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Effectiveness Of Child To Child Approach On Knowledge Regarding Prevention Of Vitamin A Deficiency Among Middle School Children In A Selected School Madurai.

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Abstract
*Vitamin A is a fat-soluble micronutrient that is essential for vision, immunity and adequate growth. Its deficiency can result in xerophthalmia, wasting, severe anemia, infectious morbidity, and an increased risk of mortality. In developing countries, the single most frequent cause of blindness among school children is Vitamin A deficiency (xerophthalmia). A study is designed to find out the Effectiveness of child to child approach on knowledge regarding prevention of vitamin A deficiency among middle school children in a selected school Madurai and to find out the association between their selected demographic variables. A quantitative approach and pre experimental one group pretest posttest design, were used to gather data from 60 samples using by total enumerative sampling technique. Structured knowledge questionnaire were used to collect information among middle school children. Data was analysed and interpreted and the results were derived. The study findings revealed that, majority of the subjects, 81.67% had adequate knowledge and 18.33% had moderate knowledge. There was statistically significant association between the level of knowledge among middle school children with their gender (χ^2=10.593, p=0.005) and with their food habits (χ^2=9.216, p- value0.009). Statistical significance was calculated using the Chi-square test. **C**hild to child approach were effective in improving the knowledge regarding prevention of vitamin A deficiency.*

Keywords: *Effectiveness, child to child, vitamin A, middle school children*

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I. Introduction

Vitamin A is necessary for the regulation of various bodily functions such as growth, vision, reproduction, morphogenesis, immunity etc. Hence in broader sense, it plays an important role in process like cellular differentiation and functions. Vitamin A plays a major role in various biological phenomenon and it can't be produced naturally in human body, hence it must be consumed via diet resources. [1-3]

Vitamin A deficiency may lead to various health issues such as susceptibility to various infections, stunting, eye health and vision issues. Vitamin A deficiency also affects the systemic immunity and results in various infections with increased severity. Vitamin A deficiency among children is also associated with increased child mortality mainly due to detrimental effects on the immune system.[1-3]

Introducing the effectiveness of child-to-child approaches on knowledge regarding the prevention of vitamin A deficiency underscores the power of peer education in promoting health awareness. By leveraging interactive learning methods such as peer-led discussions, collaborative projects and role-playing activities, children not only absorb information more effectively but also develop a deeper understanding of the importance of nutrition in preventing deficiencies like vitamin A. Studies have shown that when children learn from and engage with their peers, they are more likely to adopt and practice healthy behaviors, thus contributing to the overall well-being of school communities. [5-6]

In children, Vitamin-A deficiency disorder is the leading cause of preventable visual impairment and blindness. Vitamin-A was estimated to affect between 75 and 254 million school children each year. Vitamin A deficiency is the second most important factor for global blindness. Every year 2,50,000 to 500,000 children become blind partially or totally due to vitamin A deficiency and it lowers the resistance power of these children against infection.[1-3]

II. Methods

A pre-experimental one group pretest posttest design was used to assess the level of child to child approach on knowledge regarding prevention of vitamin A deficiency in Government Middle School Kallanthri at Madurai during the month of March 2025.In the present study 60 who were studying in 6th, 7th and 8th standard in Government Middle School Kallanthri at Madurai used as the study samples. Total enumerative sampling technique was used for the present study.

After formal administrative permission was obtained and the ethical clearance, a pilot study was conducted in middle school children who were available during the study period and willing to participate were included in the study. Children who were not willing to participate were excluded from the study. Informed consent was obtained from the parents after explaining the purpose of the study. Structured questionnaires including demographic data and Knowledge questionnaire regarding, importance of vitamin A, its functions, sources, treatment of vitamin A deficiency etc. were used to collect data.

Statistical analysis

The obtained data was analyzed using Microsoft Excel and SPSS packages. Results were presented in the form of Tables and Figures. Chi-square test are applied wherever necessary.

III. Results

The study results shows that the majority of the subjects, 23 (38.33%) were belongs to 13 years of age, 32 (53.33%) were male, 34 (56.67%) were living in nuclear family, 52 (86.67%) were belongs to Hindu, 26 (43.33%) were studied up to middle school education, 18 (30%) were studied up to high school education, 29 (48.33%) were daily wages, 29 (48.33%) were daily wages, 36 (60%) were earning Rs.5, 001 to Rs. 10,000, 58 (96.67%) were taking mixed diet**(Table 1)**. Chi square analysis reveals that, there was statistically significant Association between the level of knowledge among middle school children **with their selected socio demographic variable gender (χ^2=10.593, p=0.005) and food habits (χ^2=9.216, p- value0.009),** whereas other variables were not statistically associated**(Figure 1 and 2)**. In pretest**,** mean score on level of knowledge was 5.48 with standard deviation of 3.67 and posttest**,** mean score on level of knowledge was 16.86 with standard deviation of 1.83, mean difference was 11.38. The calculated ***paired 't' test*** reveals that 't' = 21.49 p value 0.001. It shows ***statistically highly significant*** on pretest and posttest level of knowledge **(Figure 3)**.

Table 1

Association between the post-test level of knowledge regarding prevention of vitamin A deficiency among middle school children with their selected socio demographic variables. (n=60)

Socio- demographicvariables		Level of Knowledge						Chi square test (χ^2)	Degree offreedom	p- value 0.05
		In-adequate		Moderate		Adequate				
		N	%	N	%	N	%			
Age	11 Years	0	0	2	3.33	17	28.33	1.859	4	0.76 NS
	12 Years	0	0	5	8.33	13	21.67			
	13 Years	0	0	4	6.67	19	31.67			
Gender	Male	0	0	1	1.67	31	51.66	10.593	2	0.005 *S
	Female	0	0	10	16.67	18	30			
Type of family	Nuclear family	0	0	5	8.33	29	48.34	1.46	4	0.83 NS
	Joint family	0	0	6	10	18	30			
	Extended family	0	0	0	0	2	3.33			
Religion	Hindu	0	0	8	13.33	44	73.34	2.265	4	0.68 NS
	Christian	0	0	0	0	0	0			
	Muslim	0	0	3	5	5	8.33			
Education status of the father	Non-formal education	0	0	2	3.33	2	3.33	8.79	10	0.55 NS
	Primary schooleducation	0	0	3	5	4	6.67			
	Middle schooleducation	0	0	3	5	23	38.33			
	High school education	0	0	1	1.67	12	20			
	Higher Secondaryschool education	0	0	1	1.67	7	11.66			
	Graduate and above	0	0	1	1.67	1	1.67			
Education Status of the mother	Non-formal education	0	0	0	0	3	5	5.08	10	0.88 NS
	Primary schooleducation	0	0	4	6.67	8	13.33			
	Middle schooleducation	0	0	3	5	10	10.67			
	High school education	0	0	1	1.67	17	28.33			
	Higher secondary school education	0	0	2	3.33	9	15			
	Graduate and above	0	0	1	1.67	2	3.33			

Socio- demographicvariables		Level of Knowledge						Chi square test (χ^2)	Degree offreedom	p- value 0.05
		In-adequate		Moderate		Adequate				
		N	%	N	%	N	%			
Occupation of the father	Daily wages	0	0	3	5	26	43.34	7.30	6	0.29 NS
	Self- employee Government	0	0	5	8.33	20	33.33			
	Private	0	0	3	5	2	3.33			
	Government	0	0	0	0	1	1.67			
Occupation of the mother	Daily wages	0	0	5	8.33	24	40	3.00	8	0.934 NS
	Self- employee Government	0	0	3	5	8	13.33			
	Private	0	0	0	0	4	6.67			
	Government	0	0	1	1.67	1	1.67			
	Home maker	0	0	2	3.33	12	20			
Family Income per month	Less than Rs 5,000	0	0	2	3.33	5	8.33	2.61	8	0.95 NS
	Rs 5,000- Rs 10,000	0	0	5	8.33	31	51.67			
	Rs 10,001- Rs 15,000	0	0	3	5	11	18.33			
	Rs 15,001- Rs 20,000	0	0	1	1.67	1	1.67			
	More than Rs 20,000	0	0	0	0	1	1.67			
Food Habits	Vegetarian	0	0	2	3.33	0	0	9.21	2	0.009 *S
	Mixed diet	0	0	9	15	49	81.67			

NS= Not significant *p<0.05 Significant, **p<0.01 High Significant.

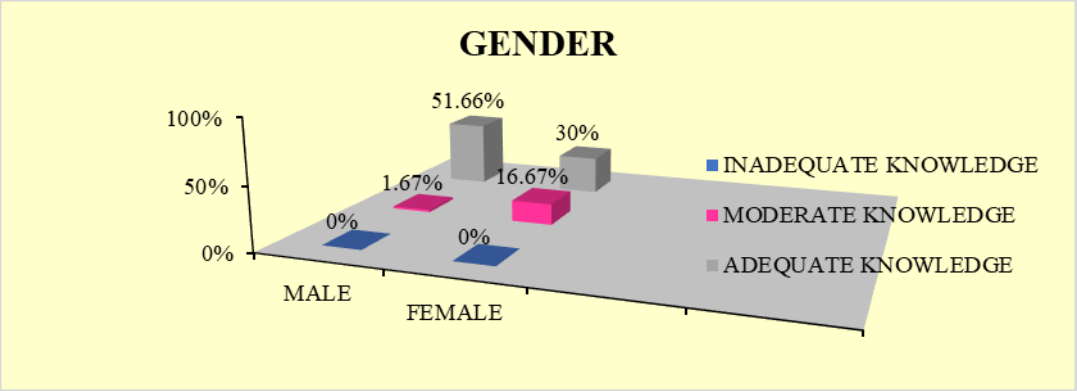

Figure 1: Association between the level of knowledge regarding prevention of vitamin A deficiency among middle school children with their gender

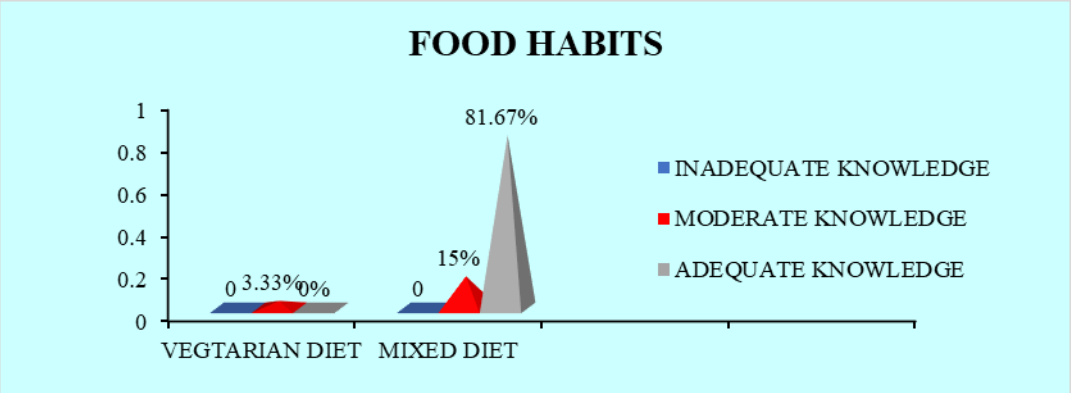

Figure 2: Association between the level of knowledge regarding prevention of vitamin A deficiency among middle school children with their food habits

TABLE: 2

Comparison of pretest and posttest mean, standard deviation and mean difference on level of knowledge (n=60)

	Pre test		Post test		Mean Difference	't' test	P value
	Mean	SD	Mean	SD			
Level of knowledge	5.48	3.67	16.86	1.83	11.38	21.49	0.001 HS*

***p<0.05, significant, **p<0.01 highly significant ***-p<0.001 very high significant**

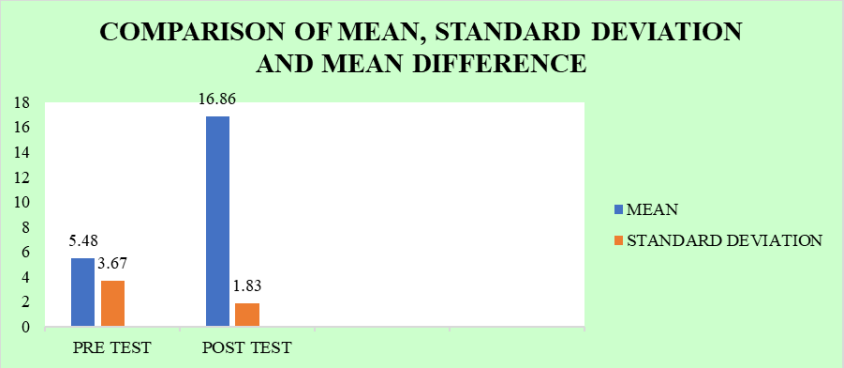

Figure 3: Comparison of mean, Standard deviation and mean difference on the level of knowledge

IV. Discussion

Vitamin A deficiency reported to be one of the major factors affecting vision in the children. Creating awareness about the importance of Vitamin A in the diet through community centers plays a major role among school children.[5-7]In the findings of present study, pre-test and post-test results that 81.67% of the examined school children had adequate knowledge and 18.33% had moderate knowledge.[5-7]

There is statistically significant association between male, food habits, level of knowledge regarding prevention of vitamin A deficiency among middle school children with their selected socio demographic variables.

V. Conclusion

The study findings revealed that among 60 samples, 81.67% had adequate knowledge. The study's conclusions will benefit professional nurses and nursing students by enhancing their knowledge and outlook on prevention of vitamin A deficiency and its significance to the community. Community health nurse plays a vital role in conducting awareness program in whole community regarding prevention of vitamin deficiency and school children.

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