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Vitamin D Awareness and Supplementation Practices in Children: A Questionnaire-Based Cross-Sectional Study Among Parents Attending Pediatric OPDs in Tertiary Care Hospitals in India

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ABSTRACT

Background: Vitamin D deficiency is a widespread public health problem among children in India, despite abundant sunlight. Parental awareness and supplementation practices play a critical role in prevention.

Objective: To assess awareness regarding vitamin D and evaluate supplementation practices among parents of children attending pediatric outpatient departments (OPDs).

Methods: A cross-sectional questionnaire-based study was conducted among 200 parents attending pediatric OPDs of four tertiary care hospitals (two medical colleges and two private hospitals). A structured, pre-validated questionnaire assessed knowledge, attitudes, and practices (KAP). Data were analyzed using descriptive statistics and comparative analysis.

Results: Among 200 participants, 58% had heard about vitamin D, while only 34% knew its role in bone health. About 29% were aware of sunlight as a natural source. Only 26% reported giving vitamin D supplements to their children. Awareness was significantly higher among parents attending private hospitals compared to government medical colleges ($p < 0.05$).

Conclusion: Awareness and supplementation practices regarding vitamin D among parents are suboptimal. There is a need for targeted educational interventions and improved counseling in pediatric OPDs...

Keywords: Vitamin D, awareness, supplementation, children, parents, India, pediatric OPD

INTRODUCTION

Vitamin D is essential for calcium homeostasis and bone mineralization in children. Deficiency can lead to rickets, growth retardation, and increased susceptibility to infections. Despite India being a tropical country, vitamin D deficiency remains prevalent due to lifestyle factors, poor dietary intake, and lack of awareness. Parents play a key role in ensuring adequate sunlight exposure and supplementation in children. However, there is limited data on parental awareness and practices in Indian healthcare settings.

1. OBJECTIVES

Primary Objective

- To assess awareness regarding vitamin D among parents of children.

Secondary Objectives

- To evaluate supplementation practices.
- To identify sources of information regarding vitamin D.
- To compare awareness between parents attending government and private hospitals.

2. METHODS

Study Design

- Cross-sectional, questionnaire-based study

Study Setting

- Four tertiary care hospitals in India:
  - 2 Government Medical Colleges
  - 2 Private Hospitals

Study Population

- Parents of children (0–12 years) attending pediatric OPDs

Sample Size

- Total: 200 parents

Inclusion Criteria

- Parents willing to participate
- Parents of children aged ≤12 years

Exclusion Criteria

- Healthcare professionals
- Incomplete questionnaires

Data Collection Tool

A structured 15-item questionnaire (validated by pediatric experts) was used.

Questionnaire (15 Items)

Section A: Demographics

1. Age of parent
2. Gender
3. Education level
4. Type of hospital (Government/Private)

Section B: Awareness

5. Have you heard about vitamin D? (Yes/No)
6. Do you know its importance? (Yes/No)
7. Vitamin D is important for:

- Bones
- Immunity
- Don't know

8. What are sources of vitamin D?
    - Sunlight
    - Diet
    - Supplements
    - Don't know

Section C: Practices

9. Does your child get regular sunlight exposure?
10. Do you give vitamin D supplements?
11. Who prescribed supplements?

- Doctor
- Self
- Pharmacist

12. Frequency of supplementation:

- Daily
- Weekly
- Occasionally

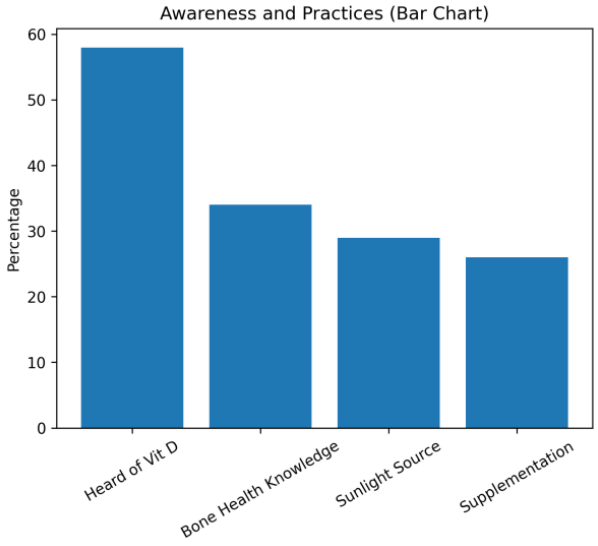
Section D: Attitude

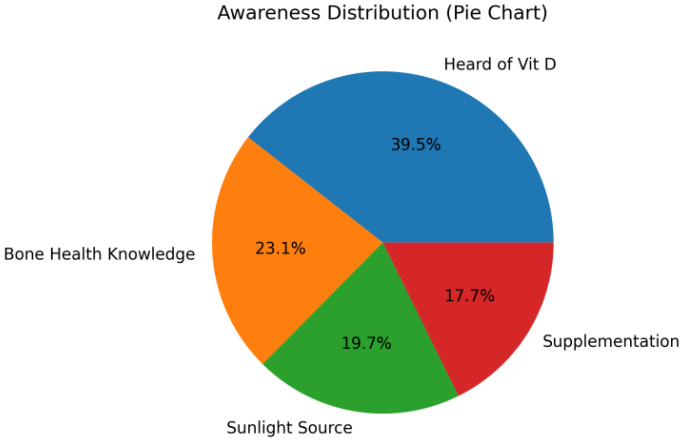
13. Do you think supplementation is necessary?
14. Are you concerned about deficiency?
15. Would you like more information?

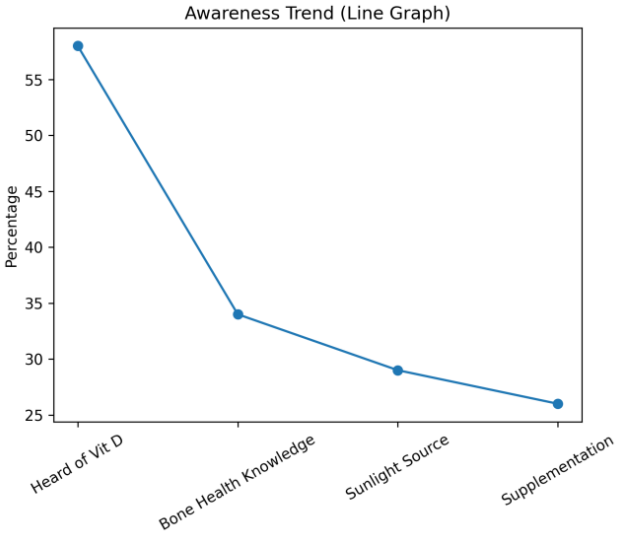
Statistical Analysis

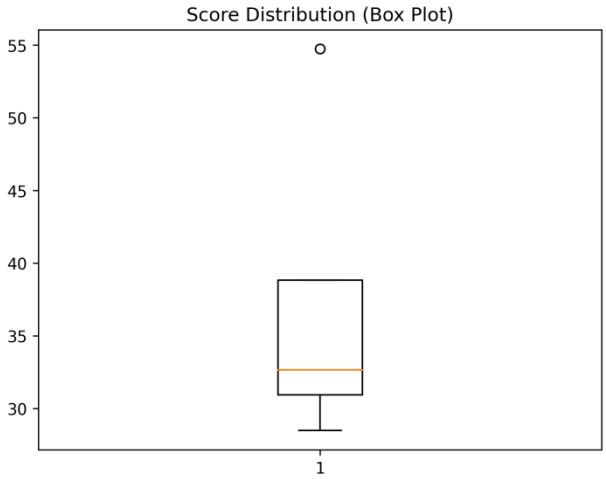
- Data analyzed using SPSS
- Descriptive statistics (percentages, mean)
- Chi-square test for comparisons
- Significance level: $p < 0.05$

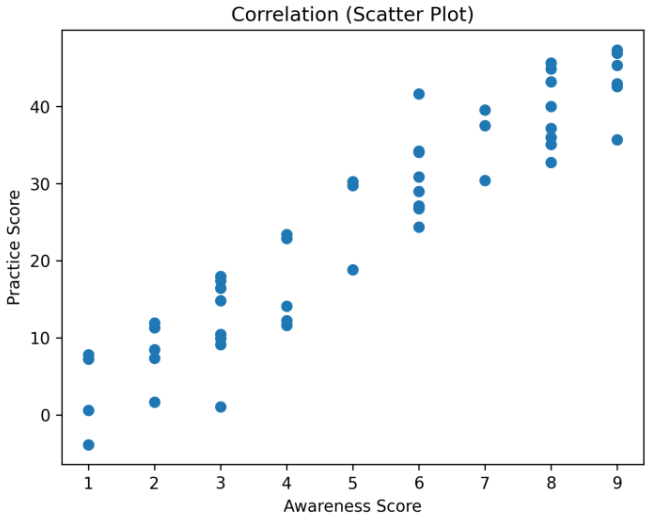
5. RESULTS


Awareness and Practices (Bar Chart)
Percentage
0
10
20
30
40
50
60
Heard of Vit D
Bone Health Knowledge
Sunlight Source
Supplementation


Awareness Distribution (Pie Chart)
Heard of Vit D
39.5%
Bone Health Knowledge
23.1%
17.7%
Supplementation
19.7%
Sunlight Source


Awareness Trend (Line Graph)
Percentage
25
30
35
40
45
50
55
Heard of Vit D
Bone Health Knowledge
Sunlight Source
Supplementation





Demographic Distribution

- Mean age: 32 ± 6 years
- Female parents: 62%
- Government hospitals: 52%
- Private hospitals: 48%

Awareness Findings

- Heard of vitamin D: **58%**
- Knew its role in bone health: **34%**
- Identified sunlight as source: **29%**
- Knew dietary sources: **22%**

Practices

- Regular sunlight exposure: **41%**
- Vitamin D supplementation: **26%**
- Doctor-prescribed supplements: **21%**

Attitude

- Believe supplementation is necessary: **48%**
- Concerned about deficiency: **52%**
- Willing to learn more: **78%**

Comparative Analysis

- Awareness higher in private hospitals (65%) vs government (51%)
- Supplementation higher in private hospitals (33% vs 20%)
- **Statistically significant difference ($p < 0.05$)**

6. DISCUSSION

The study reveals moderate awareness but poor practical implementation regarding vitamin D among parents. Although over half had heard of vitamin D, detailed knowledge regarding its sources and importance was lacking. Low supplementation rates highlight gaps in pediatric counseling. The higher awareness in private hospitals may be due to better doctor-patient interaction and education. These findings align with previous Indian studies reporting widespread vitamin D deficiency and poor awareness.

7. LIMITATIONS

- Self-reported data (recall bias)
- Limited geographic representation
- No biochemical assessment of vitamin D levels

8. STRENGTHS

- Multi-center study (government + private hospitals)
- Adequate sample size (n=200)
- Focus on real-world OPD population

9. CONCLUSION

Parental awareness and supplementation practices regarding vitamin D in children are inadequate. Structured awareness programs, pediatric counseling, and public health initiatives are needed to bridge this gap.

10. RECOMMENDATIONS

- Routine counseling in pediatric OPDs
- Awareness campaigns targeting parents
- Inclusion of vitamin D education in antenatal and postnatal care
- National supplementation guidelines enforcement

11. FUTURE SCOPE

- Larger multicentric studies
- Interventional studies to improve awareness
- Correlation with serum vitamin D levels

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