/RESULTS

This study is planned to investigate the serum vitamin D deficiency and its associated health problem among children with protein energy malnutrition. And after investigation data should recognized the vitamin D deficiency and its health problem in children with protein energy malnutrition. This study shows serum vitamin D deficiency and its health problem among children with PEM.

4. DISCUSSION

In this study purposefully take a sample for the study to assess the serum vitamin D deficiency and its associated health problem among children with protein energy malnutrition. A Study conducted by Das G et al among school girls, reported the prevalence of Vitamin D deficiency as 73% and mean serum 25 hydroxy D level as less than 12ng/ml¹⁰. Puri. S et al studied the Vitamin D status among school girls aged 6-18 years belonging to both lower and upper socio economic status [13].

A review was led on to survey nutrient D level in malnourished kids under long term in a tertiary consideration place at Muhimbii National clinic, Dar es Salaam, Tanzania. A cross sectional review research configuration are utilized. 134 youngsters are chosen for the review and assess serum nutrient D and antacid phosphate and X-beam of wrist did. n. The review finished up that the pervasiveness of VDD in malnourished youngsters need for dynamic reconnaissance and forceful administration [14].

In this main objective is to assess serum vitamin D deficiency and its associated health problem with their demographic variables. After analysis of result guideline for referral to hospital for health checkup for promotion of health and prevention from disease.

5. CONCLUSION

Conclusion will be drawn from the statistical analysis.

6. LIMITATION

The study is limited to children's those who are diagnosed with PEM.

CONSENT

It is not applicable.

ETHICAL APPROVAL

Study was approved by the Institutional Ethics Committee (letter no- DMIMS (DU)/IEC/2021/290) and the study will be conducted in accordance with ethical guidelines prescribed by institutional Ethics Committee on Human Research.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:

*The peer review history for this paper can be accessed here:
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