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A Pre- experimental study to assess the effectiveness of information booklet on knowledge regarding importance of vitamins in children among mothers from selected hospitals of Pune city

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ABSTRACT

Introduction: Vitamin deficiency in children will affecting their normal growth and development and it can cause severe illness or disease condition in children's. It is organic compound needs in small quantity which plays different role in human body. **Aim of the study:** To assess the effectiveness of information booklet on knowledge regarding importance of vitamins in children among mother's from selected hospitals of Pune city. **Material and method:** The research design adopted for the study was pre - experimental with pre-test post- test design. 100 mothers from urban area were purposefully selected. The Population of present study is selected mothers of children from Infant to adolescent. The study among Mothers assess knowledge regarding importance of vitamins in children with selected demographic variables. **Result:** The comparison of pre-test and post-test results revealed that the information booklet significantly enhanced mothers' knowledge about the importance of vitamins in children. In pre- test the findings reveal that 71% of the respondents had a poor level of knowledge, with a mean score of 11.44 and a standard deviation of 4.13. The findings reveal that only 4% of respondents had a poor level of knowledge after the intervention in post test . 52% of the mothers achieved an excellent level of knowledge, reflecting a dramatic improvement in their understanding. The mean score increased to 23.44, with a standard deviation of 4.08. This improvement can empower mothers with the necessary knowledge to make informed decisions about their children's nutrition. **Conclusion**: The study concluded that information booklet was effective in terms of enhancing the knowledge regarding importance of vitamins.

KEYWORDS: Knowledge, Importance, Information Booklet, Mothers, Vitamins.

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INTRODUCTION

Vitamins are essential micro nutrients required for normal growth and development of body. This micro nutrients are not produced in human body as it is derived from various types of food we eat. There is various types of vitamins, i.e. Vit A,B,C,D,E,K. Some vitamins are fat soluble and some are water soluble. It is complex compound and having very important role in human body for its normal functioning without the deficiency diseases.

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Vitamin D inadequacy <20mg/ml was markedly high 74.3%, with another large proportion of the study population. 21.1% having inadequate levels of Calciferol 20-29.9 ng/ml. Lack of Vitamin D was more prevalent among the females of all age groups 80.4% compared to the males 69.9% in the population studied. Additionally, the highest shortage of vitamin D deficiency found in adolescents and in those >60 years. Premie taking intravenous feeding accompanied by f o l a c i n & there is absence of folate scarcity through babyhood merely baby feed by mouth can exposed for anemia. Micro nutrient aid to breast milk as well as progress of feeding habit for premature baby, it has reduced the requirement of folate, while taking foracin remains common place, when unavailability of orderly evaluation for support folacin in inhibiting early anemia of infancy . The study of vitamins in pediatrics is an ongoing area of research, with a focus on optimizing vitamin intake and preventing deficiencies to support healthy growth and development in children.

NEED OF THE STUDY

Globally, the World Health Organization is constantly specify that about 2 billion community at risk of micro nutrient scarcity.Among these around one twenty five million preschooler having vit. A inadequacy, also subcategory at chance of

shortage of folacin, thiamine, cobalamin, nicotinic acid, vit B and D. it specify nutrients are required in direction of optimization of h e a l t h i n e s s.

Several phases of life shows a high possibility of requirement than others: risks factors like higher in gravida women, kids, teenager, and geriatric. Most recent by 5 United National organization in that 821 million persons widely malnourished, which add them hazard of macronutrient deficiencies. Numerous studies in different divisions of India has marked lack of vit D insufficiency across all ages. It evaluated that currency of deficiency is 62– 95.7% in neonate.

The generality of Vit A reduced level in Indian democracy is 17.54%. Kids those exposed lengthy time of lactation can lower currency of Vitamin A deficiency. Pediatric in lowest financial sections are extra vitamin A deficient compared to children in rich economic sections.

The frequency of vitamin A deficiency about children possessing minimal food diversity is 18.63%. Vitamin deficiencies, particularly in vitamin D, iron, and B12 are common worldwide, affecting millions of children's.

Even mild vitamin deficiencies can have significant health consequences, emphasizing the need for research on optimal vitamins level. Changes in eating habits, such as increased consumption of processed foods, can lead to inadequate vitamin intake.

Vitamin deficiency in children will affecting their normal growth and development and it can cause severe acute or chronic illness or disease condition in children's. It is organic compound needs in small quantity which plays different role in human body. Enough vitamins in body helps to fight against infection and wound healing. For making bone strong and regulating hormones enough amount of vitamins are needed. Without vitamins breakdown of food cannot occur.

OBJECTIVES

1. To assess the knowledge regarding importance of vitamins in children among mother's before and after intervention.
2. To determine the effectiveness of an information booklet on knowledge regarding importance of vitamins in children among mothers.
3. To find the association between pre- interventional knowledge with selected demographic variables.

MATERIAL AND METHODS

Quantitative research method with Pre- experimental research design was adopted for the study.

Research variable is dependent variable
Dependent variable- is knowledge regarding importance of vitamins in children among mothers. Independent variable- Independent variable is Information booklet. Selected hospitals from Pune city were sample setting for the study. Mothers of children those who are attending hospitals and Who can read and write Marathi/ English/ Hindi was the inclusion criteria. Mother's children those who are underwent Malnutrition was exclusion criteria. Sample size was 100 mothers. The sample selection method adopted was non-probability purposive sampling.

Demographic variables consisted of age, qualification, occupation, income and area of residency. The self structured questionnaire was prepared based on knowledge regarding importance of vitamins in children and was validated through various experts and reliability was also conducted for stability and consistency. The questionnaire consisted 30 questions. From each sample consent was taken. Poor score was 0-12, average 13-24 and excellent 25-30. Total 10samples was taken for reliability. Reliability score was r= 0.96. Total 10 samples were selected for pilot study. All 10 samples were observed for knowledge. On the whole, it was found that this tool was feasible to generate information to assess the knowledge regarding importance of vitamins in children among mothers.

RESULT

Analysis of data related to demographic variables under study
Section-I - Demographic data of the sample.

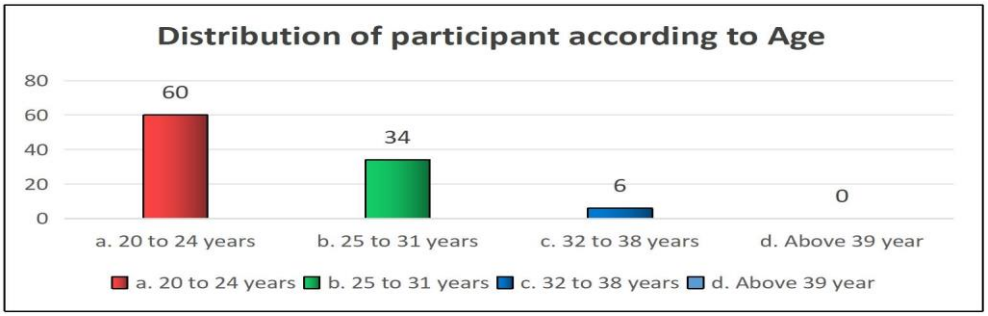

Figure no-1. Percentage wise distribution according to Age. Most of the respondents (60%) are between 20 and 24 years old, making up the largest group. About 34% are aged 25 to 31, while only 6% fall between 32 and 38 years. There are no respondents above 39 years, showing that the survey mainly included younger individuals.

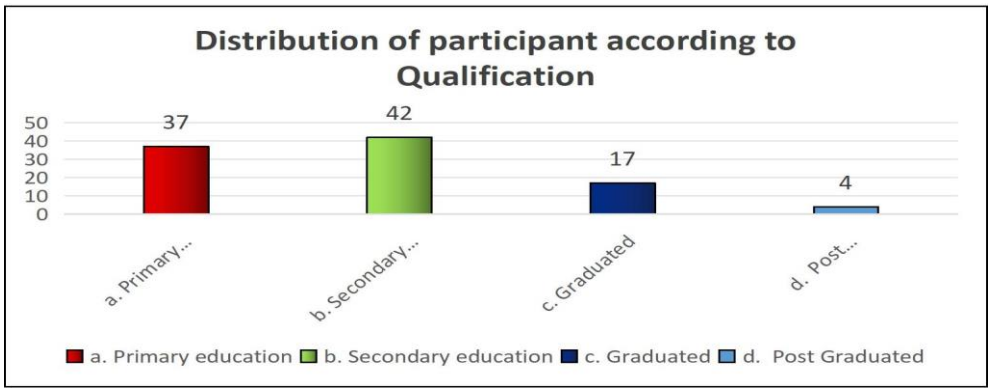

Figure no-2. Percentage wise distribution according to Qualification. The majority of respondents (42%) have completed secondary education, making it the most common qualification. Around 37% have only primary education, while 17% have graduated. A small percentage (4%) have pursued post-graduate studies, indicating that higher education levels are less common among the respondents.

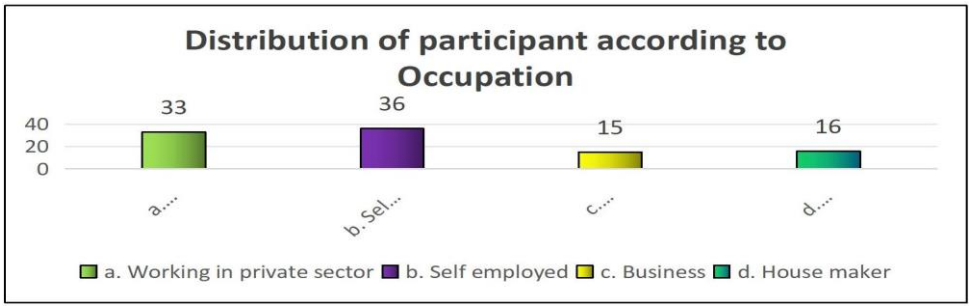

Figure no-3: Percentage wise distribution according to Occupation. The largest group of respondents (36%) are self-employed, followed closely by those working in the private sector (33%). Around 16% are homemakers, while 15% are engaged in business. This shows a diverse mix of occupations, with self-employment being the most common.

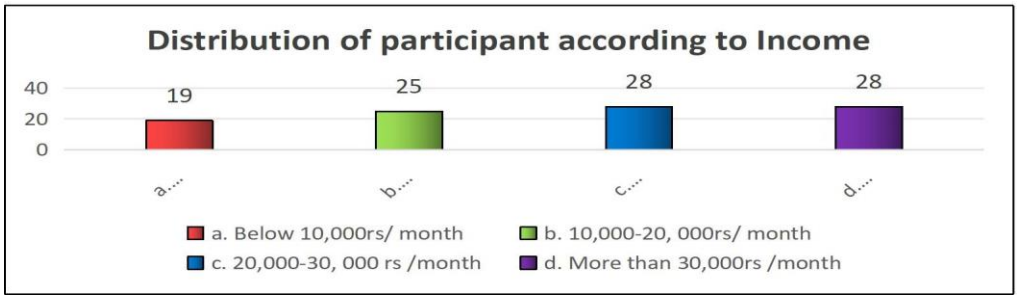

Figure no-4: Percentage wise distribution according to Income. The income distribution among respondents is fairly balanced. The largest groups, each making up 28%, earn between ₹20,000- 30,000 per month or more than ₹30,000 per month. About 25% fall within the ₹10,000-20,000 range, while 19% earn below ₹10,000 per month. This indicates a mix of income levels, with a significant portion earning ₹20,000 or more monthly.

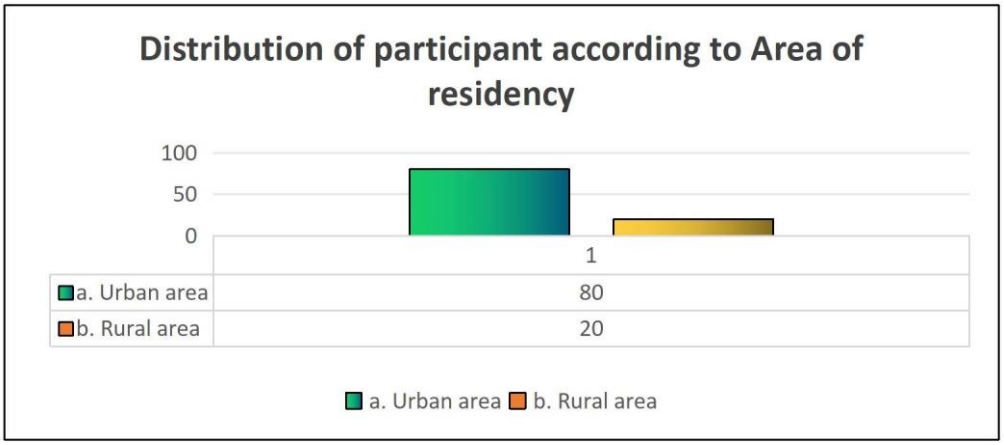

Figure no-5: Percentage wise distribution according to Area of residency. The majority of respondents (80%) reside in urban areas, while only 20% live in rural areas. This indicates that the survey primarily represents an urban population, with fewer participants from rural regions.

Section II (A): Finding related to Pre test level of knowledge regarding importance of vitamins in children among mother's before intervention in experimental group.

Table No.2 - Related to pretest level of Knowledge.

n = 100

Level of Knowledge	f	%	Mean	SD
Poor (0-12)	71	71	11.44	4.13
Average (13-24)	27	27		
Excellent (25-30)	2	2		

The findings reveal that 71% of the respondents had a poor level of knowledge, with a mean score of 11.44 and a standard deviation of 4.13. This indicates that a majority of mothers have inadequate understanding of essential vitamins and their role in children's growth, development, and overall health.

Section II (B): Finding related to Post test level of knowledge regarding importance of vitamins in children among mother's after intervention in experimental group.

Table No.3 - Related to post test level of Knowledge.

n = 100

Level of Knowledge	f	%	Mean	SD
Poor (0-12)	4	4	23.44	4.08
Average (13-24)	44	44		
Excellent (25-30)	52	52		

The findings reveal that only 4% of respondents had a poor level of knowledge after the intervention, a notable decrease from the 71% recorded in the pre-test. Meanwhile, 44% demonstrated an average level of knowledge, indicating a substantial increase in awareness. Most importantly, 52% of the mothers achieved an excellent level of knowledge, reflecting a dramatic improvement in their understanding.

Section III: Finding related to assess effectiveness of information booklet on knowledge regarding importance of vitamins in children among mother's from selected hospitals of Pune city.

Table No.4 - related to assess knowledge regarding importance of vitamins in children among mother's from selected hospitals of Pune city.

n =100

Effectiveness on information booklet	Mean	SD	DF	T test calculated value	P value	Remark
Pre Test	11.44	4.13	99	23.11	0.00001	Significant
Post Test	23.4	4.08	99			

The t-test results, with a calculated value of 23.11 and a p-value of 0.00001, demonstrate that the difference between the pre-test and post-test scores is highly significant. The p-value being well below the 0.05 threshold indicates that the observed improvement is statistically significant.

Section IV: finding related to an association between pre-interventional knowledge with selected demographic variables.

Table. No 5 n=100

Demographic variable	Average	Excellent	Poor	DF	CHi Table value	Chi calculated	P value	Remark
1. Age								
a. 20 to 24 years	19	0	41	6	15.592	3.97	0.681	NS
sb. 25 to 31 years	8	2	24					
c. 32 to 38 years	0	0	6					
d. Above 39 year	0	0	0					
2. Qualification								
a. Primary education	11	2	20	6	15.592	5.153	0.524	NS
b. Secondary education	8	0	28					
c. Graduated	5	0	10					
d. Post Graduated	3	0	13					
3. Occupation								
a. Working in private sector	19	3	11	6	15.592	4.93	0.553	NS
b. Self employed	15	1	20					
c. Business	8	1	6					
d. House maker	7	0	9					
4. Income								
a. Below 10,000rs/ month	5	0	14	6	15.592	1.516	0.958	NS
b. 10,000-20, 000rs/ month	8	1	16					
c. 20,000-30, 000 rs /month	7	1	19					
d. More than 30,000rs /month	7	0	22					
5. Area of residency								
a. Urban area	20	1	59	2	5.991	2.144	0342	NS

b. Rural area	7	1	12					

The Chi-square analysis conducted on various demographic variables—age, qualification, occupation, income, and area of residency—reveals that none of these factors have a statistically significant impact on mothers' knowledge regarding the importance of vitamins in children. This suggests that the effectiveness of the information booklet in enhancing knowledge was likely not influenced by these demographic characteristics.

DISCUSSION

The findings of the study have been discussed with reference to the objectives. The present study was undertaken to determine the effectiveness of Information Booklet about knowledge regarding importance of vitamins in children among mothers. In this chapter major findings of the study was discussed with reference to objectives and hypothesis.

Based on the objectives of the study the researcher tried to evaluate the level of knowledge of 100 mothers and found the effectiveness of information booklet on importance of vitamins in children.

Before interventions in pre test frequency was poor and average mean was 11.44 and after interventions in post test the frequency was 23.44. It indicates that post test mean difference is increased as compared to pre test.

These findings indicates the effectiveness of Information booklet on knowledge regarding importance of vitamins in children.
In the present study the values calculated to see the effectiveness regarding importance of vitamins in children among mothers which included in research study. In post test T calculated value is 23.11 and P value is > 0.00001,so the result is significant. From all the above findings it can be concluded that pre-test most of the mothers were having knowledge in poor & average. But in post-test the knowledge level was excellent.

This clearly indicates that the Information booklet was effective in increasing the knowledge of the mothers regarding importance of vitamins in children. The findings of the study have implication for child Health Nursing practices, community health nursing, nursing education, nursing administration & nursing research.There is a need for extended and nursing research in the area of health education for mothers which improve their knowledge for better compliance with the preventive and treatment plans designed for their children and to prevent further risks due to improper treatment or delay of treatment.

CONCLUSION

This presents the frequency and percentage distribution of sample characteristics, knowledge levels, pre-test mean, standard deviation, and "t" test scores. Additionally, it evaluates the effectiveness of the information booklet intervention and examines the association between knowledge and demographic variables. The study's conclusions assess the impact of the information booklet in improving mothers' knowledge regarding the importance of vitamins in children in selected pediatric hospitals in Pune city.

The comparison of pre-test and post-test results revealed that the information booklet significantly enhanced mothers' knowledge about the importance of vitamins in children. A majority of participants' post-test scores were categorized as "Excellent," indicating a substantial improvement in understanding following the intervention. These findings highlight the effectiveness of structured educational materials in increasing awareness and their crucial role in children's health.

Furthermore, the analysis of demographic variables showed no significant correlation between demographic factors (age, educational qualification, occupation, income, and area of residency) and post-test knowledge scores. These results suggest that the information booklet was equally effective across different demographic groups, demonstrating its broad applicability and potential for widespread implementation in community health education. This indicates that the intervention can be used effectively for diverse populations, regardless of their age, education, or socioeconomic background, to improve knowledge about the importance of vitamins for children's health.

Authors Contribution: - The complete study was carried by Ms. Dhairyashri Dhanaji Tandale under the guidance of Ms.Rucha Gajanan Bade. The corresponding author for this study is Ms.Rucha Gajanan Bade.

Conflict of Interest: - None to declare.
Statement on human right: - This study is approved by Institutional Ethics committee, Bharati Vidyapeeth (Deemed to Be University), College of Nursing, Informed consent was taken from each participant’s voluntary participation was the key to sample selection.

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